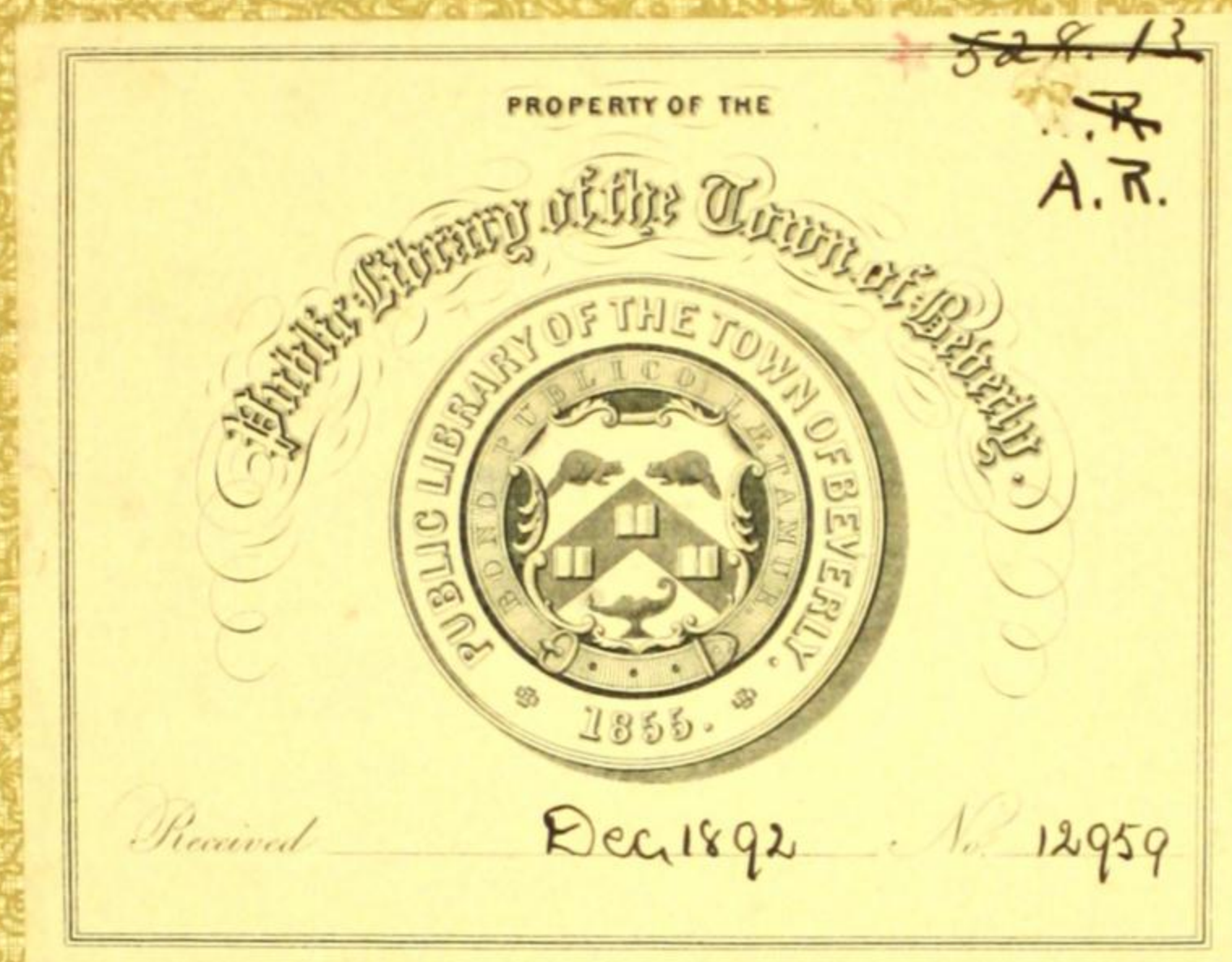
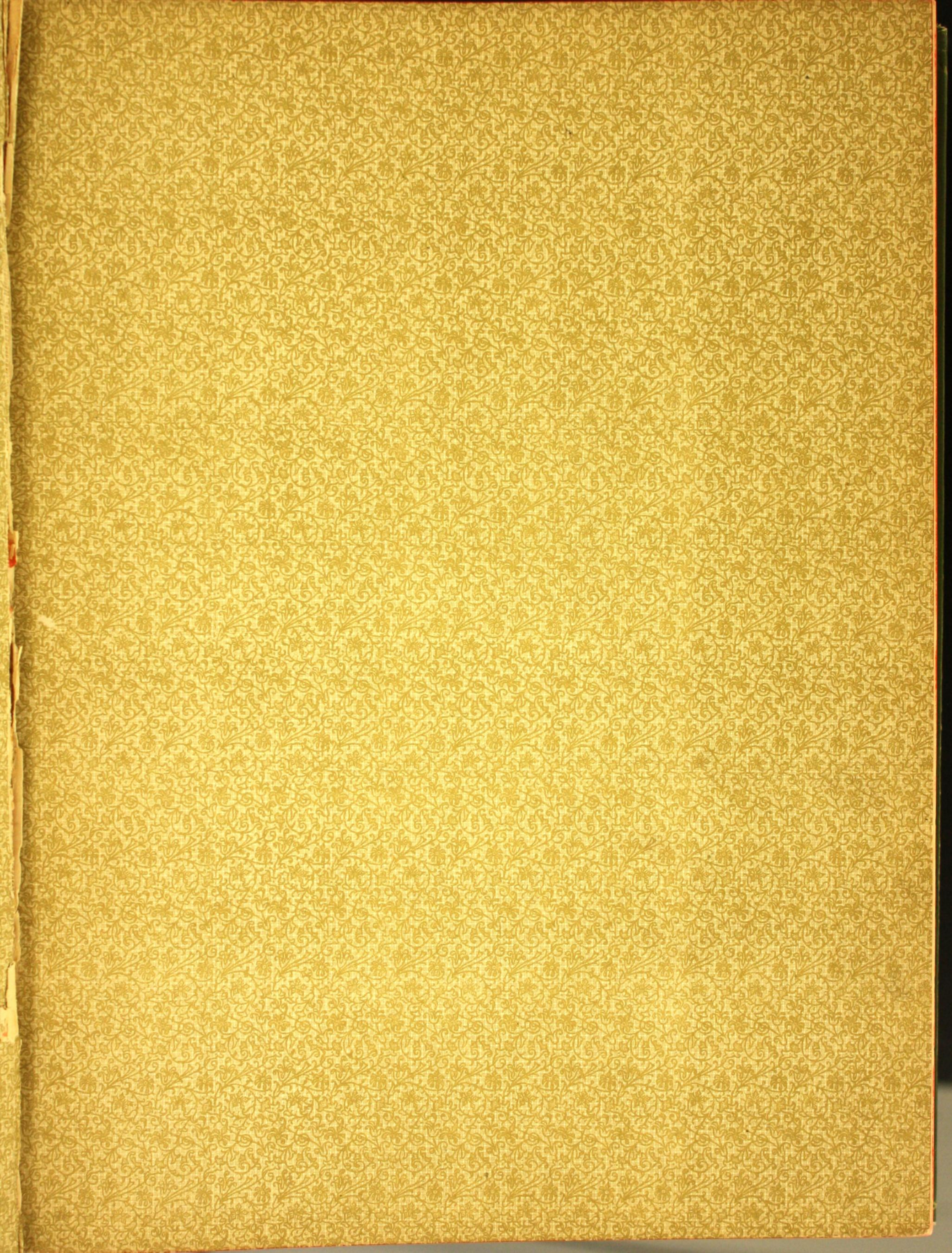


COMPLETE COLLECTION

SHOPPELL'S
MODERN
HOUSES







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PERSPECTIVE VIEW OF DESIGN NUMBER 333

FLOOR PLANS AND DESCRIPTION ON PAGE 167

COMPLETE COLLECTION

OF

SHOPPELL'S MODERN HOUSES

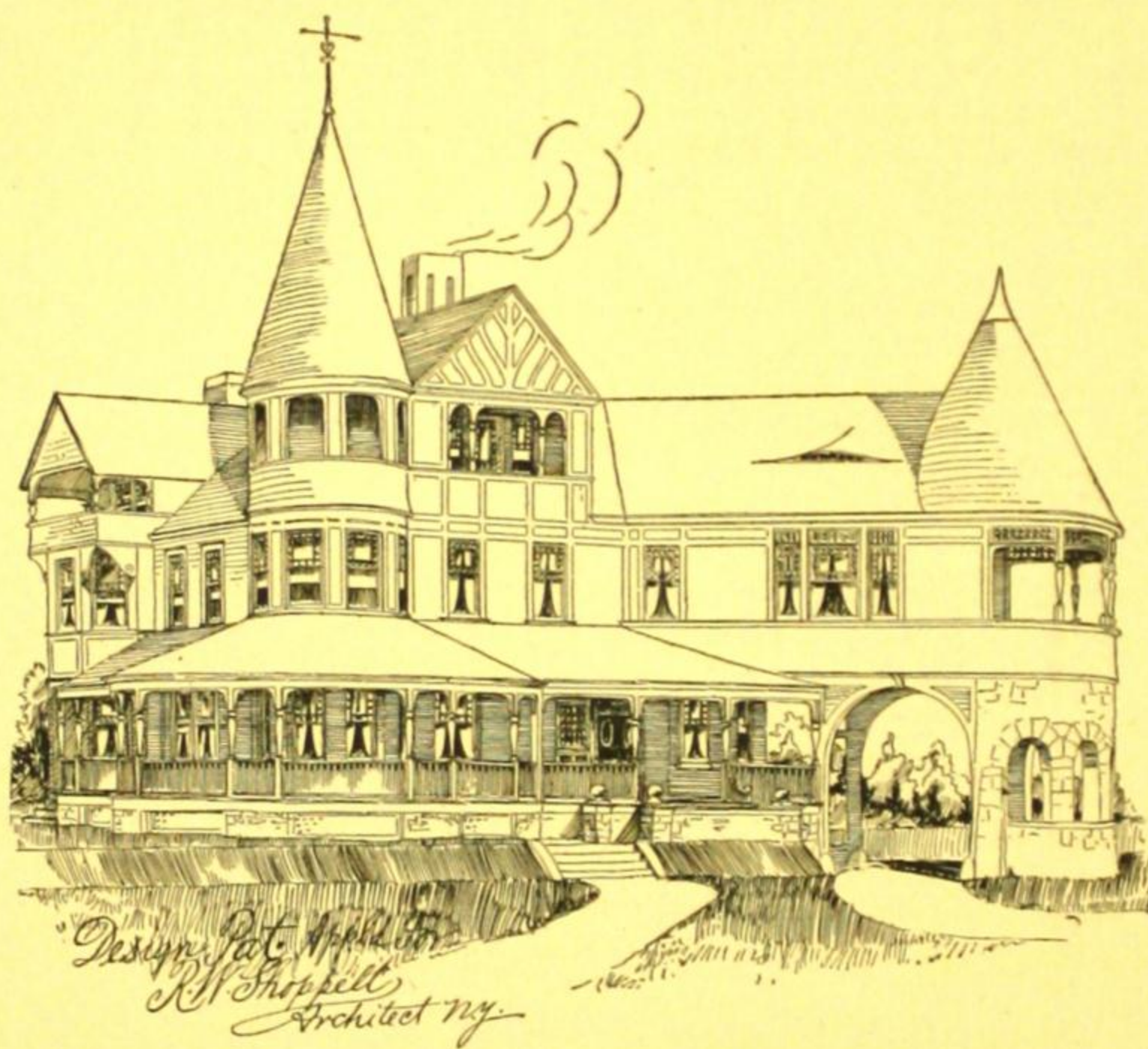
FIFTEEN HUNDRED ILLUSTRATIONS

PRICE. TEN DOLLARS

PUBLISHED BY

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS,

NO. 63 BROADWAY, NEW YORK.



DESCRIPTION AND FLOOR PLANS OF ABOVE DESIGN ON PAGE 267.

LATEST DESCRIPTIVE PRICE LIST

—OF—

Shoppell's Modern House Designs.

THE CO-OPERATIVE BUILDING PLAN ASS'N, Architects,

63 BROADWAY, NEW YORK.

A Complete and Economical System of Aids for the Building of a House.

SELECTING THE DESIGN.

It may be fairly claimed that the building designs published and prepared by this Association, and known as Shoppell's Modern Houses, are the best—best in arrangement, in appearance and in construction, and that they are perfectly reliable as to estimates. Architects' estimates are often ridiculed, and with good reason, for too often their estimates are mere guess work. Our estimates result from carefully and laboriously calculating every item of material and every hour of labor required for each design. We exhibit our own confidence in them by guaranteeing their correctness, under penalty of charging nothing for our services if they are found to be incorrect.

If the intending builder finds a design in this book that "fills the bill," that answers his requirements fully, or that will answer them with slight alterations, his best course is to adopt it. If, however, he is undecided, he had better procure one or more of the Classified Portfolios,

From these he can surely make a choice, for they present about every possible style and arrangement that can be devised.

Do not insist on having a very odd or a peculiar house; the owner himself is likely to tire of it, and if ever he is desirous of selling it, he will find a purchaser with difficulty. The best house is one whose exterior and interior are generally approved by people of good taste. On the other hand the house should not be too plain, such as a carpenter would design, for then it will be commonplace. It is believed that our publications are the most reliable guides in avoiding the extremes referred to.

* OUR DESIGNS PATENTED.

It often happens that when an owner has completed a handsome and convenient house, it is taken as a pattern, and similar houses spring up all over the neighborhood. This is annoying to many. In order to limit and control this duplication we are taking out patents for our designs, which enables us to require that owners and builders who use them, or who use the principal features of them, must have licenses to do so from us.

We charge nothing for a license. It is sent free for any design, when the Working Plans, Specifications, etc., of that design are ordered. We respectfully warn all unauthorized persons that we intend to fully protect our rights in this matter.

IMPORTANCE OF PERFECT WORKING PLANS, SPECIFICATIONS, ETC.

With proper aids it is an easy matter to build a good house; without them the most intelligent owner has a "world of trouble," and usually fails in getting satisfactory work.

Too often the owner is content with imperfect drawings and specifications. Sometimes he simply contracts for a duplicate of some other house, not knowing that the contractor can duplicate the appearance without duplicating the value. Sometimes he allows the contractor to make the drawings and specifications, which is far from being the part of wisdom.

The contractor is always apprehensive, with good reason, that labor troubles, delays, mistakes, advance of materials, etc., may eat up his margin of profit; therefore, he will perform the work just as cheaply as the drawings and specifications allow, and he is not to be blamed for it either, although for every dollar he saves by reason of incomplete drawings and defective specifications, the owner may be deprived of ten dollars of value. For example: If the specifications do not require the sheathing of the structure, why should the contractor spend forty dollars for sheathing boards and labor, even admitting that the increased strength and warmth of the house may be worth four hundred dollars to the owner? The sheathing is all covered up anyway. Or if the specifications do not call for the sheathing boards to be laid close together, why should not the contractor save five dollars' worth of boards by following the occasional custom of leaving wide cracks? Or, if the quality of the sheathing paper is not stated, why should he not put on the cheapest, saving five dollars, perhaps, although dampness will soon make it worthless for the purpose intended?

If the specifications do not call for a double first floor, which is essential to health and comfort, why should the contractor supply it, although the extra cost is only three dollars per "square" (10 feet by 10 feet)?

In the flues, in the plumbing, and in a hundred other things the contractor may save a little, by reason of imperfect drawings and specifications, at the expense of a great deal to the owner.

* As the design pages of this publication are made up sometime before printing them, the Patent claim has to be announced, simply, as "Applied For." But, by the time this publication reaches the hands of readers, it is confidently expected that all claims will be allowed. In fact, at the time of writing this last page, the Patent for one of the designs has been allowed and all the others are expected within a few days.

A COMPLETE SET OF PLANS, SPECIFICATIONS, etc.

The following is a full and complete list of architectural aids for the building of a house:

WORKING PLANS of the foundation, floors, roofs and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

COLOR SHEET giving examples of elevations properly colored, with directions for mixing and applying the paints.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

THE FIRST STEP.

After the design has been selected, the first step is to order a complete set of Working Plans, Specifications, etc., except the Bill of Quantities, which is not needed if the owner intends to have the work done by contract.

When the Working Plans, Specifications, etc., arrive, which will be almost by return mail or express (charges prepaid), give them a close examination. After this examination the owner is often convinced that the alterations which he may have contemplated will not improve the design.

However, after examination, if alterations and modifications are wanted, write us fully about them and we will advise as to their practicability and as to their effect on the cost. We will make, also, the changes on the drawings and in the specifications, if requested to do so, charging a small fee (seldom exceeding five dollars) for the work.

Or, after examination and study, if the owner prefers some other design, we will allow him to exchange, by his returning to us all the drawings and specifications unused and allowing us twenty per cent. of their cost to cover the extra expenses involved.

THE SECOND STEP.

When the Plans and Specifications finally represent just what is wanted invite bids from builders and award the contract to the lowest approved bidder. Competition among builders, which is made possible only by having complete Working Plans and Specifications, is the only way to get the contract price down to the right figure. When there is no competition a builder studies the owner, trying to estimate how big a price he will stand; when there is competition the builder studies the plans and specifications trying to estimate how low he can do the work to get the contract. Do not make a mistake here. If the owner has a particular friend among the builders, who might naturally expect the work, it is a good opportunity for the friend to show his true friendship by figuring low for the contract, in competition with other builders. A true friend will not object to competition; he knows that it is the only wise course for the owner.

When the contract has been awarded send us the name of the contractor, the amount, the time for completion and a memorandum of any extras or omissions agreed upon. We will then write out the Agreement in proper form, dividing up the amount into several payments, each to become due at certain stages of the work. State the number of payments the contractor wants. The Agreement is a very important matter and should be properly prepared, the principal care being that at no payment shall the contractor be overpaid. We make no charge for preparing the Agreement.

SUMMARY.

The advantages offered to the intending builder by this Association may be summarized as follows:

1. The owner is supplied with a large number of the most approved designs from which to make a selection.
2. The estimates are thoroughly reliable.
3. The designs are patented and the owner is protected from unauthorized duplication of the house he builds.
4. Alterations of the design selected are made for the owner until they fully suit his requirements, or an exchange of design is permitted at small cost.
5. A properly written Agreement with the contractor is prepared without charge.
6. At all times the owner has full and free consultations, before commencing, during the progress and at the completion of the work.

REBATE.

From the price of Working Plans, Specifications, etc., the owner may deduct the amount he has paid us for books to the extent of five dollars.

CONCLUDING WORD.

In the limited space of a page many of the advantages of our system must be left unsaid; but we would like intending patrons to feel—as we believe every one of our numerous patrons do feel—that our dealings are characterized by a liberal spirit; that the most painstaking efforts are always made to please them and to serve their best interests.

Respectfully,

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS.
63 BROADWAY, NEW YORK.

DESCRIPTIVE PRICE LIST

of

SHOPPELL'S MODERN HOUSE DESIGNS.

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN NUMBER	COST	SIZE		MATERIALS			HEIGHT OF STORIES				Price for Working Plans, etc.	Price Bills	REMARKS	
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY				3d STORY
129 Lodge	\$675.	22' 6"	23' 6"	Posts	Shingles	-----	Shingles	No cel.	11' 0"	---	---	\$12.	\$3.	No cellar and no attic.
131 Res.	\$971.	20' 6"	24' 0"	Stone	Clapbds	Clapbds	"	6' 6"	8' 6"	8' 0"	---	\$12.	\$3.	Cellar under kitchen only. No attic.
132 "	\$1178.	24' 6"	28' 6"	Posts	"	Shingles	"	No cel.	8' 6"	8' 0"	---	\$15.	\$3.	No cellar and no attic.
135 "	\$1200.	25' 2"	35' 10"	"	"	Clapbds	"	No cel.	8' 8"	8' 0"	---	\$15.	\$5.	Attic floored, space for two rooms. 2nd story front shingled.
143 "	\$2500.	30' 8"	49' 0"	Stone & Brk.	"	Shingles	-----	6' 6"	9' 3"	8' 9"	8' 0"	\$20.	\$5.	Cellar under kitchen only. Tower room finished.
146 "	\$2298.	34' 4"	34' 8"	Stone	"	"	Slate	6' 6"	9' 0"	8' 0"	---	\$25.	\$5.	Cellar under whole house. Attic floor laid but no finish.
148 "	\$2500.	36' 6"	49' 10"	"	"	"	Shingles	6' 6"	9' 6"	9' 0"	---	\$25.	\$5.	Cellar under rear half of house. Attic floored, no finish.
149 "	\$3182.	49' 0"	39' 0"	Posts	"	"	"	6' 6"	9' 6"	9' 0"	8' 0"	\$25.	\$5.	Cellar under kitchen, plank walls. Two rooms in attic.
152 "	\$3048.	34' 6"	42' 10"	Stone & Brk.	"	"	"	6' 6"	9' 4"	9' 0"	7' 6"	\$30.	\$5.	Cellar under parlor and hall. No finish in attic.
158 "	\$3100.	27' 6"	42' 6"	"	"	"	"	7' 0"	9' 6"	9' 0"	---	\$35.	\$5.	Cellar under rear part of house. Space for two rooms in attic.
159 "	\$3500.	37' 10"	57' 6"	"	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$35.	\$5.	Cellar under whole house. Three rooms finished in attic.
160 "	\$3500.	36' 0"	51' 0"	"	"	"	Slate	6' 6"	9' 6"	9' 0"	---	\$35.	\$5.	Cellar under rear part of house. Attic floor laid, no finish.
162 "	\$3590.	48' 0"	49' 0"	Brk. Piers	"	Clapbds	Shingles	No cel.	10' 0"	11' 0"	---	\$40.	\$10.	Southern house, kitchen detached. No attic.
168 "	\$1082.	32' 2"	34' 1"	Posts	"	Shingles	"	No cel.	10' 0"	---	---	\$17.	\$3.	Walls covered with plaster board. Space for 2 rooms in attic.
169 "	\$971.	20' 8"	24' 0"	Posts & Brk.	"	"	"	6' 6"	8' 8"	8' 0"	---	\$12.	\$3.	Cellar under living room. No attic.
170 "	\$539.	20' 0"	20' 0"	Posts	Shingles	-----	"	No cel.	10' 6"	---	---	\$10.	\$2.	Walls covered with plaster board & wainscoted.
171 "	\$590.	22' 6"	22' 6"	"	"	-----	"	No cel.	10' 6"	---	---	\$10.	\$2.	Same interior finish as No. 170
172 "	\$1529.	35' 2"	40' 0"	"	Clapbds	Shingles	"	No cel.	10' 0"	9' 0"	---	\$20.	\$4.	Southern or seaside house, kitchen detached. No attic.
173 "	\$1350.	31' 0"	29' 0"	Stone	"	Clapbds	"	6' 6"	9' 0"	9' 0"	---	\$20.	\$4.	Cellar under parlor & kitchen.
174 "	\$1831.	31' 0"	29' 6"	Stone & Brk.	"	Shingles	"	6' 6"	9' 4"	8' 6"	---	\$20.	\$4.	Cellar under dining room. Trap door for access to tower.
175 "	\$1383.	25' 0"	25' 0"	Stone	"	"	"	7' 0"	8' 6"	8' 0"	---	\$15.	\$5.	Cellar under whole house. Scuttle to attic from 2nd story.
176 "	\$1707.	25' 0"	27' 6"	"	"	"	"	7' 0"	8' 6"	8' 0"	---	\$20.	\$5.	Cellar under whole house. Scuttle to attic.
177 "	\$1335.	20' 0"	25' 0"	"	"	"	"	7' 0"	8' 6"	8' 0"	---	\$15.	\$5.	Cellar under whole house.
178 "	\$1495.	25' 0"	36' 8"	"	"	"	"	7' 0"	8' 6"	8' 0"	---	\$18.	\$4.	Cellar under whole house except kitchen. Scuttle to attic.
179 "	\$2325.	39' 6"	25' 0"	"	"	"	"	7' 0"	8' 6"	8' 0"	---	\$25.	\$5.	Floor plans same as 177 doubled. Cellar under each house.
180 "	\$1810.	22' 6"	39' 6"	Brick	"	"	"	6' 6"	9' 0"	8' 4"	---	\$20.	\$5.	Cellar under part of house. Attic floored, no finish.
181 "	\$1685.	22' 6"	27' 0"	"	"	"	"	6' 6"	9' 0"	8' 4"	---	\$18.	\$4.	Cellar under parlor and hall. Attic floored, no finish.
182 "	\$1685.	22' 6"	27' 0"	"	"	"	"	6' 6"	9' 0"	8' 4"	---	\$18.	\$4.	Cellar under parlor and hall. Attic floored, no finish.
183 "	\$1100.	28' 6"	28' 0"	Stone & Brk.	"	"	"	6' 6"	8' 6"	8' 0"	---	\$15.	\$5.	Cellar under whole house. Attic floored, no finish.
184 "	\$2000.	16' 8"	44' 7"	Brick	"	Clapbds	Tin	7' 0"	9' 9"	8' 6"	---	\$20.	\$5.	Cellar under whole house, laundry in rear, two tubs.
186 "	\$2400.	20' 0"	46' 8"	Stone & Brk.	"	"	"	7' 0"	9' 9"	9' 0"	---	\$23.	\$5.	Cellar under dining room, laundry under kitchen, two tubs.
188 "	\$2001.	28' 11"	47' 0"	Stone	"	"	Shingles	6' 6"	9' 6"	9' 0"	---	\$20.	\$5.	Cellar under rear half of house. Trap door to attic.
187 "	\$1500.	27' 6"	31' 6"	"	"	"	Shingles	7' 0"	9' 0"	8' 0"	---	\$20.	\$5.	Cellar under whole house. Scuttle to open attic.
188 "	\$1195.	24' 6"	28' 6"	Posts	"	"	"	No cel.	8' 6"	8' 0"	---	\$15.	\$5.	No attic. Terra Cotta chimney in kitchen.
189 "	\$1638.	30' 0"	29' 6"	Stone	"	Clapbds	"	6' 0"	9' 0"	8' 0"	---	\$24.	\$4.	Cellar under whole house.
190 "	\$1688.	25' 2"	35' 10"	Stone & Brk.	"	"	"	8' 8"	8' 8"	8' 0"	---	\$15.	\$5.	Cellar under whole house. No. 135 same design, without cellar.
191 "	\$2200.	28' 6"	36' 6"	Stone	"	"	"	7' 0"	9' 0"	8' 0"	---	\$24.	\$4.	Cellar under whole house. One room in attic.
192 "	\$1646.	25' 0"	42' 6"	Posts	"	"	"	6' 0"	8' 8"	8' 0"	---	\$20.	\$5.	Small cellar with plank walls. Space for two rooms in attic.
193 "	\$1998.	27' 0"	39' 6"	Stone	"	"	"	6' 6"	9' 0"	8' 0"	---	\$24.	\$4.	Cellar under kitchen and fuel room. Open attic, floored.
194 "	\$2100.	28' 11"	45' 2"	Stone & Brk.	"	"	"	7' 0"	9' 0"	8' 6"	---	\$25.	\$5.	Cellar under whole house. Space for two rooms in attic.
195 "	\$2778.	27' 6"	51' 6"	"	"	"	"	6' 6"	8' 6"	8' 0"	---	\$25.	\$5.	Cellar under kitchen, dining & bed room. Open attic, floored.
196 "	\$2878.	25' 10"	47' 10"	"	"	"	"	6' 6"	9' 0"	8' 6"	---	\$25.	\$5.	Cellar under rear half of house. Attic floored, no finish.
197 "	\$2575.	32' 0"	38' 6"	"	"	"	"	6' 6"	10' 6"	9' 0"	---	\$25.	\$5.	Cellar under whole house. Kitchen detached. Open attic, floored.
198 "	\$1950.	25' 0"	47' 0"	"	"	"	"	6' 6"	9' 8"	8' 6"	---	\$25.	\$5.	Cellar under whole house. Scuttle to open attic.
199 "	\$2030.	31' 6"	33' 0"	"	"	Shingles	"	6' 6"	9' 2"	9' 0"	---	\$24.	\$4.	Kitchen in basement, cellar under remainder. Open attic.
200 "	\$2230.	31' 6"	44' 6"	"	"	"	"	6' 6"	9' 6"	8' 6"	---	\$25.	\$5.	Cellar under main house. Space for three rooms in attic.
201 "	\$2250.	30' 2"	60' 2"	"	"	"	"	6' 6"	10' 6"	9' 6"	---	\$25.	\$5.	Cellar under rear part. 2 rooms in 2nd story. No attic.
202 "	\$2850.	32' 0"	41' 6"	Stone	"	Clapbds	"	7' 0"	8' 9"	8' 0"	---	\$30.	\$5.	Cellar, kitchen with sink & dumb waiter, bathroom in basement.
203 "	\$2404.	32' 0"	35' 0"	"	"	Shingles	"	6' 6"	9' 0"	8' 3"	---	\$24.	\$4.	Cellar under whole house. Space for two rooms in attic.
204 "	\$2985.	41' 4"	48' 0"	"	"	Clapbds	"	6' 6"	10' 0"	9' 0"	---	\$30.	\$5.	Cellar under whole house. No attic.
205 "	\$2799.	34' 4"	39' 9"	Stone & Brk.	"	"	"	7' 0"	9' 0"	8' 6"	---	\$25.	\$5.	Cellar under whole house. Space for two rooms in attic.
206 "	\$3131.	30' 6"	46' 6"	"	"	"	"	7' 0"	9' 4"	8' 6"	---	\$25.	\$5.	Cellar under kitchen and dining room. Attic floored, no finish.
207 "	\$3030.	30' 8"	46' 2"	"	"	"	"	6' 6"	10' 6"	9' 0"	---	\$25.	\$5.	Cellar under whole house. Attic floored, no finish.
208 "	\$3400.	42' 2"	48' 3"	"	"	"	"	7' 0"	9' 4"	8' 6"	---	\$35.	\$5.	Cellar under whole house. Attic floored, no finish.
209 "	\$2200.	35' 6"	44' 6"	"	"	Shingles	"	6' 6"	10' 0"	9' 3"	---	\$25.	\$5.	Cellar under whole house except parlor. Attic floored only.
210 "	\$2800.	31' 0"	37' 0"	"	"	"	"	7' 0"	9' 6"	8' 6"	---	\$30.	\$5.	Cellar under kitchen only. No attic.
211 "	\$2299.	26' 0"	50' 6"	"	"	Clapbds	"	6' 6"	9' 0"	8' 10"	---	\$25.	\$5.	Cellar under whole house. Attic floored, no finish.
212 "	\$3700.	27' 2"	53' 2"	"	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$35.	\$5.	Cellar under rear half of house. Space for 2 rooms in attic.
213 "	\$3475.	45' 3"	38' 3"	Stone	"	"	"	6' 0"	9' 8"	9' 0"	---	\$35.	\$5.	Cellar under whole house. Two rooms in attic.
214 "	\$3510.	43' 6"	43' 0"	Posts	"	Shingles	"	No cel.	10' 6"	9' 6"	8' 0"	\$30.	\$5.	Double house, accommodates 4 families.
215 "	\$4148.	50' 0"	62' 6"	Brick Piers	"	"	"	No cel.	12' 0"	10' 0"	---	\$40.	\$5.	Seaside house. 3 rooms in attic.
216 "	\$2804.	30' 6"	48' 8"	Stone & Brk.	"	"	"	6' 6"	9' 3"	8' 9"	8' 0"	\$20.	\$5.	Southern house. No cellar, no attic.
217 "	\$3103.	35' 6"	59' 0"	Brick Piers	"	"	"	No cel.	11' 6"	11' 0"	---	\$35.	\$5.	Cellar under kitchen. Tower room finished.
218 "	\$3700.	39' 0"	59' 5"	Stone & Brk.	"	"	"	7' 6"	9' 6"	8' 9"	8' 0"	\$40.	\$5.	Southern house, kitchen detached. Space for 2 rooms in attic.
219 "	\$3532.	31' 0"	49' 0"	Stone	"	"	"	6' 6"	9' 6"	9' 0"	---	\$40.	\$5.	Cellar under whole house. Tower room finished.
220 "	\$3897.	54' 7"	49' 2"	"	"	"	"	6' 6"	10' 0"	9' 0"	7' 6"	\$40.	\$5.	Cellar under whole house. Space for 2 or 3 rooms in attic.
221 Res.	\$3381.	43' 0"	53' 10"	Stone & Brk.	Brick	Brick	Shingles	7' 0"	11' 0"	9' 6"	---	\$40.	\$5.	Cellar under whole house. Two bedrooms finished in attic.
222 "	\$2728.	35' 0"	33' 0"	Stone.	Clapbds.	Shingles.	"	7' 0"	9' 0"	8' 6"	---	\$30.	\$5.	Cellar under kitchen only. No attic.
223 "	\$5200.	41' 0"	60' 4"	"	"	"	Slate	7' 0"	10' 0"	9' 0"	8' 0"	\$60.		

DESCRIPTIVE PRICE LIST of SHOPPELL'S MODERN HOUSE DESIGNS—Continued.

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN NUMBER	COST	SIZE		MATERIALS				HEIGHT OF STORIES				Price for Specifying Working Plans, etc.	Price Bills Material	REMARKS
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY	3d STORY			
254	\$1050.	24' 6"	27' 6"	Stone	Clapbds	Shingles	Shingles	No cel	8' 0"	7' 6"	---	\$15.	\$5.	Stone foundation under whole house. No cellar. No attic finish
255	\$1952.	26' 0"	42' 6"	Stone & Brk.	---	---	---	6' 6"	8' 0"	8' 4"	---	\$20.	\$5.	Cellar under main house. Attic floored. Space for two rooms.
256	\$1862.	26' 8"	39' 10"	Stone	---	---	---	6' 6"	8' 8"	8' 0"	---	\$20.	\$5.	Cellar under whole house. Attic floored, no finish.
257	\$1650.	22' 4"	38' 6"	Stone & Brk.	---	---	---	6' 6"	8' 0"	8' 0"	---	\$15.	\$5.	Cellar under whole house. Space for two rooms in attic.
258	\$2200.	24' 6"	47' 6"	Stone	---	Shingles	---	7' 0"	9' 0"	8' 6"	---	\$23.	\$5.	Cellar under kitchen only. Attic floored with scuttle to same
259	\$2496.	27' 6"	37' 0"	Brick	---	---	---	7' 0"	9' 0"	8' 0"	---	\$20.	\$5.	Cellar under rear half of house. Two rooms in attic.
260	\$3100.	28' 6"	43' 2"	Stone	---	---	---	6' 0"	9' 0"	8' 0"	---	\$25.	\$5.	Cellar under whole house. Attic floored, no finish.
261	\$1441.	24' 0"	32' 0"	Brick	---	---	---	7' 0"	9' 0"	8' 0"	---	\$18.	\$4.	Cellar under hall only. No attic finish.
262	\$1663.	26' 8"	27' 6"	Stone	---	---	---	6' 6"	8' 0"	8' 0"	---	\$18.	\$4.	Cellar under whole house. No attic finish.
263	\$2130.	35' 0"	48' 2"	Brick	---	---	---	6' 6"	8' 0"	8' 0"	---	\$18.	\$4.	Cellar under whole house. No attic finish.
264	\$2451.	32' 0"	35' 0"	Stone	---	---	---	6' 6"	8' 0"	8' 0"	---	\$18.	\$4.	Cellar under kitchen. Interior walls covered with plasterbd.
265	\$3572.	28' 4"	52' 10"	Stone & Brk.	Brick	Brick	---	6' 6"	8' 6"	8' 3"	---	\$23.	\$5.	Cellar under whole house. 2 rooms & hall finished in attic.
266	\$3253.	40' 3"	47' 0"	Brick	Clapbds	Shingles	---	7' 0"	9' 6"	8' 0"	7' 8"	\$25.	\$5.	Cellar under kitchen, dining room & library. 3 rooms in attic
267	\$3553.	40' 3"	47' 0"	Brick	---	---	---	7' 0"	9' 6"	8' 6"	7' 8"	\$25.	\$5.	Cellar under hall & kitchen. Three rooms in attic.
268	\$7820.	76' 6"	50' 0"	Stone	---	---	---	7' 0"	10' 0"	9' 6"	---	\$25.	\$5.	Same floor plans as No. 266.
269	\$2496.	23' 3"	51' 10"	Stone & Brk.	---	Clapbds	Tin	7' 0"	9' 6"	9' 6"	---	\$25.	\$5.	Cellar under each house. 2' 8" alley ways between houses.
270	\$3700.	29' 6"	49' 6"	Brick	---	---	---	7' 6"	9' 6"	9' 0"	---	\$25.	\$5.	Cellar under whole house, laundry in rear, 2 tubs. No attic.
271	\$3269.	30' 0"	45' 6"	Stone & Brk.	---	---	---	7' 0"	9' 0"	8' 6"	---	\$35.	\$5.	Cellar under whole house, laundry in rear. Double house.
272	\$3469.	30' 0"	45' 6"	---	---	Shingles	Shingles	6' 6"	9' 6"	9' 0"	---	\$35.	\$5.	Cellar under main house. Space for two rooms in attic.
273	\$3469.	30' 0"	45' 6"	Brick	---	---	---	6' 6"	9' 6"	9' 0"	---	\$35.	\$5.	Cellar under whole house.
274	\$3000.	24' 8"	38' 5"	---	---	---	---	6' 6"	9' 6"	9' 0"	---	\$35.	\$5.	Cellar under whole house.
275	\$3100.	24' 8"	41' 6"	Stone & Brk.	---	---	---	8' 2"	9' 0"	8' 6"	7' 6"	\$30.	\$5.	Kitchen & dining room in basement. Two rooms in attic.
276	\$3600.	36' 0"	48' 6"	---	---	---	---	7' 0"	9' 0"	8' 6"	7' 6"	\$30.	\$5.	Cellar under kitchen and half of house. Two rooms in attic.
277	\$3039.	28' 2"	44' 2"	---	---	---	---	7' 0"	9' 0"	8' 6"	---	\$35.	\$5.	Cellar under rear part of house. Attic floored, no finish.
278	\$3339.	28' 0"	48' 0"	---	---	---	---	7' 0"	9' 6"	8' 6"	7' 0"	\$30.	\$5.	Cellar under main house. Tower & one other room in attic.
279	\$1800.	29' 0"	37' 0"	Posts	---	---	---	7' 0"	9' 6"	9' 0"	7' 6"	\$30.	\$5.	Cellar under rear half of house. Two rooms & hall in attic
280	\$2340.	25' 0"	50' 0"	Stone	---	---	---	6' 6"	9' 0"	8' 4"	---	\$20.	\$5.	Cellar with plank walls under kitchen only. No attic finish.
281	\$2677.	34' 2"	46' 0"	Stone & Brk.	---	---	---	7' 0"	9' 0"	8' 0"	---	\$25.	\$5.	Cellar under kitchen only. Scuttle for open attic
282	\$3070.	31' 0"	51' 8"	---	---	---	---	6' 6"	9' 6"	8' 6"	---	\$25.	\$5.	Cellar under whole house except kitchen. Attic floored, only.
283	\$3926.	31' 10"	58' 0"	Stone	---	---	---	7' 0"	10' 0"	9' 0"	7' 6"	\$35.	\$5.	Cellar under main house. Two rooms finished in attic.
284	\$2000.	25' 0"	39' 6"	Stone & Brk.	---	---	---	7' 3"	10' 0"	9' 0"	7' 6"	\$40.	\$5.	Cellar under whole house. Two rooms & hall in attic.
285	\$3535.	29' 6"	37' 6"	Brick	---	---	---	6' 6"	9' 6"	8' 8"	---	\$25.	\$5.	Cellar under whole house. Two rooms & hall in attic.
286	\$3735.	29' 6"	49' 6"	Stone & Brk.	---	---	---	8' 6"	9' 0"	8' 6"	7' 6"	\$30.	\$5.	Dining room, kitchen, servants' room in basement. 3 rooms in attic
287	\$3935.	36' 6"	49' 6"	---	---	---	---	7' 0"	9' 0"	8' 6"	---	\$35.	\$5.	Cellar under half of main house & kitchen. Attic floored, only.
288	Res.	\$3258.	34' 0"	33' 2"	Stone & Brk.	Clapbds	Shingles	7' 0"	9' 0"	8' 6"	7' 6"	\$40.	\$5.	Cellar under half of main house & kitchen. 3 rooms in attic.
289	\$3459.	32' 8"	55' 10"	---	---	---	---	7' 0"	9' 6"	8' 6"	7' 10"	\$40.	\$5.	Cellar under whole house. Four bedrooms in attic.
290	\$3516.	36' 0"	48' 2"	Brick	---	---	---	6' 10"	10' 0"	9' 6"	---	\$40.	\$10.	Cellar under kitchen only. Attic floored, space for 3 rooms.
291	\$3601.	37' 8"	54' 8"	Stone	---	---	---	7' 0"	10' 0"	9' 0"	---	\$35.	\$5.	Cellar under kitchen & pantry, remainder on piers. No attic.
292	\$3686.	42' 0"	48' 6"	---	---	---	---	7' 0"	10' 0"	9' 6"	7' 8"	\$35.	\$5.	Cellar under whole house. Two bedrooms in attic.
293	\$3151.	36' 7"	54' 3"	Brick	---	Clapbds	---	6' 6"	9' 4"	9' 1"	---	\$35.	\$5.	Cellar under main house. Attic floored, no finish.
294	\$3850.	37' 7"	45' 0"	Stone	---	Shingles	---	6' 6"	9' 4"	8' 6"	---	\$35.	\$5.	Cellar under rear half of house. Attic floored, no finish.
295	\$5000.	42' 0"	58' 6"	Stone & Brk.	---	---	---	7' 0"	10' 0"	9' 0"	8' 0"	\$40.	\$10.	Cellar under whole house. Attic floored, space for three rooms
296	\$3961.	27' 0"	52' 2"	Stone	Brick	Brick	---	7' 0"	10' 0"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house. Two bedrooms & hall in attic.
297	\$6000.	50' 0"	43' 5"	---	Clapbds	Shingles	---	7' 0"	10' 0"	9' 0"	8' 0"	\$40.	\$10.	Cellar under whole house, laundry in rear. 3 rooms in attic.
298	\$4260.	50' 0"	55' 6"	---	---	Clapbds	Slate	7' 6"	9' 6"	9' 0"	---	\$85.	\$15.	Cellar under whole house, laundry, 2 tubs in each. Attic 3 rooms
299	\$4395.	41' 0"	44' 0"	Stone & Brk.	---	Shingles	Shingles	6' 6"	9' 2"	8' 9"	---	\$50.	\$10.	Cellar under whole house. Attic floored, space for 4 rooms
300	\$4871.	38' 0"	56' 6"	---	---	Clapbds	---	7' 0"	10' 0"	9' 0"	7' 6"	\$55.	\$10.	Cellar under whole house. Attic floored, space for 4 rooms
301	\$5871.	33' 8"	61' 6"	---	---	---	---	7' 0"	9' 4"	8' 4"	8' 0"	\$50.	\$10.	Cellar under whole house with laundry, 2 tubs. 2 rooms in attic.
302	\$4871.	35' 6"	61' 0"	---	---	---	---	7' 6"	10' 0"	9' 0"	---	\$65.	\$15.	Cellar under whole house with laundry, 2 tubs. Attic unfinished
303	\$5628.	58' 0"	47' 6"	---	---	Shingles	---	7' 0"	9' 0"	8' 0"	7' 6"	\$50.	\$10.	Cellar under whole house. Three rooms finished in attic.
304	\$6200.	45' 6"	42' 0"	Stone	Stone	---	---	8' 6"	10' 0"	9' 0"	8' 0"	\$65.	\$15.	Cellar under each house. Attic floored, space for 3 rooms each
305	\$6000.	58' 0"	51' 0"	Brick Piers	Clapbds	---	---	7' 0"	10' 0"	9' 6"	8' 0"	\$100.	\$25.	Laundry & kitchen in basement. 3 rooms & hall in attic.
306	\$7479.	78' 6"	60' 10"	Brick	---	---	---	No cel.	12' 0"	11' 0"	7' 8"	\$100.	\$25.	Southern house. Four rooms & hall in attic.
307	\$8020.	49' 8"	51' 8"	Stone & Brk.	Brick	Brick	Slate	7' 6"	10' 0"	9' 6"	9' 0"	\$100.	\$25.	Cellar under half of house. Four bedrooms in attic.
308	\$7120.	63' 6"	65' 6"	Stone	Stone	Shingles	---	7' 0"	12' 0"	10' 0"	9' 0"	\$120.	\$30.	Cellar under front half of house. Attic, 4 rooms & hall.
309	\$7500.	49' 4"	66' 8"	Brick	Clapbds	---	---	7' 0"	10' 0"	9' 0"	---	\$100.	\$25.	Cellar under rear half of house. Space for 4 rooms in attic
310	Stable	\$1575.	24' 0"	40' 0"	---	Clapbds	Shingles	7' 0"	11' 0"	10' 0"	8' 6"	\$100.	\$25.	Cellar under whole house. 2 bedrooms & billiard room in attic
311	Res.	\$1730.	39' 6"	36' 0"	---	Shingles	---	No cel.	11' 0"	12' 0"	---	\$15.	\$5.	Man's room in loft. Terra Cotta pipe provided for heating.
312	\$1132.	24' 2"	30' 5"	Posts	---	---	---	No cel.	9' 0"	8' 0"	---	\$25.	\$5.	Two rooms finished in loft.
313	\$1287.	23' 0"	30' 0"	---	---	---	---	No cel.	9' 0"	8' 0"	---	\$12.	\$3.	No cellar. House plastered.
314	\$1572.	24' 0"	28' 0"	Stone	Shingles	---	---	6' 8"	9' 0"	8' 0"	---	\$14.	\$4.	Small cellar with plank walls.
315	\$1342.	22' 6"	29' 3"	---	Clapbds	---	---	7' 6"	8' 0"	---	---	\$15.	\$5.	Attic floored, no finish.
316	\$1468.	32' 6"	26' 0"	Brick	---	Clapbds	---	6' 8"	9' 0"	8' 0"	---	\$15.	\$5.	Cellar under kitchen & bed room. Cement flue for kitchen stove
317	\$1468.	32' 6"	26' 0"	---	---	---	---	6' 8"	9' 0"	8' 0"	---	\$15.	\$5.	Cellar under half of house. No attic.
318	\$1701.	32' 6"	26' 0"	---	---	---	---	6' 8"	9' 0"	8' 0"	---	\$15.	\$5.	Same Design as 316. 1st floor plan modified.
319	\$1356.	20' 0"	30' 0"	---	---	Shingles	---	6' 8"	9' 0"	8' 0"	---	\$17.	\$5.	Same as 316 with the addition of one room, woodshed & bathroom
320	\$1356.	20' 0"	30' 0"	---	---	---	---	6' 6"	9' 0"	8' 0"	---	\$16.	\$5.	Cellar under front half of house.

DESCRIPTIVE PRICE LIST of SHOPPELL'S MODERN HOUSE DESIGNS—Continued.

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN NUMBER	* COST	† SIZE		‡ MATERIALS				** HEIGHT OF STORIES				†† Price for Specific Yrs. Working Plans, etc.	††† Price Bills Materials	*** REMARKS
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY	3d STORY			
352 Res.	\$5000.	36' 6"	61' 6"	Stone & Brk.	Brick	Shingles	Slate	7' 0"	9' 6"	8' 6"	8' 6"	\$50.	\$10.	Cellar under whole house, laundry, 2 tubs. 3 rooms in attic.
353 "	\$5249.	49' 6"	68' 0"	Stone	Clapbds	"	Shingles	8' 0"	10' 0"	9' 0"	---	\$40.	\$10.	Cellar under whole house. Attic floored, no finish.
354 "	\$5288.	54' 10"	51' 6"	"	"	"	"	7' 0"	10' 0"	9' 0"	8' 6"	\$65.	\$10.	Cellar under kitchen & dining room. 2 rooms finished in attic.
355 "	\$6107.	66' 0"	56' 0"	Brick	"	"	"	7' 0"	10' 6"	9' 6"	8' 6"	\$50.	\$10.	Cellar under whole house. 2 rooms finished in attic.
356 "	\$4892.	37' 6"	54' 8"	Stone	"	Clapbds	"	7' 0"	9' 6"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house, laundry, 2 tubs. 3 rooms in attic.
357 "	\$5500.	37' 4"	60' 9"	Stone & Brk.	Brick	Shingles	Slate	7' 0"	9' 6"	9' 0"	---	\$60.	\$10.	Cellar under whole house, laundry in rear with 3 tubs.
358 "	\$5800.	37' 4"	50' 9"	"	"	"	"	7' 0"	9' 6"	9' 0"	---	\$65.	\$10.	
359 "	\$6286.	37' 0"	48' 6"	Stone	Stone	Brick	"	7' 0"	9' 6"	9' 0"	8' 0"	\$65.	\$10.	Cellar under whole house, laundry, 2 tubs. 3 rooms in attic.
360 "	\$6460.	43' 0"	60' 0"	Stone & Brk.	Brick	Brick	Shingles	7' 6"	11' 10"	10' 10"	---	\$75.	\$15.	Cellar under whole house, kitchen in rear. Walls veneered.
361 "	\$6500.	41' 6"	61' 6"	Stone	Clapbds	Shingles	"	7' 6"	10' 0"	9' 6"	8' 0"	\$75.	\$15.	Cellar under whole house, laundry in rear. 3 rooms in attic.
362 "	\$5000.	39' 6"	65' 0"	"	Brick	"	"	7' 0"	10' 0"	9' 0"	---	\$50.	\$10.	Cellar under whole house. Space for four rooms in attic.
363 Flats	\$8000.	42' 0"	70' 8"	Stone & Brk.	Clapbds	"	"	7' 0"	10' 0"	9' 0"	---	\$85.	\$15.	Cellar under whole house. Attic floored, no finish.
364 "	\$12000.	46' 8"	87' 0"	"	"	"	"	6' 6"	10' 0"	9' 9"	9' 0"	\$115.	\$25.	Cellar under whole house. 3rd story same as 2nd. Open attic.
365 Res.	\$9000.	74' 2"	96' 0"	Brick	"	Shingles	"	7' 6"	10' 0"	9' 0"	---	\$95.	\$25.	Cellar under kitchen extension only. Attic floored, no finish.
366 "	\$16000.	91' 0"	78' 0"	Stone	Stone	"	Tile	8' 0"	12' 0"	10' 0"	8' 6"	\$200.	\$50.	Cellar under whole house with kitchen etc. 4 rooms & in attic.
367 Church	\$3000.	51' 0"	45' 0"	Brick	Shingles	"	Shingles	No cel.	20' 0"	---	---	\$50.	\$10.	Seating capacity 225.
368 Stable	\$1000.	20' 0"	40' 0"	Stone	Clapbds	"	"	No cel.	10' 0"	---	---	\$15.	\$5.	Hay mow in loft over carriage room & space for man's room.
369 "	\$1488.	41' 6"	29' 0"	"	Clapbds	"	"	No cel.	10' 0"	8' 0"	---	\$25.	\$5.	Coachman's room in loft, walls of stable part of brick.
370 Res.	\$861.	29' 8"	28' 0"	Posts	"	"	"	No cel.	9' 3"	8' 0"	---	\$12.	\$3.	No plastering, walls covered with plaster board, woodwork oiled.
371 "	\$1194.	49' 0"	24' 0"	"	Clapbds	"	"	No cel.	10' 0"	9' 0"	---	\$14.	\$4.	No plastering. Walls covered with plaster board, " " "
372 "	\$1128.	43' 6"	23' 6"	Brick Piers	"	Shingles	"	No cel.	9' 0"	8' 0"	---	\$15.	\$5.	No cellar. Intended for a southern, seaside, or mountain house.
373 "	\$1803.	24' 6"	43' 0"	"	"	"	"	No cel.	10' 0"	9' 0"	---	\$20.	\$5.	No cellar. Scuttle to open attic.
374 "	\$1519.	28' 6"	28' 6"	Brick	"	"	"	6' 6"	9' 0"	8' 0"	---	\$15.	\$5.	Cellar under dining room & hall. No attic.
375 "	\$1519.	28' 6"	28' 6"	Brick Piers	"	"	"	No cel.	9' 0"	8' 0"	---	\$15.	\$5.	No cellar. No attic.
375A "	\$1888.	28' 6"	50' 10"	"	"	"	"	No cel.	9' 0"	8' 0"	---	\$20.	\$5.	No cellar. No attic. Same as 374 with extension.
376 "	\$2154.	26' 0"	50' 0"	Brick	"	"	"	6' 6"	9' 0"	8' 4"	---	\$25.	\$5.	Cellar under whole house. No attic.
377 "	\$2942.	31' 6"	43' 4"	"	"	"	"	7' 0"	10' 0"	8' 6"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
378 "	\$2585.	23' 6"	43' 6"	Stone & Brk.	"	"	"	6' 6"	9' 0"	8' 0"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
379 "	\$2687.	35' 6"	49' 0"	Brick	"	"	"	6' 6"	8' 10"	8' 4"	---	\$30.	\$5.	Cellar under kitchen only. No attic.
380 "	\$2534.	34' 9"	55' 8"	Stone & Brk.	"	Clapbds	"	6' 6"	9' 6"	9' 0"	---	\$30.	\$5.	Cellar under rear half of house. No attic finish.
381 "	\$4752.	32' 6"	48' 7"	Stone	"	Shingles	Slate	7' 0"	10' 0"	9' 0"	8' 0"	\$40.	\$5.	Cellar under rear part of house. 3 rooms & hall in attic.
382 "	\$3214.	65' 0"	42' 0"	Stone Piers	"	Shingles	"	No cel.	9' 6"	8' 0"	---	\$40.	\$5.	No cellar. Attic floored, no finish.
383 "	\$2800.	56' 0"	34' 0"	Stone	"	"	"	7' 0"	9' 6"	8' 0"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
384 "	\$3607.	46' 0"	40' 6"	Brick	"	"	"	7' 0"	9' 6"	8' 6"	8' 4"	\$50.	\$5.	Cellar under whole house. Three rooms & hall in attic.
385 "	\$2355.	30' 6"	40' 6"	Brick	"	Clapbds	"	6' 6"	9' 0"	8' 0"	7' 6"	\$25.	\$5.	Cellar under dining room only. One room finished in attic.
386 "	\$2300.	22' 0"	40' 0"	"	"	"	"	7' 0"	9' 0"	8' 0"	---	\$25.	\$5.	Cellar under whole house except parlor. Attic floored, only.
387 "	\$3795.	34' 0"	54' 0"	Stone	"	Clapbds	"	7' 0"	10' 0"	9' 0"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
388 "	\$3727.	44' 0"	49' 10"	Stone & Brk.	"	Shingles	"	No cel.	11' 0"	10' 0"	7' 6"	\$40.	\$10.	No cellar, walls under whole house. 2 rooms & hall in attic.
389 "	\$2500.	33' 3"	47' 9"	Stone	"	"	"	6' 6"	9' 6"	8' 6"	7' 6"	\$30.	\$5.	Cellar under kitchen only. Attic floored, space for 2 rooms.
390 "	\$3775.	37' 9"	56' 6"	Stone & Brk.	"	"	"	7' 0"	10' 0"	9' 0"	---	\$40.	\$5.	Cellar under whole house, laundry, 3 tubs. Attic floored, only.
391 "	\$4498.	50' 0"	45' 6"	Stone	"	"	"	8' 8"	9' 6"	8' 0"	8' 0"	\$40.	\$5.	Cellar under whole house. Two rooms & hall in attic.
392 "	\$3379.	32' 6"	52' 10"	Stone & Brk.	"	"	"	7' 0"	9' 0"	8' 4"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
393 "	\$3198.	36' 2"	44' 0"	"	"	"	"	7' 0"	9' 6"	8' 10"	7' 6"	\$30.	\$5.	Cellar under main house. Two rooms finished in attic.
394 "	\$4510.	38' 0"	40' 7"	Stone	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house. 3 rooms in attic of each house.
395 "	\$4800.	40' 0"	40' 7"	"	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$55.	\$10.	Same exterior as 394. First floor plan modified.
396 "	\$2634.	20' 0"	41' 0"	Stone & Brk.	"	"	"	7' 0"	10' 0"	9' 0"	---	\$30.	\$5.	Cellar under whole house. Attic unfinished.
397 "	\$4267.	32' 6"	66' 6"	Stone	"	"	"	7' 0"	9' 6"	8' 6"	7' 6"	\$30.	\$5.	Cellar under whole house. One room finished in attic.
398 "	\$4400.	43' 0"	47' 0"	Brick	"	"	"	7' 0"	9' 0"	8' 0"	8' 0"	\$50.	\$10.	Cellar under whole house. Hall & three rooms in attic.
399 "	\$3800.	43' 0"	38' 8"	"	"	"	"	7' 0"	9' 0"	8' 0"	---	\$45.	\$10.	Cellar under kitchen & hall. Attic floored, space for 3 rooms.
400 "	\$2329.	36' 0"	40' 0"	Brick Piers	"	"	"	No cel.	9' 0"	8' 0"	---	\$30.	\$5.	No cellar. Attic floored, space for two rooms.
401 "	\$2629.	36' 0"	46' 0"	Stone & Brk.	"	"	"	6' 6"	9' 0"	8' 0"	---	\$30.	\$5.	Cellar under whole house. Space for two rooms in attic.
402 "	\$2829.	36' 0"	52' 0"	"	"	"	"	6' 6"	9' 0"	8' 0"	---	\$30.	\$5.	Cellar under kitchen with trap door from porch. Open attic.
403 "	\$3946.	33' 0"	55' 6"	Brick	"	"	"	7' 0"	10' 0"	9' 0"	---	\$40.	\$10.	Cellar under kitchen extension only. Attic floored, no finish.
404 "	\$4586.	33' 8"	67' 0"	Stone	Brick	Brick	Slate	8' 0"	10' 0"	9' 0"	---	\$50.	\$10.	Cellar under part of house. Attic floored, no finish.
405 "	\$4520.	37' 6"	65' 4"	Brick	Clapbds	Clapbds	Shingles	7' 0"	9' 6"	9' 0"	7' 6"	\$50.	\$10.	Cellar under all except kitchen. Two rooms in attic.
406 "	\$3455.	42' 0"	57' 4"	Brick Piers	"	Shingles	"	No cel.	10' 0"	9' 0"	---	\$30.	\$5.	No cellar. Unfinished attic.
407 "	\$5084.	38' 0"	64' 0"	Stone & Brk.	Brick	Brick	Slate	7' 0"	10' 0"	9' 0"	---	\$70.	\$15.	Cellar under kitchen, sitting & dining rooms. Attic unfinished.
408 "	\$3670.	32' 0"	60' 6"	Brick	Clapbds	Shingles	Shingles	No cel.	10' 0"	9' 0"	8' 0"	\$45.	\$10.	No cellar. Two rooms & hall finished in attic.
409 "	\$5268.	53' 0"	68' 0"	Stone & Brk.	Brick	Brick	"	7' 0"	11' 6"	11' 0"	---	\$75.	\$15.	Cellar under parlor, bed room & hall. No attic finish.
410 "	\$4585.	34' 6"	55' 0"	"	"	"	"	7' 0"	9' 6"	8' 6"	8' 0"	\$50.	\$10.	Cellar under kitchen only. Two rooms & hall in attic.
411 "	\$4631.	37' 8"	57' 8"	Stone	Clapbds	Clapbds	Shingles	7' 0"	9' 4"	8' 4"	---	\$50.	\$10.	Cellar under whole house. Attic unfinished.
412 "	\$5325.	53' 0"	52' 6"	Brick	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$55.	\$10.	Cellar under kitchen & front hall. 3 rooms & hall in attic.
413 "	\$5296.	66' 0"	58' 0"	Brick Piers	"	"	"	No cel.	13' 0"	12' 0"	---	\$65.	\$15.	Southern house on brick piers. Attic unfinished.
414 "	\$7531.	39' 0"	59' 0"	Stone	Brick	Brick	Slate	7' 0"	10' 0"	9' 0"	8' 0"	\$70.	\$15.	Cellar under whole house, laundry, 3 tubs. 3 rooms in attic.
415 "	\$5800.	41' 0"	68' 0"	"	Clapbds	Shingles	Shingles	7' 6"	10' 0"	9' 0"	8' 0"	\$70.	\$15.	Cellar under whole house. 3 bed rooms finished in attic.
416 Res.	\$9749.	74' 0												

DESCRIPTIVE PRICE LIST of SHOPPELL'S MODERN HOUSE DESIGNS—Continued.

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN NUMBER	* COST	† SIZE		‡ MATERIALS				** HEIGHT OF STORIES				†† Price for Specific Working Plans, etc.	†† Price Bills Material	*** REMARKS
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY	3d STORY			
447	\$2900.	32' 2"	51' 2"	Stone 8 ft.	Clapbds	Shingles	Slate	7' 6"	9' 0"	8' 4"	---	\$30.	\$5.	Cellar under whole house, laundry, 2 tubs. Attic floored, only.
448	\$4700.	40' 6"	53' 0"	Stone	Clapbds	Shingles	Shingles	6' 6"	10' 0"	9' 0"	7' 6"	\$40.	\$10.	Cellar under whole house. Two rooms finished in attic.
449	\$3606.	30' 8"	54' 2"	Stone & Brk.	Clapbds	Shingles	Shingles	7' 0"	9' 6"	8' 6"	7' 0"	\$35.	\$5.	Cellar under main house. Tower room & 1 bed room in attic.
450	\$3112.	35' 0"	52' 6"	Stone	Clapbds	Shingles	Shingles	7' 0"	9' 0"	8' 6"	---	\$30.	\$5.	Cellar under whole house. Attic floored, but not finished.
451	\$3437.	41' 8"	46' 0"	"	Clapbds	Shingles	Shingles	7' 6"	9' 0"	8' 6"	---	\$35.	\$5.	Cellar under rear half of house. 2nd story front clappedboard.
452	\$3292.	42' 0"	45' 0"	"	Clapbds	Shingles	Shingles	8' 0"	9' 0"	8' 6"	---	\$30.	\$5.	Cellar under whole house. Attic floored, no finish.
453	\$4000.	36' 0"	48' 6"	Stone & Brk.	Clapbds	Shingles	Shingles	7' 0"	10' 0"	9' 0"	---	\$35.	\$5.	Cellar under hall, dining room & kitchen. Exterior like 456.
454	\$3780.	32' 6"	47' 0"	Stone	Clapbds	Shingles	Shingles	7' 6"	10' 6"	9' 6"	8' 0"	\$40.	\$5.	Cellar under whole house. 2 bed rooms & hall in attic.
455	\$4431.	40' 0"	47' 8"	Stone & Brk.	Clapbds	Shingles	Shingles	6' 8"	9' 4"	9' 0"	8' 0"	\$40.	\$10.	Cellar under whole house. 3 rooms in attic.
456	\$4500.	38' 2"	51' 2"	Brick	Clapbds	Shingles	Shingles	6' 6"	10' 4"	9' 0"	6' 6"	\$35.	\$5.	Cellar under kitchen & hall. 3 rooms & hall in attic.
457	\$4352.	35' 0"	50' 0"	"	Clapbds	Shingles	Shingles	6' 6"	10' 4"	9' 0"	6' 6"	\$40.	\$5.	Cellar under whole house. Two rooms finished in attic.
458	\$4326.	31' 8"	57' 0"	Stone & Brk.	Brick	Brick	Brick	7' 0"	9' 6"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house. Two rooms & hall in attic.
459	\$4865.	36' 2"	48' 0"	Stone	Clapbds	Shingles	Shingles	7' 0"	9' 6"	9' 0"	8' 0"	\$55.	\$10.	Cellar under whole house, laundry, 2 tubs. 3 rooms in attic.
460	\$4750.	54' 6"	65' 0"	Brick	Clapbds	Shingles	Shingles	6' 6"	10' 0"	9' 0"	8' 0"	\$50.	\$10.	Cellar under kitchen only. Two rooms finished in attic.
461	\$5330.	37' 8"	48' 4"	Stone	Clapbds	Shingles	Shingles	7' 0"	9' 6"	9' 0"	8' 0"	\$55.	\$10.	Cellar under whole house, laundry, 3 tubs. Billiard room in attic.
462	\$5081.	50' 0"	43' 6"	"	Clapbds	Shingles	Shingles	8' 6"	9' 6"	8' 6"	---	\$55.	\$10.	Cellar under whole house, laundry, 2 tubs. Attic, one large room.
463	\$5933.	31' 0"	58' 0"	"	Clapbds	Shingles	Shingles	7' 0"	10' 0"	9' 0"	8' 6"	\$75.	\$15.	Cellar under whole house. 3rd floor same as second. Open attic.
464	\$6574.	42' 0"	58' 0"	"	Brick	Brick	Brick	7' 0"	11' 0"	10' 0"	8' 0"	\$75.	\$15.	Cellar under main house. 4 bed rooms, hall & store room in attic.
465	\$6072.	80' 0"	60' 0"	"	Stone	Shingles	Shingles	6' 9"	9' 10"	8' 8"	---	\$85.	\$15.	Cellar under whole house. Attic floored, no finish.
466	\$8000.	42' 4"	62' 8"	"	Brick	Brick	Slate	7' 0"	11' 6"	10' 0"	9' 0"	\$125.	\$25.	Cellar under whole house except kitchen. 2 front rooms in attic.
467	\$7200.	60' 6"	51' 6"	Stone & Brk.	Brick	Brick	Brick	7' 0"	12' 0"	11' 0"	9' 0"	\$100.	\$25.	Cellar under whole house. 4 rooms in attic. Walls 4' brk. veneer.
468	\$8020.	49' 8"	51' 8"	"	Brick	Brick	Brick	7' 0"	12' 0"	10' 0"	9' 0"	\$115.	\$25.	Cellar under half of house. 4 rooms in attic. Walls 12' brick.
469	\$5000.	39' 6"	52' 0"	"	Shingles	Shingles	Shingles	7' 0"	9' 6"	9' 0"	---	\$65.	\$10.	Cellar under whole house. Attic floored, only. Rear part frame.
470	\$6500.	80' 0"	35' 8"	Brick	Clapbds	Shingles	Shingles	7' 0"	9' 6"	9' 2"	9' 0"	\$90.	\$25.	Cellar under kitchen only. One room finished in attic.
471	\$8405.	62' 6"	78' 8"	Piers	Clapbds	Shingles	Shingles	No cel.	10' 6"	9' 6"	8' 0"	\$200.	\$50.	Southern house, no cellar. Billiard room & 2 rooms in attic.
472	R.R. Sta. \$1400.	41' 0"	27' 0"	Posts	Clapbds	Shingles	Shingles	No cel.	20' 0"	---	---	\$15.	\$5.	Open to ridge with windows in upper part for ventilation.
473	Stable. \$454.	30' 0"	16' 0"	Stone	Clapbds	Shingles	Shingles	No cel.	8' 8"	7' 0"	---	\$12.	\$3.	Space over box stall open to roof. Step ladder to hay loft.
474	\$1397.	44' 8"	23' 0"	Brick Piers	Clapbds	Shingles	Shingles	No cel.	9' 0"	7' 10"	---	\$15.	\$5.	One room for man in second story. Open loft 15' 6" to ridge.
475	\$2510.	41' 6"	52' 0"	Stone	Clapbds	Shingles	Shingles	6' 8"	10' 0"	7' 2"	---	\$25.	\$5.	Cellar under part of carriage room. Elevator to loft.
476	\$3039.	56' 0"	41' 4"	"	Brick	Brick	Slate	No cel.	11' 0"	8' 0"	---	\$30.	\$5.	Two rooms in loft plastered. Brown stone trimmings.
477	\$2330.	52' 0"	35' 6"	Brick	Clapbds	Shingles	Shingles	No cel.	10' 0"	---	---	\$20.	\$3.30	One room finished in loft for stable man.
478	Res. \$2973.	42' 0"	40' 6"	"	Clapbds	Shingles	Shingles	6' 6"	9' 0"	8' 0"	---	\$24.73	\$5.	Cellar under whole house. Attic floored, but not finished.
479	"	40' 0"	48' 0"	Stone & Brk.	Clapbds	Shingles	Shingles	7' 0"	10' 0"	9' 6"	---	\$44.63	\$5.	Cellar under whole house. 3 rooms finished in attic.
480	Res. \$9880.	44' 0"	69' 0"	Stone	Stone	Stone	Slate	7' 0"	10' 0"	9' 0"	8' 6"	\$88.80	\$10.	Cellar under whole house but laundry. 3 rooms & bath in attic.
481	"	21' 6"	44' 8"	Brick	Clapbds	Shingles	Shingles	6' 8"	9' 8"	8' 10"	7' 6"	\$21.81	\$5.	Cellar under all but kitchen. 2 rooms & hall in attic.
482	"	49' 0"	32' 6"	"	"	"	"	6' 6"	10' 0"	8' 0"	---	\$20.	\$3.85	Cellar under hall & dining room. No attic. Kitchen on piers.
483	"	24' 0"	34' 0"	"	"	"	"	6' 6"	9' 0"	8' 0"	---	\$15.	\$3.67	Cellar under hall & parlor. Attic floored, no finish.
484	"	40' 0"	38' 8"	Stone	"	"	Slate	7' 0"	9' 6"	8' 0"	8' 0"	\$35.	\$4.68	Cellar under whole house. One room & hall in attic.
485	"	67' 0"	59' 0"	Brick	"	"	Shingles	8' 6"	10' 6"	9' 8"	8' 6"	\$72.55	\$10.	Cellar under whole house, laundry, 3 tubs. 4 rooms in attic.
486	"	65' 4"	56' 0"	"	"	"	"	No cel.	11' 0"	10' 0"	9' 0"	\$66.17	\$10.	Brick walls under whole house, no cellar. 2 rooms in attic.
487	"	71' 6"	73' 0"	Stone & Brk.	"	"	"	7' 0"	10' 6"	9' 6"	8' 0"	\$77.14	\$10.	Cellar under kitchen & halls. 4 rooms & hall in attic.
488	"	45' 10"	55' 2"	Stone	"	"	"	7' 0"	9' 6"	8' 6"	8' 0"	\$70.	\$10.	Cellar under each house. 2 rooms & store room in each attic.
489	Stable \$916.	31' 6"	22' 0"	Posts	"	"	"	No cel.	9' 4"	8' 6"	---	\$12.	\$3.	One room 11x15 ft. partitioned off in loft.
490	Res. \$4068.	35' 0"	50' 6"	Stone & Brk.	"	"	"	7' 0"	10' 0"	9' 0"	8' 0"	\$40.	\$5.	Cellar under whole house. One room finished in attic.
491	"	51' 10"	39' 6"	Brick	Shingles	"	"	7' 6"	10' 0"	9' 0"	8' 0"	\$41.40	\$5.	Cellar under whole house. One room finished in attic.
492	"	28' 8"	32' 10"	Stone & Brk.	Clapbds	"	"	8' 0"	9' 0"	8' 0"	---	\$15.	\$3.75	Cellar under whole house. Interior walls covered with plasterbd.
493	"	22' 0"	48' 0"	Brick	"	"	"	7' 6"	9' 6"	9' 0"	7' 8"	\$30.	\$4.98	Cellar under whole house, laundry, 2 tubs. 2 rooms in attic.
494	"	28' 6"	36' 4"	"	"	"	"	6' 6"	9' 0"	8' 0"	---	\$12.	\$3.50	Cellar under hall, kitchen & dining room. No attic.
495	"	38' 0"	48' 0"	Stone	"	"	"	6' 6"	9' 0"	9' 0"	---	\$21.25	\$5.	Cellar under kitchen, dining room & parlor. No attic.
496	"	22' 0"	43' 2"	"	Brick	Brick	Tin	7' 0"	10' 0"	9' 6"	9' 0"	\$40.	\$5.	Cellar under whole house. Kitchen has sink & two stone tubs.
497	"	52' 10"	48' 0"	Stone & Brk.	Clapbds	Shingles	Shingles	6' 10"	10' 0"	9' 0"	---	\$57.04	\$10.	Cellar under each house. Attic floored space for 3 rooms.
498	"	44' 8"	75' 4"	Brick	"	"	"	7' 6"	10' 0"	9' 0"	8' 0"	\$65.16	\$10.	Cellar under whole house. 3 rooms in attic.
499	"	58' 0"	68' 0"	Stone	"	"	Slate	8' 0"	9' 6"	8' 6"	8' 6"	\$75.	\$15.	Cellar under whole house with billiard room. 2 rooms in attic.
500	"	27' 0"	48' 2"	"	"	"	Shingles	6' 6"	9' 0"	8' 0"	---	\$20.	\$3.	Cellar under kitchen only. Scuttle to open attic.
501	"	30' 0"	50' 0"	Brick	"	"	"	7' 0"	9' 0"	8' 6"	8' 0"	\$28.	\$5.	Cellar under all except kitchen. One room in attic.
502	"	32' 0"	38' 0"	Posts	"	"	"	6' 6"	9' 0"	8' 6"	---	\$12.	\$3.	Cellar with plank walls under kitchen. No attic.
503	"	44' 6"	66' 0"	Brick Piers	"	"	"	No cel.	9' 6"	9' 0"	7' 6"	\$40.	\$5.50	Southern house, no cellar. Kitchen detached. 3 rooms in attic.
504	"	37' 8"	50' 10"	Stone & Brk.	"	"	Slate	7' 0"	9' 6"	9' 0"	---	\$45.37	\$10.	Cellar under whole house, laundry, 3 tubs. Attic floored, only.
505	"	41' 7"	57' 6"	"	Brick	"	"	7' 6"	10' 0"	9' 0"	8' 0"	\$70.	\$10.	Cellar under whole house, laundry, 3 tubs. 4 rooms in attic.
506	"	43' 0"	64' 0"	Stone	Clapbds	Shingles	Shingles	7' 6"	10' 0"	9' 6"	8' 0"	\$52.	\$10.	Cellar under whole house. 5 bed rooms in attic.
507	"	45' 2"	68' 0"	"	Shingles	"	"	7' 6"	10' 0"	9' 6"	8' 0"	\$58.	\$10.	Cellar under whole house. Hall & 2 rooms finished in attic.
508	School \$30000.	125' 0"	92' 0"	"	Brick	Brick	Slate	8' 0"	13' 0"	13' 0"	---	\$260.	\$50.	Cellar under whole building. Laboratory in 3rd story.
509	Bank \$4900.	25' 0"	48' 0"	"	"	"	Tin	8' 0"	12' 0"	10' 6"	---	\$45.	\$4.	Cellar under front portion of building. Faced with pressed brick.
510	Stable \$2609.													

DESCRIPTIVE PRICE LIST of SHOPPELL'S MODERN HOUSE DESIGNS—Continued.

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DESIGN NUMBER	* COST	† SIZE		‡ MATERIALS				*** HEIGHT OF STORIES				†† Price Specific to Working Plans, etc.	†† Price Bills Material	*** REMARKS
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY	3d STORY			
545 Res.	\$1700	24' 2"	34' 9"	Posts	Clapbds	Clapbds	Shingls	No cel.	9' 0"	8' 4"	----	\$10.	\$5.	No plastering, walls covered with plaster board. No attic.
546 Bank	\$8000.	30' 0"	70' 0"	Stone	Brick	Brick	Shingls	7' 8"	16' 0"	12' 0"	----	\$80.	\$20.	Cellar 26x33ft. Attic Unfinished. Metallic shingles on roof
547 Res.	\$7500.	59' 2"	70' 6"	Stone	Stone	Shingls	Slate	7' 6"	11' 0"	10' 0"	8' 0"	\$150.	\$25.	Cellar under whole house, laundry in rear. 3 rooms in attic.
548 "	\$4600.	44' 4"	59' 6"	Brick Piers	Clapbds	"	"	No cel.	10' 0"	9' 0"	8' 6"	\$45.	\$15.	Seaside house. Two rooms finished in attic.
549 "	\$1300.	20' 0"	40' 0"	Stone	"	"	"	6' 6"	8' 6"	8' 0"	----	\$15.	\$10.	Cellar under whole house.
550 "	\$1300.	29' 0"	31' 0"	"	"	"	"	6' 6"	8' 6"	8' 0"	----	\$15.	\$10.	Cellar under whole house.
551 "	\$1000.	32' 0"	31' 0"	"	"	"	"	6' 6"	8' 6"	8' 0"	----	\$15.	\$10.	Cellar under main house.
552 "	\$900.	27' 0"	30' 0"	"	"	"	"	6' 6"	8' 6"	8' 0"	----	\$20.	\$10.	Cellar under hall & living room.
553 "	\$2500.	46' 0"	31' 0"	"	"	"	"	7' 0"	8' 6"	8' 0"	----	\$30.	\$10.	Cellar under whole house. Attic unfinished. Cost \$1300. each.
554 "	\$2000.	25' 10"	45' 0"	Stone & Brk.	"	"	"	7' 0"	10' 0"	8' 0"	----	\$30.	\$10.	Cellar under whole house. Attic unfinished.
555 "	\$2500.	28' 0"	49' 10"	Stone	Brk. Ven	"	Slate	7' 0"	9' 0"	8' 0"	----	\$15.	\$10.	Cellar under whole house. Attic floored, no finish.
556 "	\$2000.	28' 8"	32' 10"	Stone & Brk.	Clapbds	"	Shingls	8' 0"	9' 0"	8' 6"	8' 0"	\$35.	\$10.	Cellar under whole house. Walls covered with plaster board.
557 "	\$3000.	34' 6"	48' 10"	"	Brk. Ven	"	"	6' 6"	9' 3"	8' 6"	----	\$25.	\$10.	Cellar under kitchen only. Tower room finished in attic.
558 Stable	\$1800.	51' 0"	54' 0"	Brick	Clapbds	"	"	6' 6"	10' 6"	9' 0"	----	\$35.	\$10.	Cellar under main part with outside entrance. Open loft.
559 Res.	\$3866.	35' 0"	59' 8"	Stone	"	"	"	6' 6"	10' 0"	9' 0"	8' 0"	\$35.	\$10.	Cellar under whole house. Attic floored, no finish.
560 "	\$4498.	50' 0"	45' 6"	"	"	"	"	6' 6"	9' 6"	8' 6"	7' 6"	\$35.	\$10.	Cellar under whole house. One room finished in attic.
561 "	\$4200.	32' 6"	54' 0"	"	"	"	"	7' 0"	9' 6"	8' 6"	7' 6"	\$45.	\$15.	Cellar under rear part of house. One room & hall in attic.
562 "	\$6500.	51' 6"	70' 6"	"	"	"	"	6' 6"	9' 6"	9' 0"	8' 0"	\$50.	\$10.	Cellar under kitchen only. Two rooms & hall in attic.
563 "	\$4585.	34' 6"	55' 0"	Stone & Brk.	Brick	Brick	Slate	7' 0"	9' 6"	8' 6"	8' 6"	\$75.	\$15.	Cellar under whole house. One room finished in attic.
564 "	\$6500.	49' 6"	44' 6"	"	Clapbds	Shingls	Shingls	7' 0"	9' 6"	9' 0"	----	\$75.	\$20.	Cellar under whole house, laundry, 3 tubs. Attic floored, only.
565 "	\$7000.	59' 6"	54' 0"	Stone	Stone	"	Slate	8' 0"	10' 6"	9' 6"	----	\$35.	\$15.	Cellar under whole house. No attic.
566 "	\$3300.	34' 0"	51' 0"	"	Clapbds	"	Shingls	7' 6"	9' 6"	9' 0"	----	\$25.	\$15.	Cellar under whole house, laundry with sink. Deck roof, tin
567 "	\$2800.	26' 0"	43' 6"	Brick	"	Clapbds	Slate	6' 6"	8' 6"	8' 0"	8' 0"	\$80.	\$20.	Ten bedrooms in 3rd floor. Attic finished for servant's use.
568 Hotel	\$12000.	56' 0"	92' 0"	"	Brick	Brick	"	8' 6"	10' 0"	9' 0"	8' 0"			
569 Res.	\$5500.	36' 6"	56' 0"	Stone & Brk.	Clapbds	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house, with laundry, 3 tubs, and servants' W.C. Four rooms finished in the attic.
570 "	\$1000.	24' 6"	44' 6"	Stone	"	"	"	6' 6"	8' 6"	8' 0"	----	\$20.	\$5.	Cellar under kitchen only. No attic.
571 "	\$1000.	46' 0"	41' 6"	"	"	"	"	No cel.	11' 0"	10' 6"	----	\$20.	\$5.	2nd story 10 ft 6" to the ridge. Scuttle to attic. No cellar.
572 "	\$3606.	30' 8"	54' 2"	Stone & Brk.	"	"	"	7' 0"	9' 6"	8' 6"	7' 0"	\$35.	\$5.	Cellar under the main house. 2 rooms finished in the attic.
573 "	\$1800.	33' 0"	40' 6"	Stone	"	Clapbds	"	6' 6"	9' 0"	8' 0"	----	\$20.	\$5.	Cellar under kitchen only. Remainder of house on piers.
574 "	\$1500.	20' 0"	45' 6"	Brick	"	"	Tin	8' 0"	11' 0"	9' 6"	----	\$20.	\$5.	No attic.
575 "	\$3363.	32' 0"	54' 0"	Stone & Brk.	"	Shingls	Shingls	7' 0"	9' 0"	8' 4"	8' 0"	\$30.	\$5.	Cellar under the whole house. One room and hall finished in the attic.
576 "	\$2900.	33' 0"	42' 6"	Stone	"	Clapbds	"	7' 0"	9' 0"	8' 0"	7' 0"	\$25.	\$5.	Cellar under whole house containing laundry with 2 tubs.
577 "	\$3500.	42' 5"	55' 2"	"	"	Shingls	"	7' 6"	10' 0"	9' 0"	7' 6"	\$30.	\$10.	Two rooms finished in the attic.
578 "	\$3200.	31' 0"	39' 10"	"	Shingls	"	"	6' 8"	9' 0"	8' 6"	----	\$30.	\$10.	Cellar under whole house containing laundry with 2 tubs and servants' W.C. One room finished in the attic.
579 "	\$2200.	32' 8"	49' 6"	"	Clapbds	Clapbds	"	6' 6"	8' 8"	8' 0"	----	\$25.	\$5.	Cellar under the kitchen. Attic floored but not finished.
580 "	\$3300.	55' 6"	45' 0"	"	"	Shingls	"	7' 0"	9' 0"	8' 6"	8' 0"	\$30.	\$10.	Cellar under kitchen only. Two rooms and hall finished in the attic.
581 "	\$2800.	38' 8"	41' 8"	"	"	"	"	7' 0"	10' 0"	9' 0"	----	\$30.	\$5.	Cellar under whole house. Attic floor laid, no finish.
582 "	\$12000.	72' 4"	73' 10"	"	Brick	"	"	9' 0"	11' 6"	9' 0"	8' 7"	\$100.	\$25.	Kitchen, servants' dining room, pantry, larder, and dumb waiter in basement. Billiard room and two servants' rooms in attic.
583 "	\$7500.	43' 10"	71' 0"	Stone & Brk.	Clapbds	"	"	7' 6"	10' 0"	9' 0"	8' 0"	\$75.	\$15.	Cellar under whole house, laundry, with 3 tubs, sink and servants' W.C. in basement. 2 bed rooms finished in the attic.
584 "	\$10000.	48' 1"	73' 0"	Brick	Brick	Brick	Tile	8' 0"	11' 0"	10' 0"	9' 0"	\$100.	\$25.	Cellar under whole house, laundry with 3 tubs, and servants' W.C. in basement. Billiard room, servants' rooms etc in attic.
585 "	\$8500.	79' 0"	69' 0"	"	Clapbds	Shingls	Shingls	7' 6"	10' 0"	9' 6"	9' 0"	\$85.	\$15.	Cellar under all except kitchen. Three rooms and hall in the attic.
586 "	\$5500.	56' 6"	46' 8"	Stone	"	"	"	7' 0"	10' 0"	9' 0"	8' 6"	\$55.	\$15.	
587 "	\$6500.	71' 7"	70' 6"	"	"	"	"	7' 6"	11' 0"	10' 6"	----	\$65.	\$15.	Cellar 25 ft x 22 ft 8" Attic floored but not finished,

* Cost is based on the prices for materials and labor that prevail in the vicinity of New York. In many places cost will be less. When Working Plans, Specifications, etc., are ordered, we carefully re-estimate the cost according to the client's local prices (we have price-lists for every section of the country), which gives the client the sum at which, or very near which, he should be able to contract. This re-estimated cost is guaranteed to be correct; otherwise, we will return the fee paid us.

† Sizes given include all projections—porches, verandas, bay-windows, etc.

** Height of Stories may be changed, but it necessitates re-drawing the elevations, for which an additional charge of \$5 is made for a house that costs \$5,000, and under; \$10 for a house that costs over \$5,000.

†† These list prices are only about one-quarter of the amounts usually charged by other architects. The drawings, etc., that we send are on a larger scale, and are more complete and accurate than can be procured elsewhere at any price: they include Working Plans, Specifications, Detail Sheets, Color Sheets, Supplement Sheets about Cisterns, Earth Closets, Privies and Fences. Also Duplicate Blank Contracts.

††† A Bill of Materials is needed only in case the owner wishes to buy the materials.

*** We can send the Working Plans, Specifications, etc., of any of these designs reversed—for which we charge \$5 additional. What we mean by reversed is fully illustrated by holding the design before a strong light and viewing it from the back; the faint lines that show through show the design reversed.

PRICE-LIST OF MATERIALS AND LABOR ON WHICH ARE BASED THE ESTIMATES OF COST GIVEN IN THE TABLES.

Excavation, per cubic yard,	\$0.25	Rosin sized building paper, per lb.,	\$.03
Rubble stone work laid up complete, all materials furnished by contractor,		Clear pine trim, reeded or moulded, 7/8 x 5 in., per lineal foot,	.03
per perch of 25 cubic feet,	4.25	Mouldings, per sq. inch of section, per 100 lineal feet,	.65
Stone wall, double faced above grade, 25c. per foot, or per perch,	6.25	Turned pine corner blocks, each,	.04
Brickwork laid in the wall, per M,	\$15.00 to 16.00	Moulded base, 8 in. high, 7/8 in. thick, per lineal foot,	.05
Plastering, per yard,	.30 to .35	Glazed window sash, 2 ft. 7 in. x 5 ft. 6 in. by 1 1/2 in., two lights, per pair,	2.00
Spruce timber, per M feet,	20.00	Doors—four panels, moulded both sides, 2 ft. 8 in. x 7 ft. x 1 1/2 in., each,	2.60
Hemlock timber, per M feet,	14.00	Blinds will average all around, per window,	1.50
Hemlock sheathing boards, per M feet,	15.00	Tinning, per square of 100 square feet,	6.00
Pine shingles, per M,	4.50 to 5.00	Painting, including materials and labor, per square yard, each coat,	.06
Pine flooring, merchantable, per M feet,	26.00	Carpenters' labor, per day,	\$2.50 to 3.00
Clear pine clapboards, per M feet,	25.00 to 30.00	Masons' and plasterers', per day	3.00 to 3.50
Novelty siding, per M feet,	30.00 to 35.00		

WORKING PLANS, DETAILS, SPECIFICATIONS, &c.

See notes below about Alterations and Special Designs.

A MODERN HOUSE—that is a house in which the advances in science and art are utilized—*cannot* be constructed without the aid of

WORKING PLANS, DETAIL DRAWINGS AND SPECIFICATIONS.

In fact this is true as regards the smallest, cheapest and plainest building, but it is doubly true as regards the Modern House, because most of the details of construction and finish differ greatly from those of the old-fashioned, and even from those of a so-called Modern House which is not well designed.

The principal convenience of a Modern House arises from the studied and improved arrangement of its rooms, but its distinguishing beauty comes from correctly carrying out the Details of Cornices, Verandas, Windows, Doors, Gables, Trim, Mantels, Staircase, Colors, &c., &c. Builders are not familiar with these Details, and it is simply impossible for them to construct them without exact Drawings and Specifications.

This is exactly the service we offer in our Working Plans, Details, &c. By the practical co-operation effected by our books bringing our designs before thousands of people, we are enabled to supply this service at *one-quarter* the rates usually charged by architects. At the same time, our services are more complete than are usually furnished; our figures and estimates are more reliable because they are continually proved by actual building.

When Drawings, &c., are used (insuring against mistakes and waste of both material and time), the Modern House costs no more, and often less than the old-fashioned structure; for the architect has not only improved the arrangement and made the Modern House beautiful, but he has studied economy and insured its lower cost.

Many people think it an unnecessary expense to invest in Plans, &c.; that their builders can draw up Plans or follow rough sketches of their own. *This is a great Error.* It would be true economy to pay even five times as much as our charges for proper Drawings, &c. Without them mistakes are sure to occur, and to rectify a single mistake often costs more than the architectural services

Again, by our Specifications, the builder is bound to put in good qualities of material and workmanship; when not carefully specified in every particular there is sure to be misunderstandings and trouble as to the thousand-and-one things that enter into the construction; the result is always loss to the owner. There are many honest and conscientious builders, but there are others, unfortunately, who do not hesitate to take advantage of loosely-drawn Specifications or oral instructions, as many owners have found out to their sorrow. We make it our particular business, by very exact Drawings, Specifications and Contracts, to insure good materials and workmanship.

The honest builder always prefers to have clear and exact Drawings and Specifications that no misunderstanding may occur either on his part or that of the owner.

Beside the indispensable aids of Plans, Details and Specifications, there is the utmost value in having

A BILL OF QUANTITIES,

which gives the true quantities of all the materials required, and enables the owner to make all of the purchases of materials, if he prefers, and to build the house by day's work.

In addition to the foregoing we furnish

A COLOR SHEET,

which gives a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, &c. This sheet not only instructs the painter, but enables the owner to do his own painting, if he prefers.

We also send an extra sheet containing Detail Drawings of an approved method of building cheap, durable and firm foundations, particularly useful for small cottages, where it is necessary to keep the cost as low as possible. The same sheet shows drawings of an approved cistern with filter. Also, duplicate blank forms of

BUILDING CONTRACTS

ready for use in case the owner wishes to build by contract.

The reliability and thoroughness of our work is attested by hundreds who have built from our Drawings and Specifications. Please see a "page of references" in another place.

PRICE LIST OF PLANS, SPECIFICATIONS, ETC.

UPON receipt of price annexed we will send by mail or express, charges prepaid, the Working Plans, Specifications, Detail Drawings, Bill of Quantities, the Extra Detail Sheets on Colors and Foundations mentioned above, and Building Contracts for any of the designs mentioned below. Remit to The Co-operative Building Plan Association, No. 63 Broadway, (P. O. Box 2702), New York City, N. Y.:

Design No. 168.—A	*\$920 frame cottage.	Price for Working Plans, &c.	\$20 00	Design No. 207.—A	\$2,800 frame cottage.	Price for Working Plans, &c.	\$30 00
" 169.—"	800	"	15 00	" 208.—"	3,400	"	40 00
" 170.—"	410	"	12 00	" 209.—"	2,200	"	35 00
" 171.—"	458	"	12 00	" 210.—"	2,800	"	30 00
" 172.—"	1,500	"	24 00	" 211.—"	2,600	"	30 00
" 173.—"	1,350	"	24 00	" 212.—"	3,700	"	40 00
" 174.—"	1,400	"	24 00	" 213.—"	3,475 frame tenement	"	40 00
" 175.—"	1,160	"	20 00	" 214.—"	3,500 frame house	"	35 00
" 176.—"	1,490	"	25 00	" 215.—"	3,600	"	45 00
" 177.—"	1,120	"	20 00	" 216.—"	2,550	"	25 00
" 178.—"	1,285	"	22 00	" 217.—"	3,200	"	40 00
" 179.—"	1,950 double house.	"	30 00	" 218.—"	3,500	"	45 00
" 180.—"	1,500 frame cottage.	"	25 00	" 219.—"	3,500	"	45 00
" 181.—"	1,375	"	22 00	" 220.—"	3,900	"	50 00
" 182.—"	1,375	"	22 00	" 221.—"	3,500 brick house	"	45 00
" 183.—"	1,100	"	20 00	" 222.—"	2,750 frame house	"	35 00
" 184.—"	1,520	"	25 00	" 223.—"	5,200	"	70 00
" 185.—"	1,800	"	28 00	" 224.—"	3,400	"	40 00
" 186.—"	1,650	"	25 00	" 225.—"	4,200	"	50 00
" 187.—"	1,500	"	25 00	" 226.—"	4,300	"	50 00
" 188.—"	925	"	20 00	" 227.—"	4,400 brick house	"	60 00
" 189.—"	1,875	"	28 00	" 228.—"	3,700 frame house	"	45 00
" 190.—"	1,200	"	20 00	" 229.—"	2,500	"	35 00
" 191.—"	1,875	"	28 00	" 230.—"	5,700	"	90 00
" 192.—"	1,500	"	25 00	" 231.—"	4,450	"	50 00
" 193.—"	1,850	"	28 00	" 232.—"	3,900	"	45 00
" 194.—"	2,100	"	30 00	" 233.—"	4,500	"	50 00
" 195.—"	2,075	"	30 00	" 234.—"	3,900	"	45 00
" 196.—"	2,100	"	30 00	" 235.—"	5,100	"	70 00
" 197.—"	2,575	"	30 00	" 236.—"	5,900	"	90 00
" 198.—"	1,950	"	30 00	" 237.—"	4,500	"	60 00
" 199.—"	1,750	"	28 00	" 238.—"	5,800	"	90 00
" 200.—"	1,975	"	30 00	" 239.—"	6,800 brick house	"	125 00
" 201.—"	2,250	"	30 00	" 240.—"	6,700	"	125 00
" 202.—"	2,850	"	35 00	" 241.—"	5,800	"	100 00
" 203.—"	1,800	"	28 00	" 242.—"	6,500 frame house	"	125 00
" 204.—"	3,000	"	35 00	" 243.—"	6,000 stone church	"	150 00
" 205.—"	2,500	"	30 00	" 244.—"	12,000 frame rink	"	250 00
" 206.—"	2,900	"	30 00				

* The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1895. In most other localities the cost is less—in some places much less. A different date also modifies cost.

NOTE ABOUT ALTERATIONS

ANY internal changes required, such as shifting partitions to make rooms larger or smaller, adding closets, building fireplaces in place of flues, etc., can be clearly indicated to the workmen by the owner himself, when the large Working Plans are spread out before them. Therefore, if the alterations are unimportant, the Working Plans and Specifications as per price list above are quite sufficient. Where the desired changes alter the external dimensions and, consequently, the appearance of the elevations, it is generally advisable to have us make the changes in the Working Plans and Specifications.

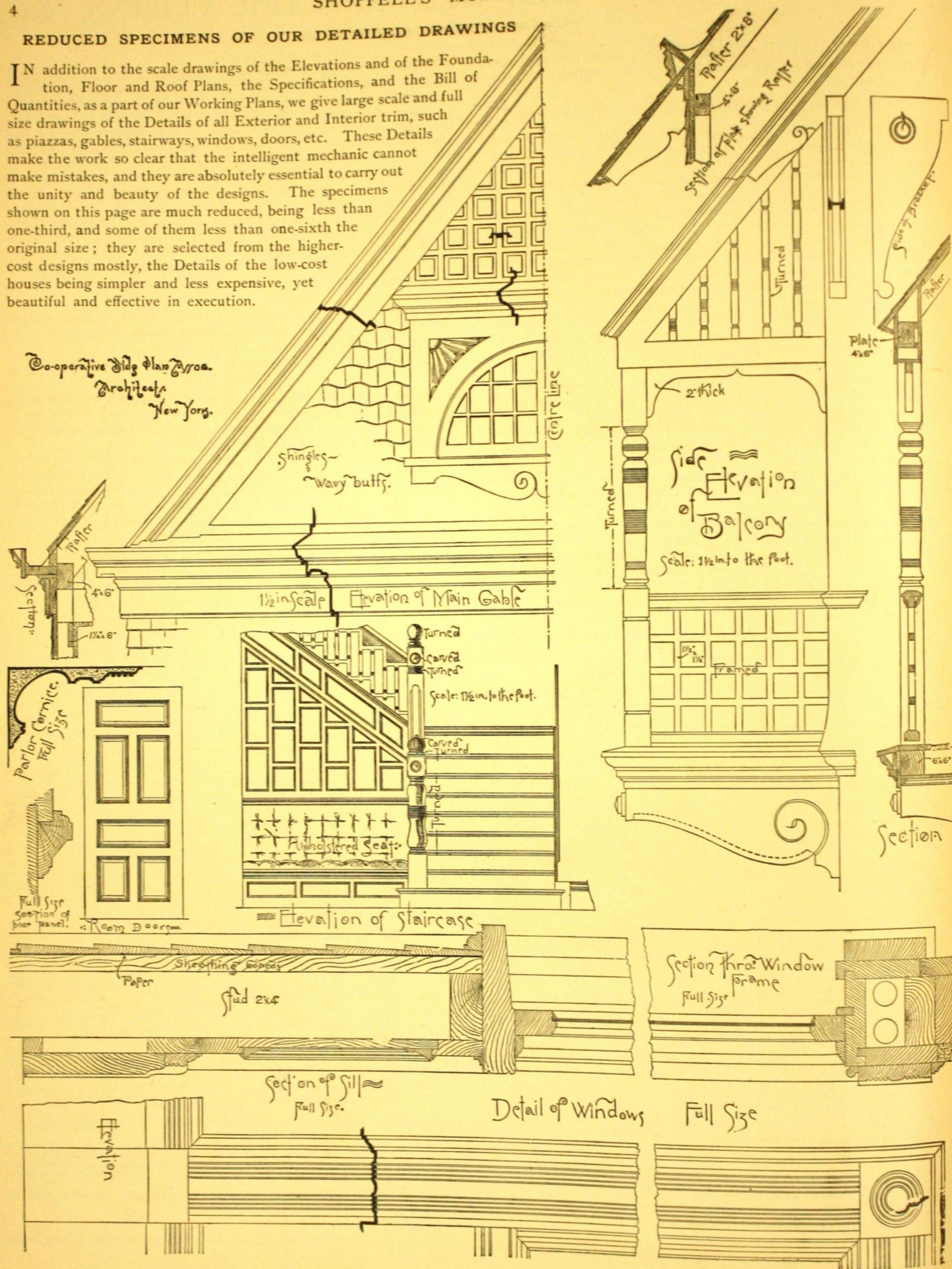
We do not set a price for making alterations, as we cannot tell how much work is involved until we know what they are. Upon receiving a description of the alterations required, which should always be accompanied with a diagram, no matter how roughly drawn, we will make a price according to the amount of work involved.

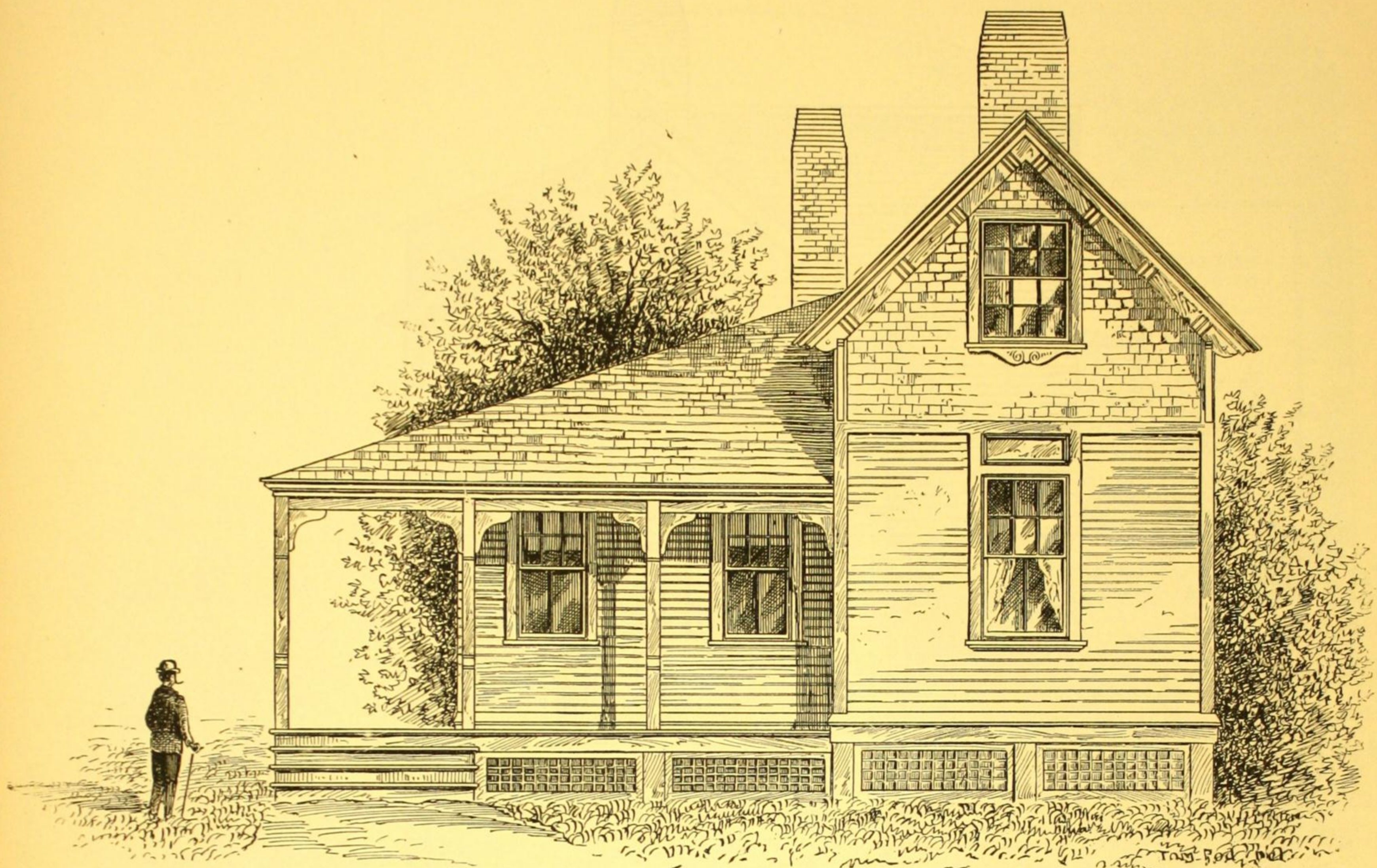
ABOUT SPECIAL DESIGNS

IF none of our designs, or modifications of them, suit the intending builder, we are glad to make original designs to meet their requirements, or work out and put in proper shape any rough drawings of their own.

REDUCED SPECIMENS OF OUR DETAILED DRAWINGS

IN addition to the scale drawings of the Elevations and of the Foundation, Floor and Roof Plans, the Specifications, and the Bill of Quantities, as a part of our Working Plans, we give large scale and full size drawings of the Details of all Exterior and Interior trim, such as piazzas, gables, stairways, windows, doors, etc. These Details make the work so clear that the intelligent mechanic cannot make mistakes, and they are absolutely essential to carry out the unity and beauty of the designs. The specimens shown on this page are much reduced, being less than one-third, and some of them less than one-sixth the original size; they are selected from the higher-cost designs mostly, the Details of the low-cost houses being simpler and less expensive, yet beautiful and effective in execution.





DESIGN No. 168. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 168*

SIZE OF STRUCTURE: Front, 32 ft., 6 in. Side, 34 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, posts set in concrete; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: According to Plan A, \$920; Plan B, \$864.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A very good house for a warm climate or for a summer cottage, either inland or at the seashore. Well lined under the clapboards it is, also, a warm house for winter. Large open fireplaces. Two good rooms can be finished off in the attic, but they are not included in our estimate. A stairway to the attic is provided. In the South the cost is considerably less than our figures.

We give two plans (A and B), for this design. In ordering Working Plans, details, &c., state which is wanted. Plan A is the larger.

The exterior of this design is quite artistic when properly painted.

Where this house is built in a mild climate we advise the use of heavy paper (plaster board) in place of regular lath and plaster. It saves at least \$100 and is quite as good. One side of it has a printed design like regular wallpaper. By wainscoting with wood up to the window sills, then using the plaster board for walls and ceilings and covering the joints with neat moldings a very pretty effect is produced.

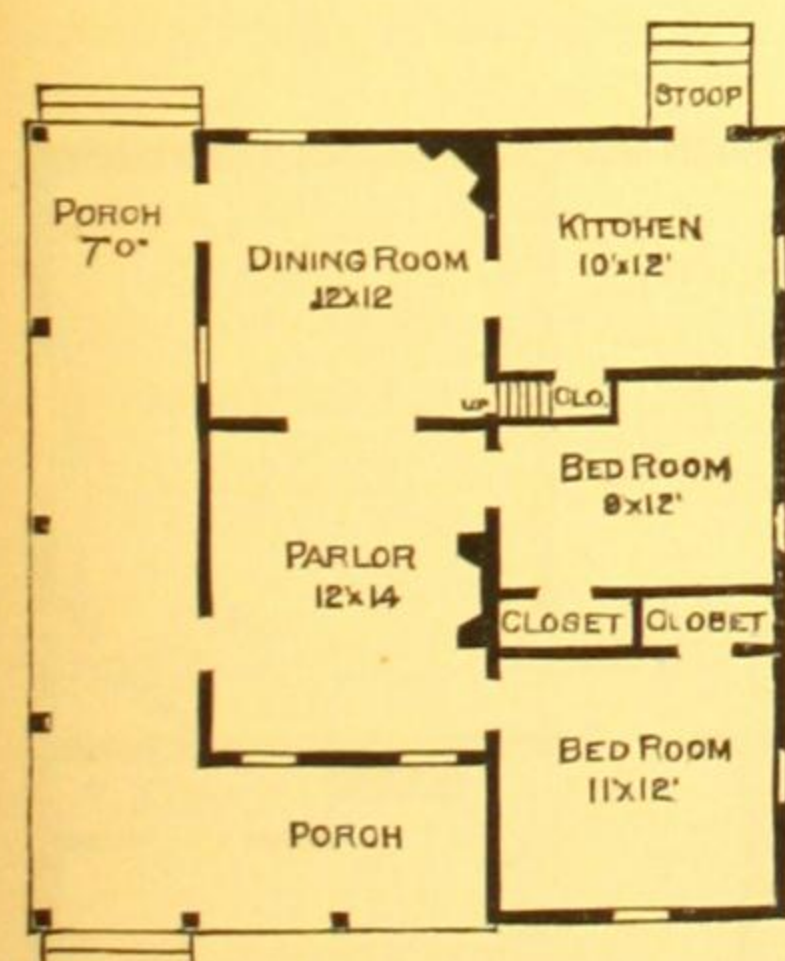
If intended for a summer residence only it is just as well not to build the two brick chimneys, but instead have a terra cotta chimney in the kitchen, the whole cost of which, including a pretty top, will not exceed \$10.

If costly labor like mason work and plastering can be kept out of a job the whole cost is greatly reduced. By setting this house on posts, using plaster boards and a terra cotta chimney, cheap carpenters can do the whole of it, even the painting, as our working plans, specifications and details make everything plain to the most inexpert.

NOTES

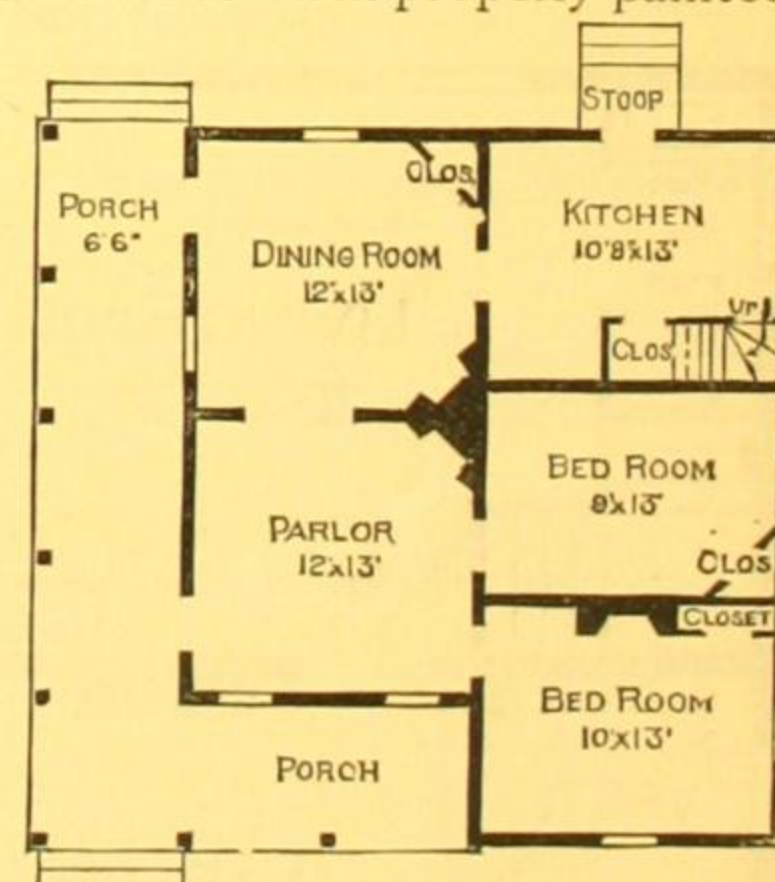
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.



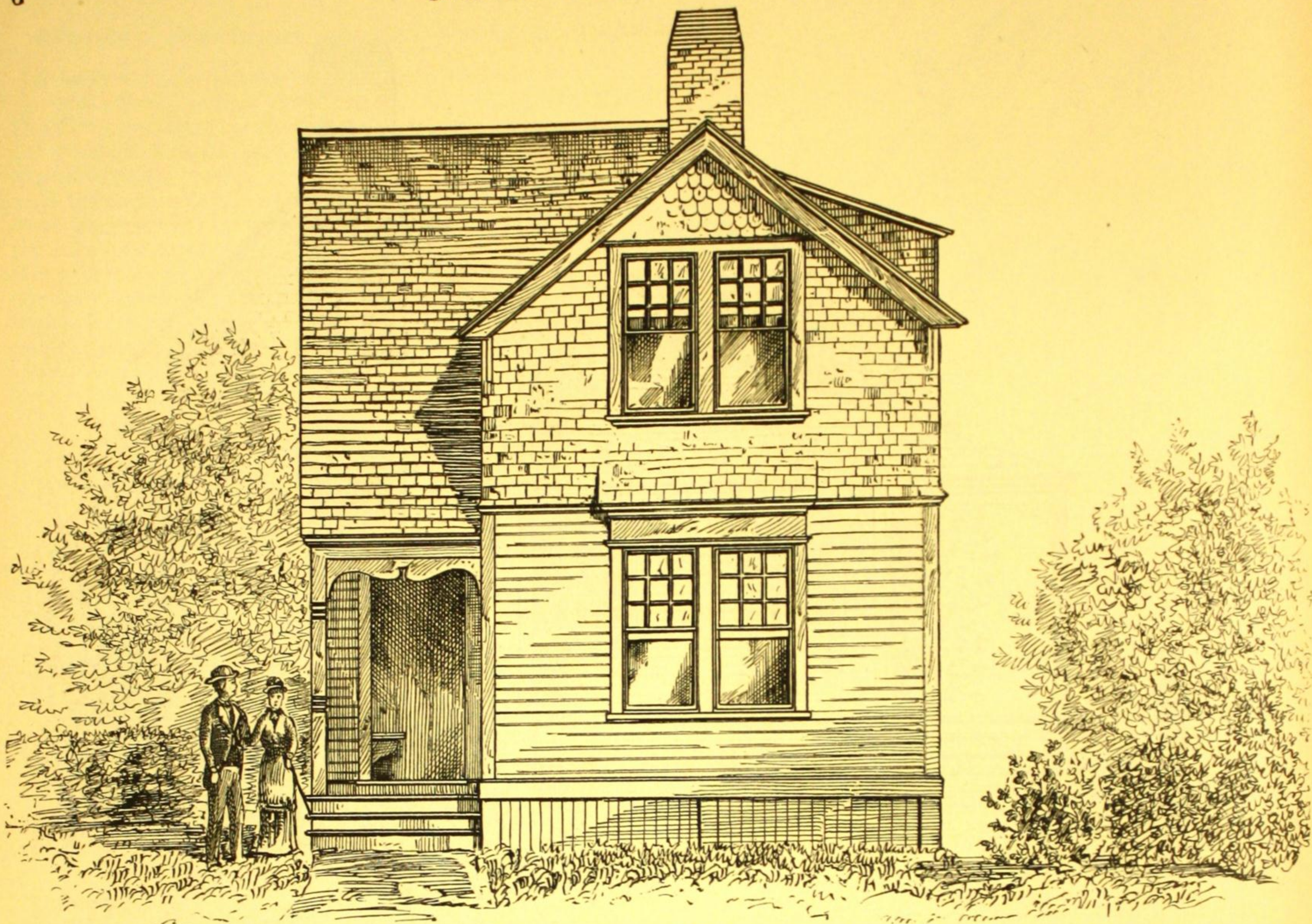
FIRST FLOOR. NO. 168. (A)

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 168. (B)

* Designs No. 1 to No. 167 (inclusive), prepared some years ago, are now considered somewhat antiquated. We include them no longer as part of our collection.



DESIGN No. 169. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 169

SIZE OF STRUCTURE: Front, 20 ft., 8 in. Side, 24 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 8 in.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts set in concrete or brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$800, all complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

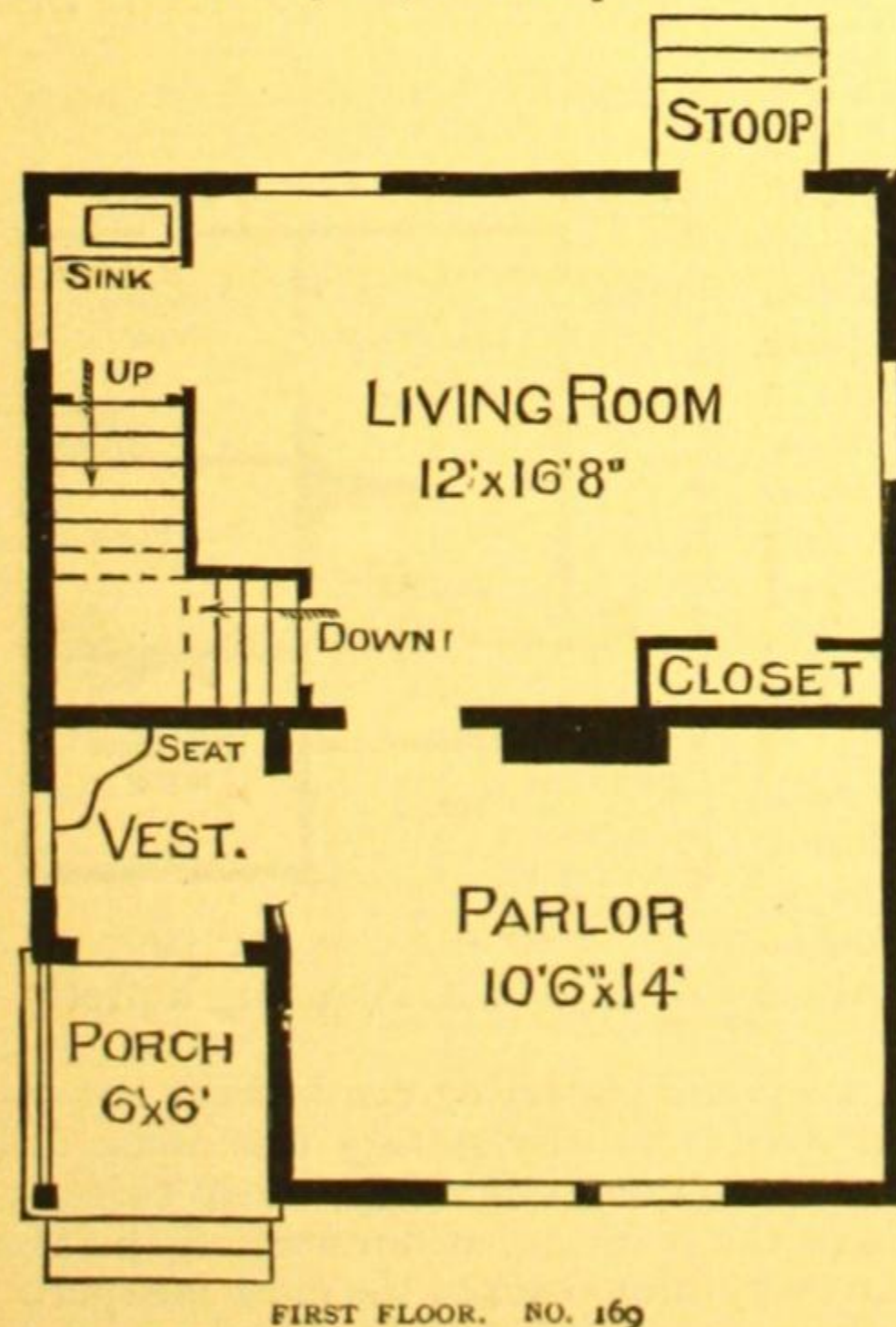
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

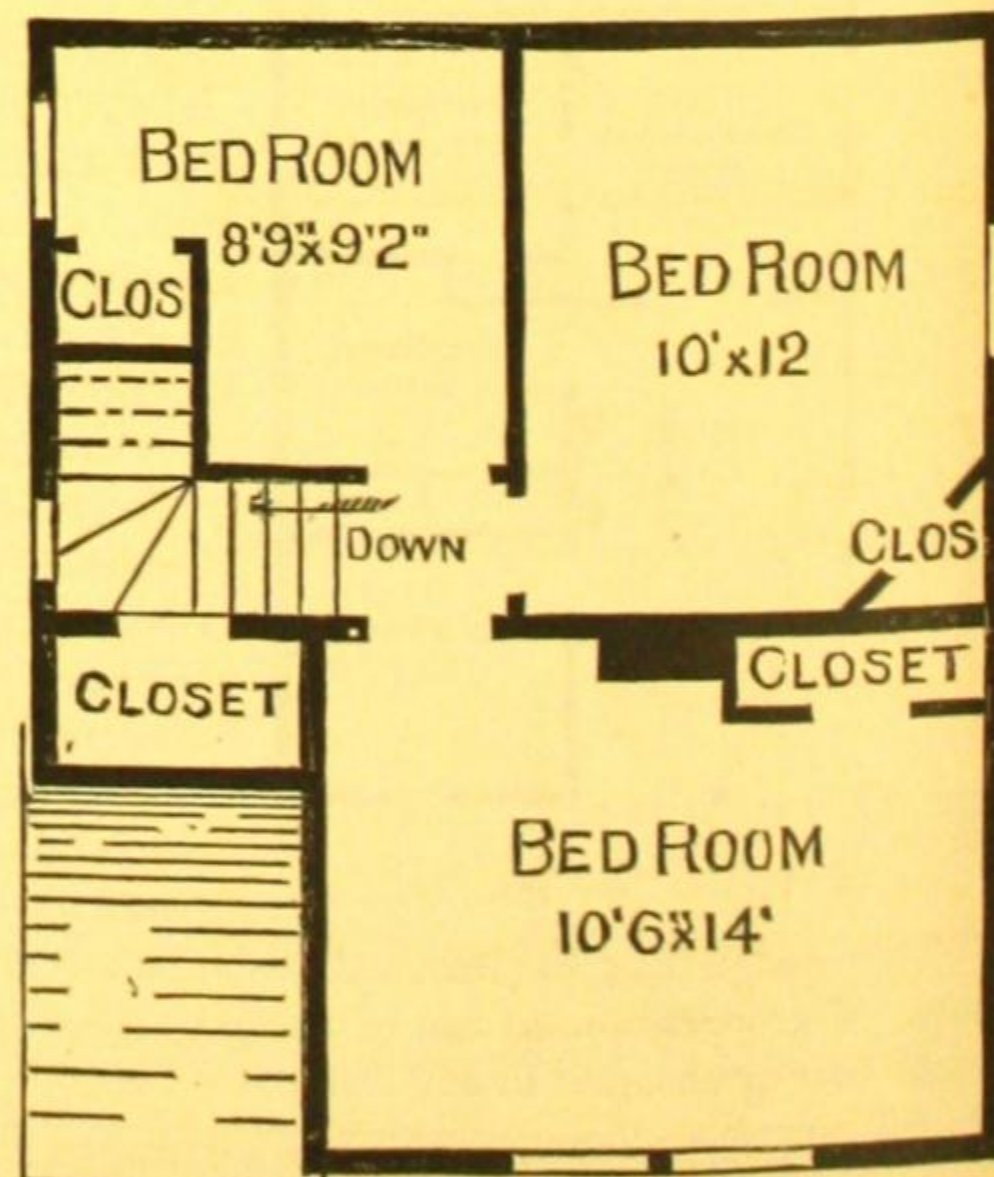
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

SPECIAL FEATURES.—The sink should be enclosed by a curtain or a screen. A cellar is under half of the house. A one-story kitchen can be added at an additional expense of \$75.

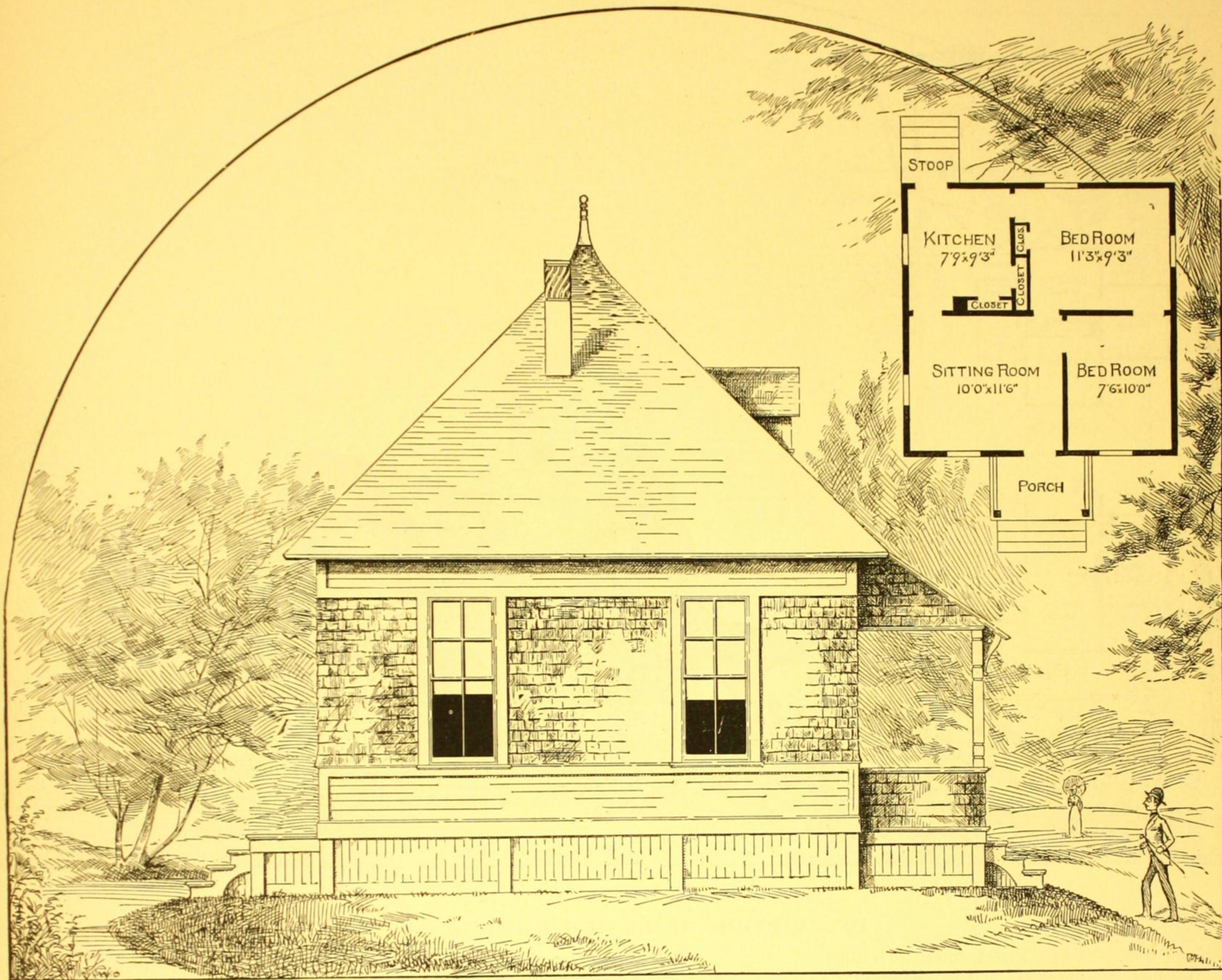
This is a capital house for a young couple just starting in life. It is prettier than many of the larger and more pretentious structures that may be its neighbors. The vestibule is a nice feature and it insures the first floor against cold draughts. If a good fire is kept up in the living room when the parlor door is closed the heat will find its way up the stairway and thus warm the rooms of the second story. This is quite sufficient except in the most rigorous climate. In two of the bedrooms stoves can be used. If the builder of this house is a "handy man with tools," he can do some of the work himself, such as painting. The principal expense in painting is the labor. Our sheet of details about painting shows just how to do it, specifying colors, with directions for mixing and how to lay it on, even describing the kind of brushes to use. Cellar under living room.



FIRST FLOOR. NO. 169



SECOND FLOOR. NO. 169



DESIGN No. 170. SIDE ELEVATION

DESCRIPTION OF DESIGN NUMBER 170

SIZE OF STRUCTURE: Front, 20 ft. Side, 20 ft.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: First Story, 10 ft., 6 in.

MATERIALS: Foundation, wood posts; First Story, shingles, with bands of clapboards; Roof, shingles.

COST: \$410, complete.

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some localities much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—There is no plaster used in this house, and no mason need be employed. The terra cotta chimney can be set together or built by the carpenter. The walls are covered with heavy

paper ('plaster board') secured to the frame by neat wood moldings, and left in its natural color, which is a reddish salmon, or, if preferred, the plaster board can be covered with ordinary wall paper. The molding are placed over the joints of the plaster board which give the walls a pretty panelled effect. Neat wainscoting is used up to the height of the window sills. Altogether these interiors are very pretty, while they are warm and inexpensive.

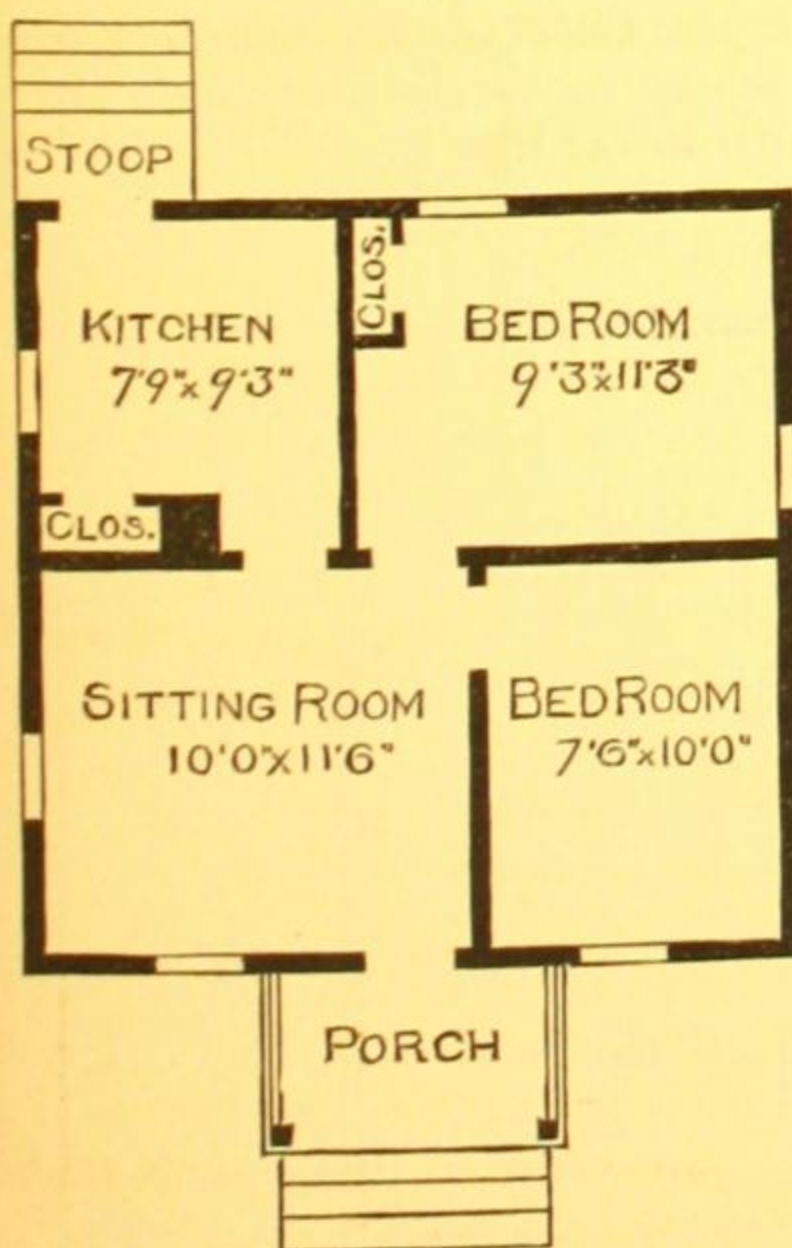
The space under the roof can be used for storage, and is reached by means of a step ladder and trap-door in the ceiling of one of the bed-rooms.

DESCRIPTION OF DESIGN NUMBER 171

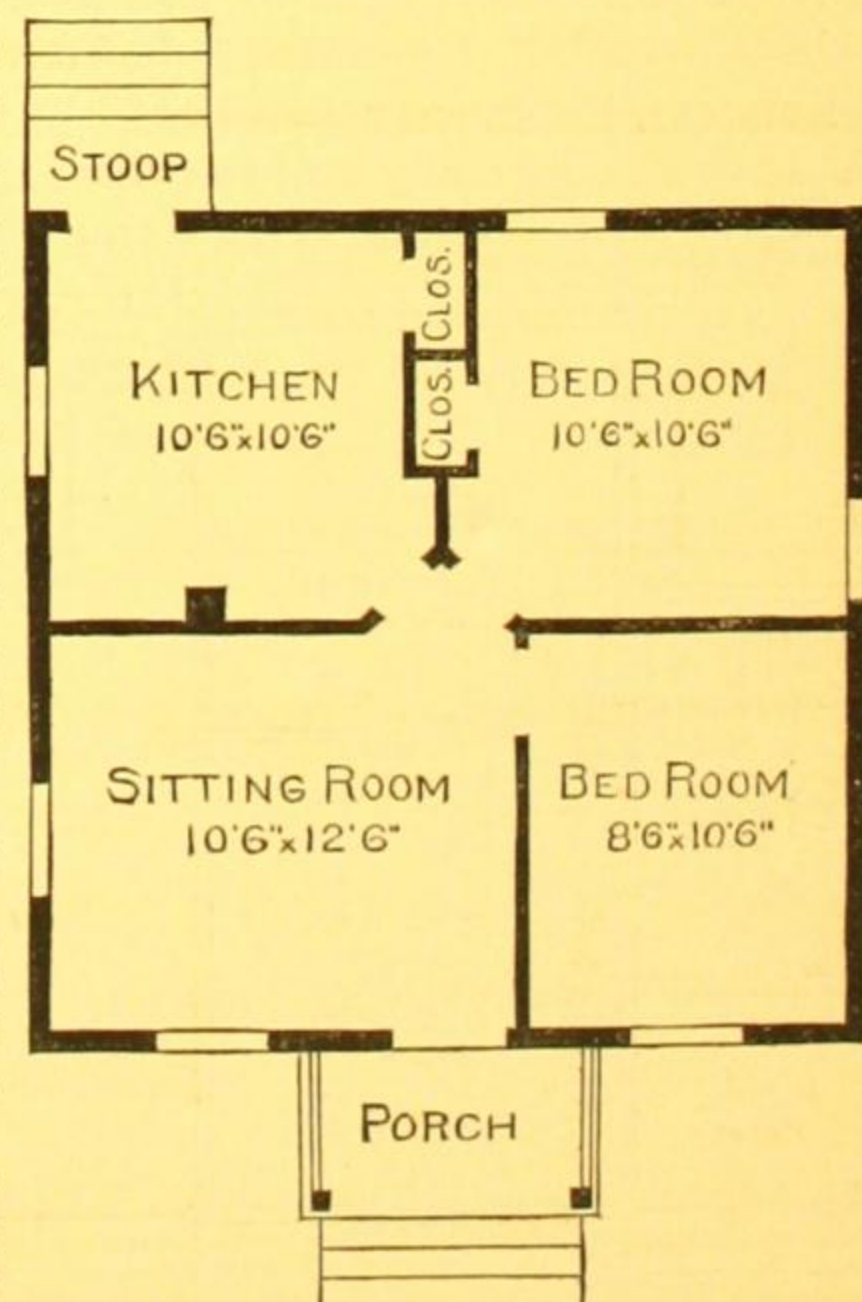
This is simply an enlarged modification of the design last described. It is 22 feet square.

COST: \$468, complete.

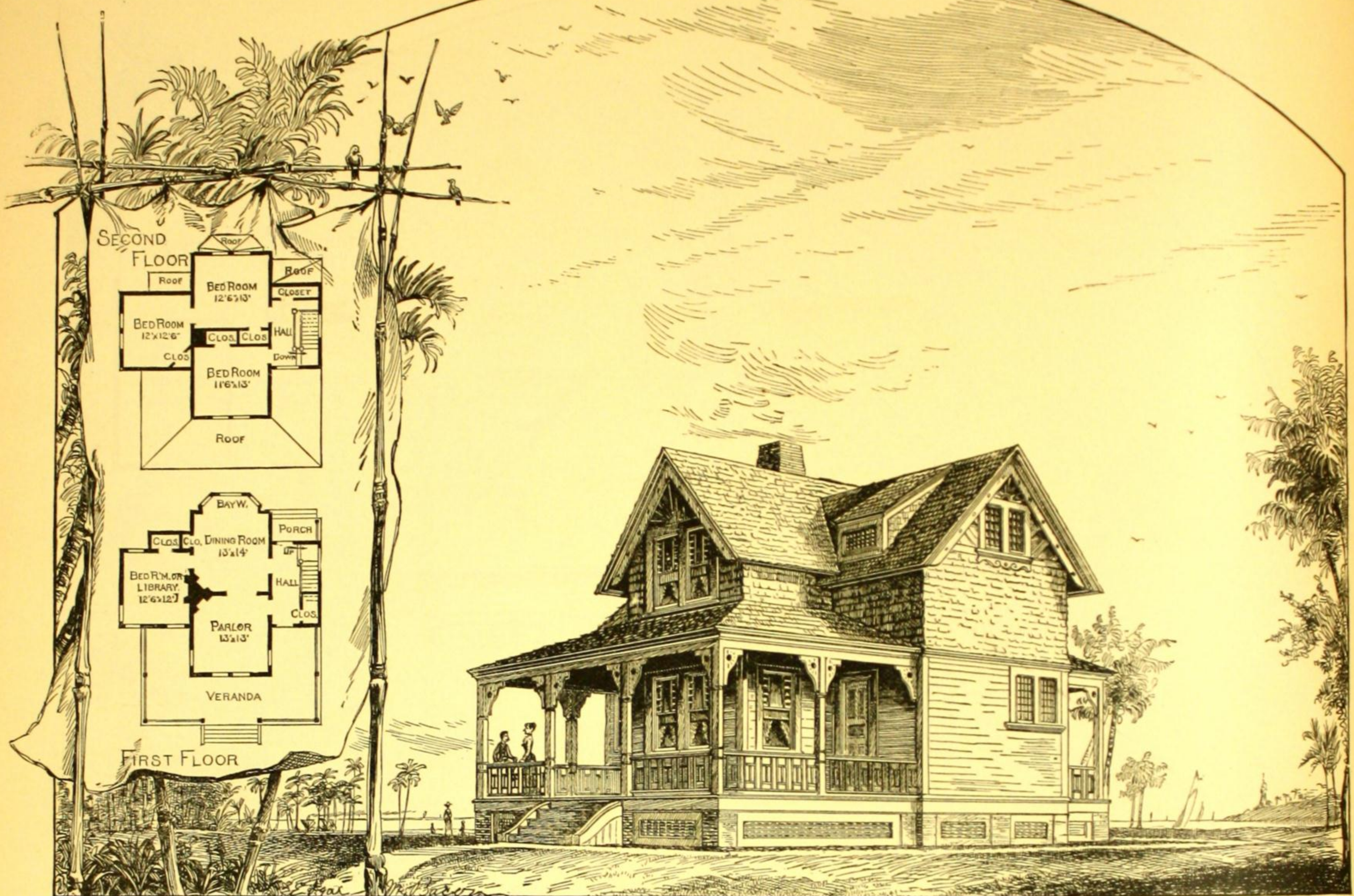
[See the first pages of this book for information about details, specifications, bill of quantities and working plans of these designs.]



ANOTHER PLAN FOR DESIGN NO. 170



PLAN FOR DESIGN NO. 171



DESIGN No. 172. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 172

SIZE OF STRUCTURE: Front, 30 ft., including veranda. Side, 40 ft., including veranda and bay-window.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, wood posts set in concrete or brick piers; First Story, clapboards; Second story, shingles, Roof, shingles.

COST: \$1,500, complete, except heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of these designs]

SPECIAL FEATURES.—With its broad veranda and open fireplaces this design is specially suitable for a Southern, Seaside or Summer Cottage. The kitchen is in a small detached building in the rear.

In fact, however, it is well adapted for any climate. A fireplace heater in the parlor or dining-room easily warms the three bed-rooms up stairs. If a detached kitchen is not wanted the library can be turned into a kitchen, or a small, inexpensive addition can be built in the rear for a kitchen.

A cellar under the dining-room with strong plank walls will cost \$35 additional; under the whole house with brick walls, \$150.

The Painter's Specifications call for the body of the first story to be painted light brown; shingles on sides treated with crude petroleum; the roof stained red; trimmings olive; but these colors can be modified or entirely changed to suit the taste of the owner.

In Southern and Western States where materials and labor are cheap this house can be built for a much lower figure.

DESCRIPTION OF DESIGN NUMBER 173

SIZE OF STRUCTURE: Front, 31 ft., including veranda. Side, 29 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 9 ft.

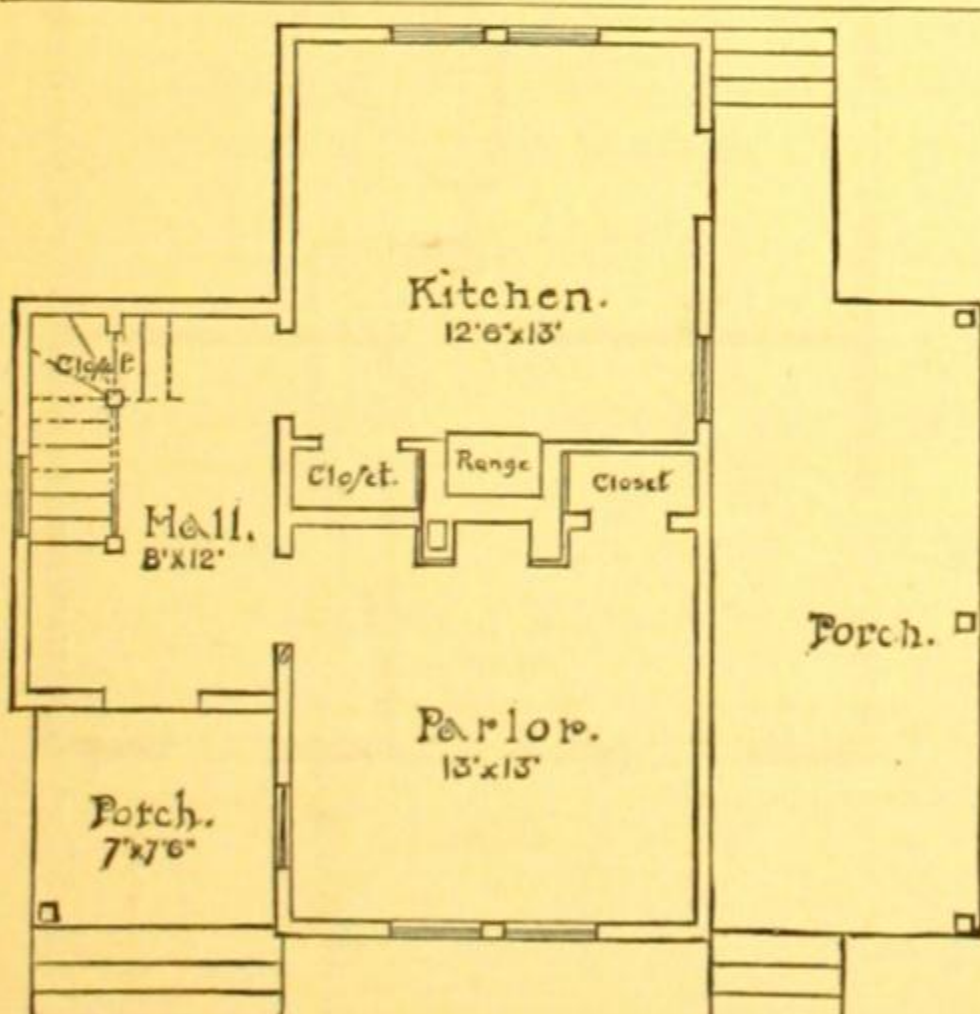
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$1,350, complete, except range.

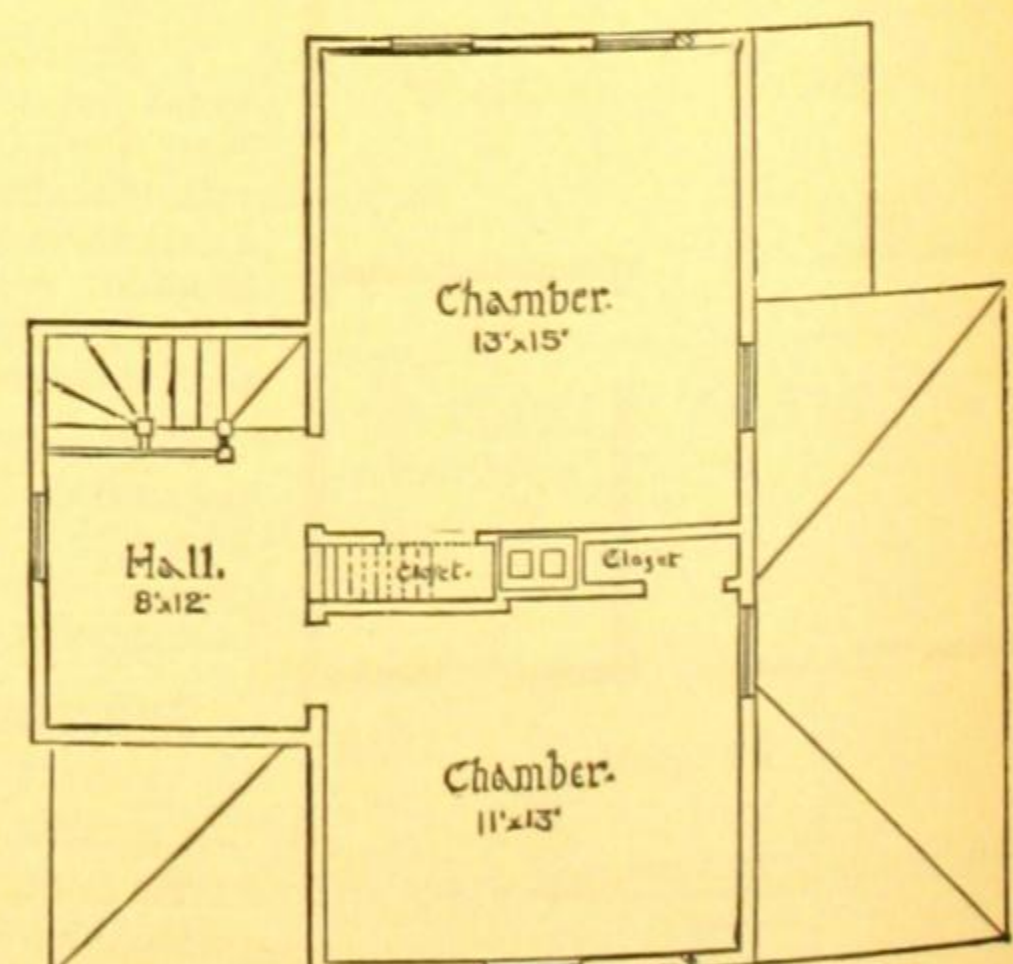
SPECIAL FEATURES.—In this house the second story is a full story. There is a cellar under parlor and kitchen.

The elevations of this design are very much in the same style as the above design, and are not given here for want of space.

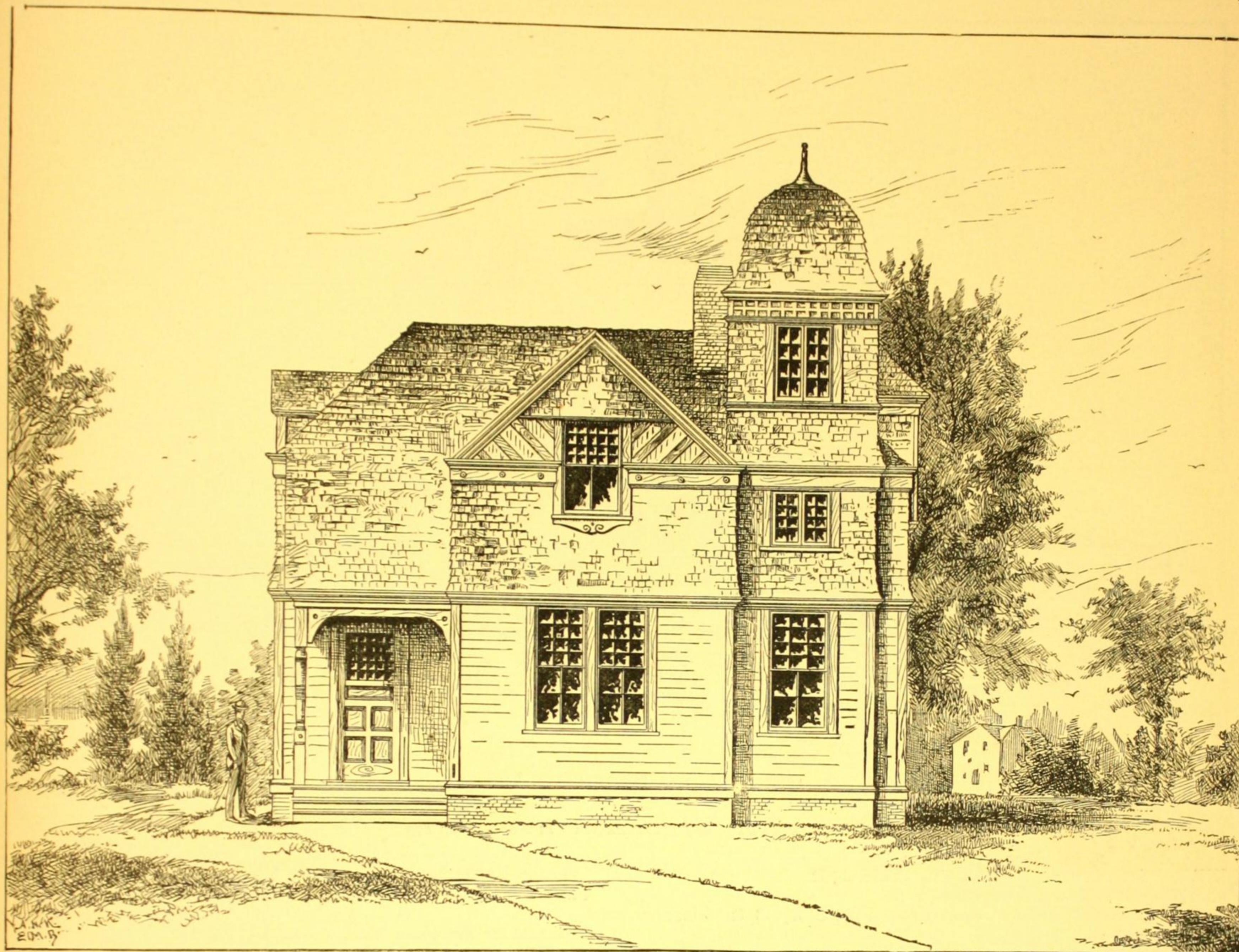
By setting this house on posts or brick piers and having no cellar, or only a small cellar with plank walls, the cost is reduced \$175 to \$200.



FIRST FLOOR, NO. 173



SECOND FLOOR, NO. 173



DESIGN No. 174. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 174

SIZE OF STRUCTURE: Front, 31 ft. Side, 29 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 4 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles and half timbers; Roof, shingles.

COST: \$1,400, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

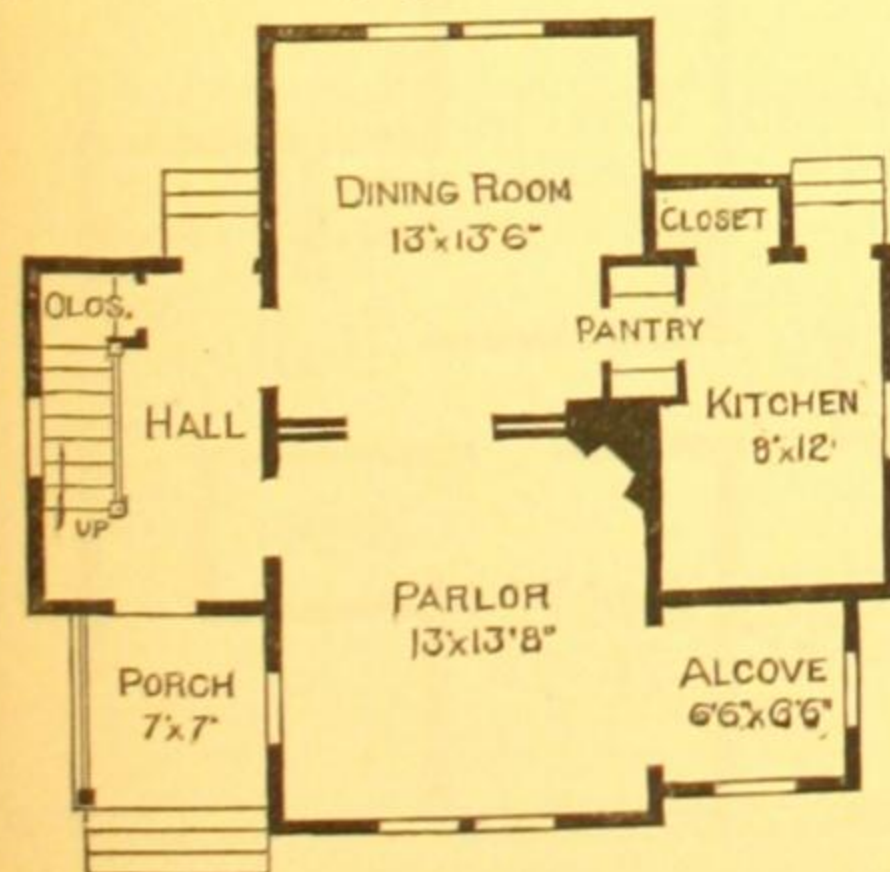
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

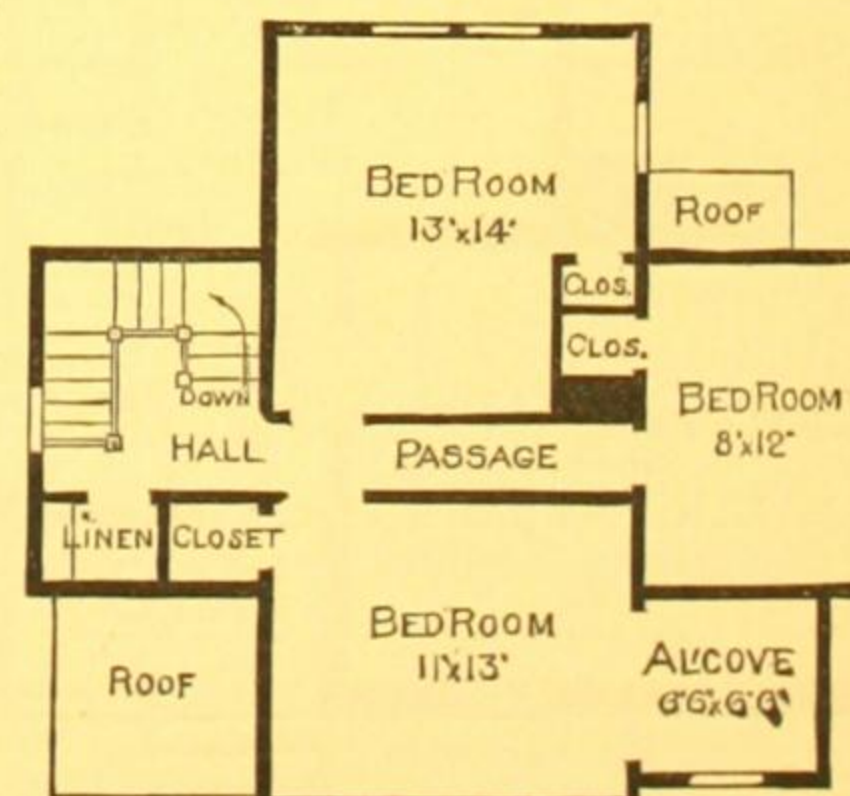
SPECIAL FEATURES.—A cellar under the rear part, with an outside entrance. By leaving out the closet under the staircase we can provide an inside stairway to the cellar. There is a small staircase for access to the upper part of the tower. Good storage room in the attic.

This is a good example of the variety of elevations that may be designed for the same plans. It will be noticed that these floor plans are almost identical with one set of those on the preceding page. The dissimilarity of the exteriors is very striking.

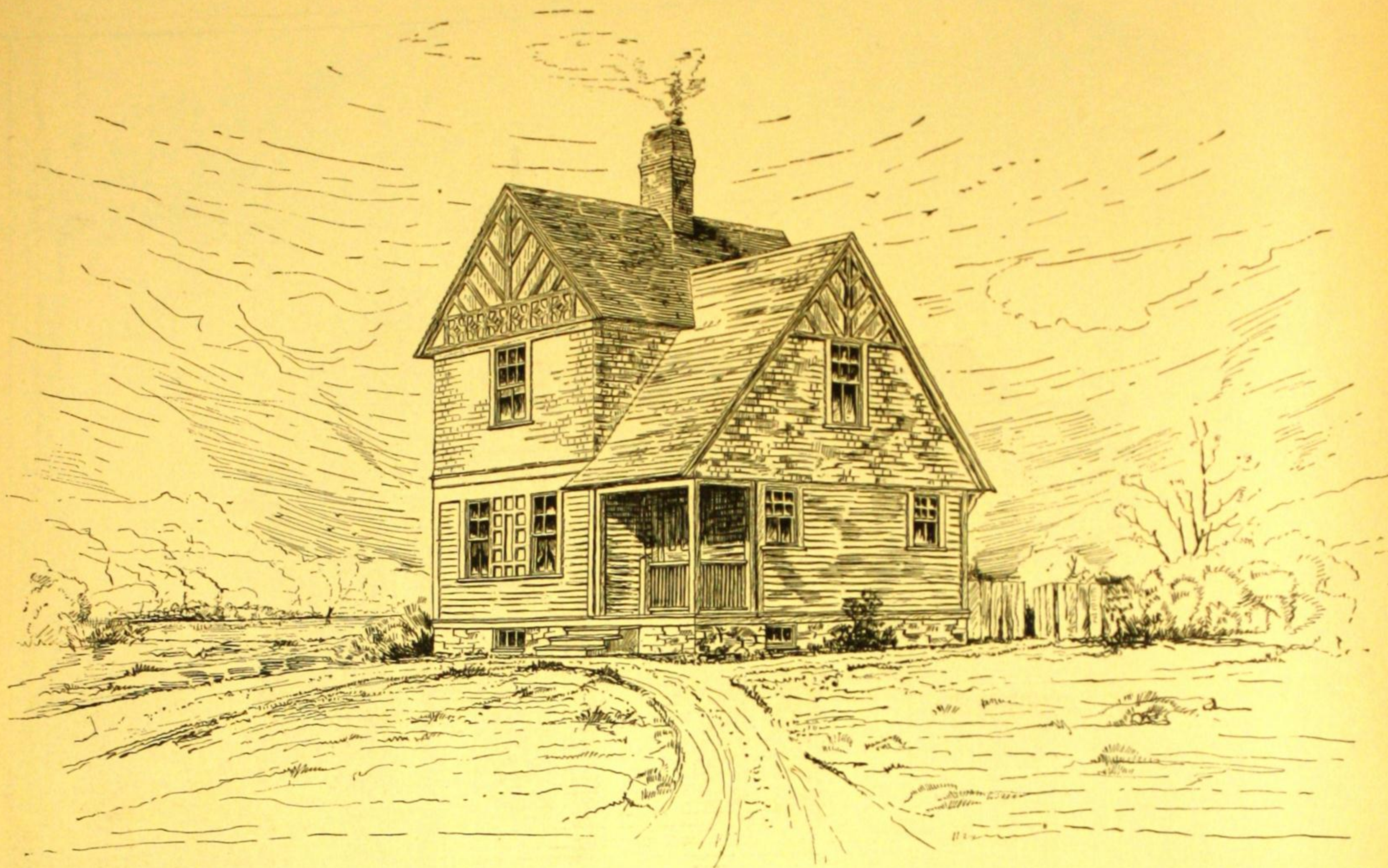
A tower is much in favor with many people of good taste. Here is one that is inexpensive, not over-pretentious, and that harmonizes with the rest of the design. The tower can be omitted, if preferred, and the roof brought down over the alcove the same as over the porch. This would save about \$125 in construction. With or without the tower this is a very pretty and somewhat novel design.



FIRST FLOOR. NO. 174



SECOND FLOOR. NO. 174



DESIGN No. 175. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 175

SIZE OF STRUCTURE: Front, 25 ft. Side, 25 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, panelled and half timbered; Roof, shingles.

COST: \$1,160, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Every room has the use of the chimney. Fireplaces with wood mantels can be built at small additional cost.

Cellar under the whole house.

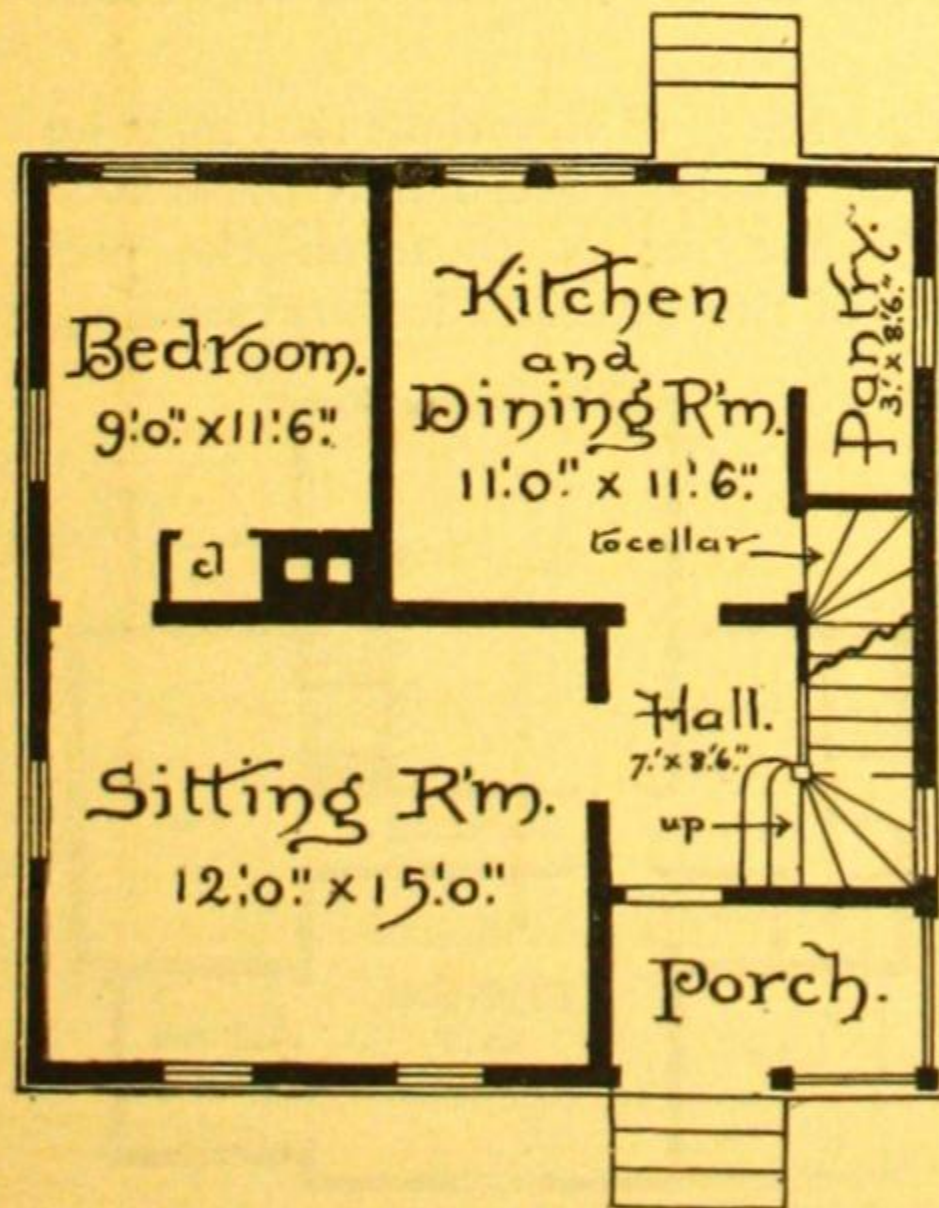
The third plan given shows how four bed-rooms can be obtained in the second story.

Plenty of closets and an extra roomy one in the upper hall over the porch.

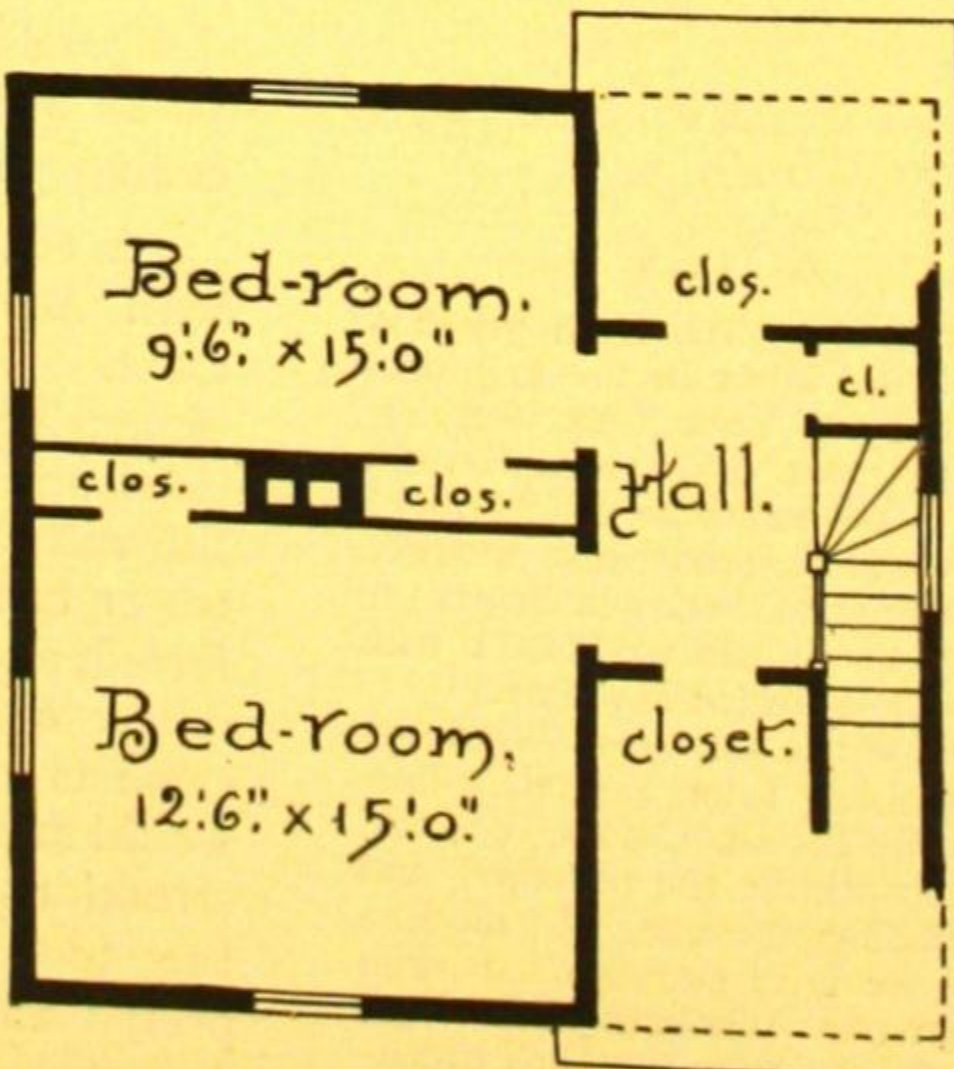
To reduce cost of this house use stone or brick piers or posts for foundations; use wainscoting and plaster board in place of lath and plaster, or two thicknesses of one-inch matched stuff (papered) for partitions; use clapboards in place of shingles on the second story walls and in the gables, but this makes the house very plain.

All the moldings, stair rails, doors, outside blinds (if any), are factory made—"sizes and designs found in stock."

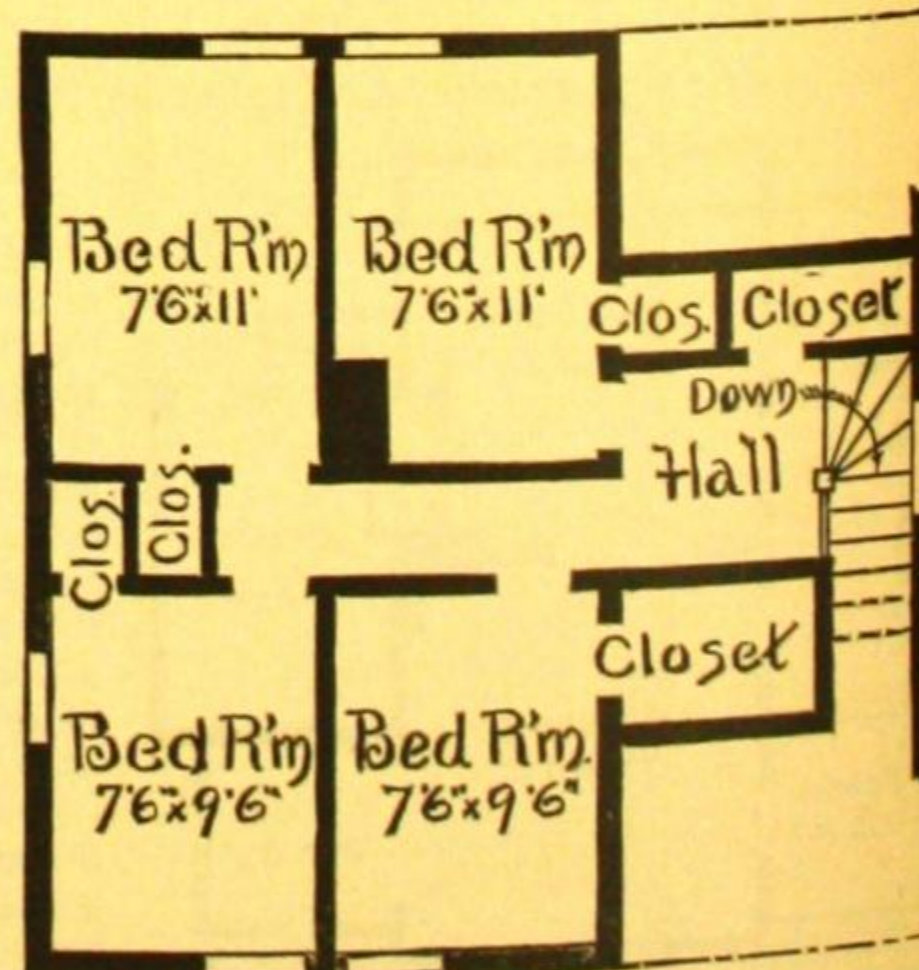
Properly painted this is a very unique and pretty dwelling.



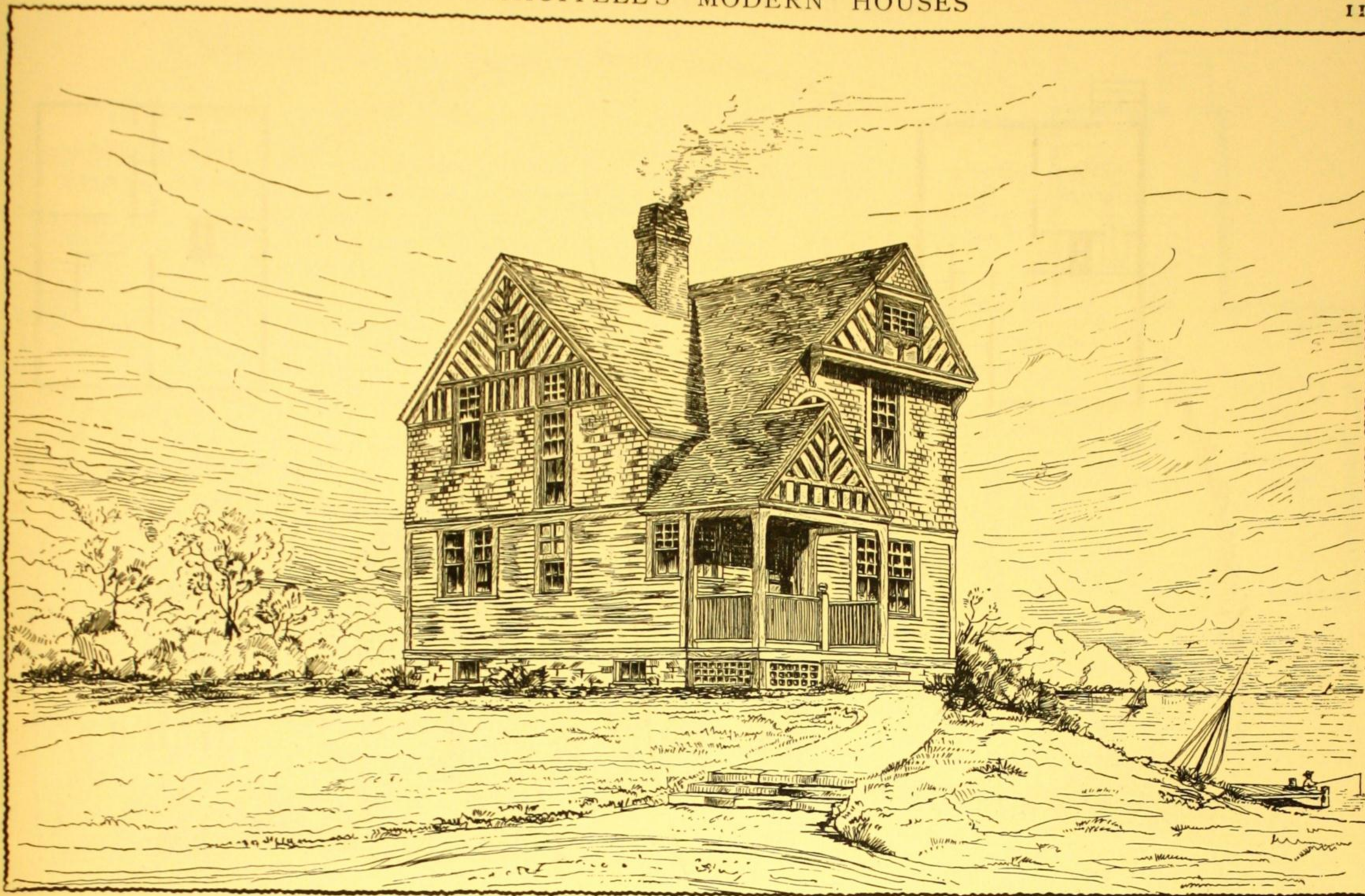
FIRST STORY. NO. 175



SECOND STORY. NO. 175



ANOTHER PLAN FOR SECOND STORY. NO. 175



DESIGN No. 176. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 176

SIZE OF STRUCTURE: Front, 25 ft. Side, 27 ft., 6 in.

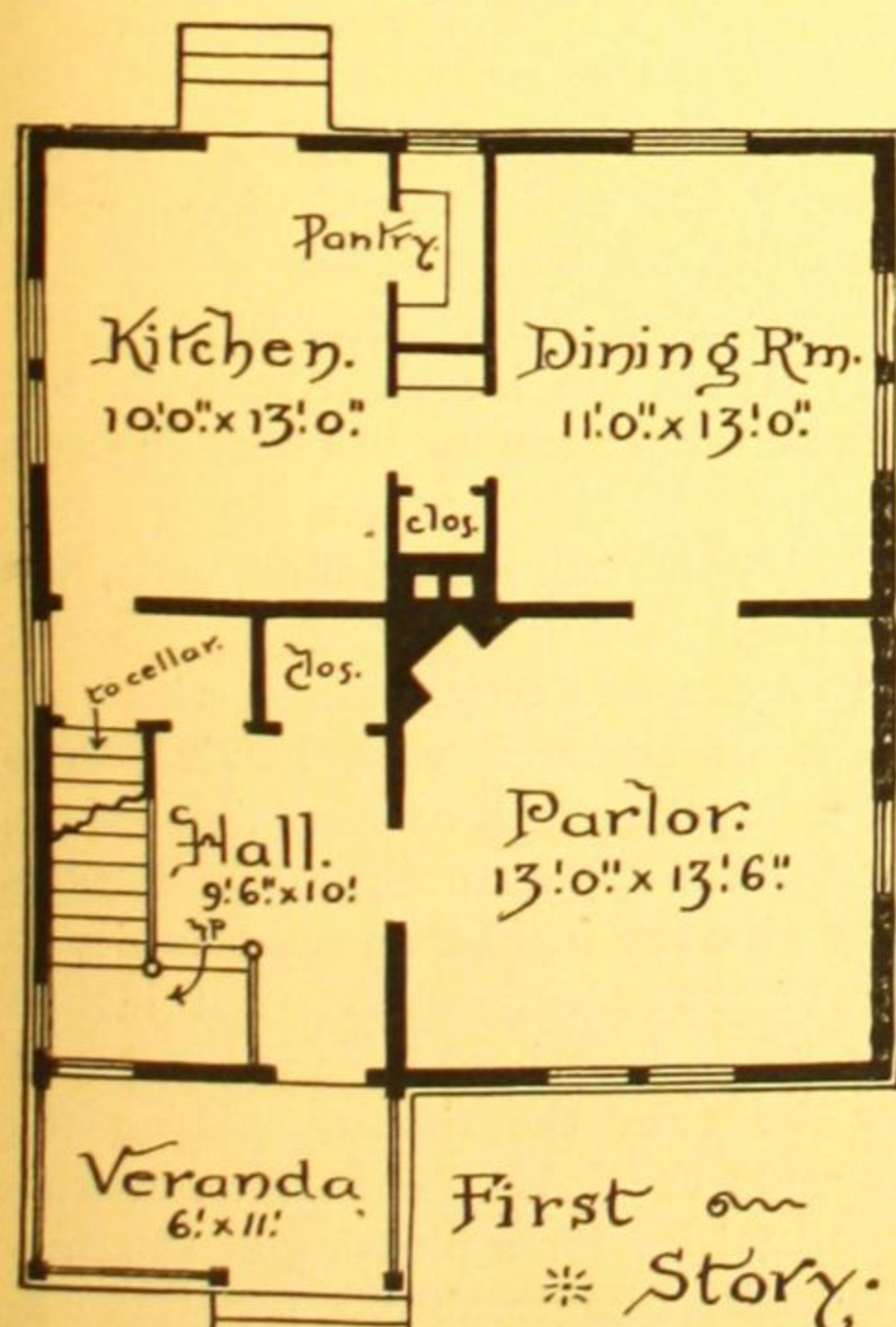
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, timbered; Roof, shingles.

COST: \$1,490, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST STORY. NO. 176

SPECIAL FEATURES.—There is space for a hat stand or table in the hall against the stairs, and a good hall closet where coats, umbrellas, over-shoes, &c., can be put away—an inestimable aid to orderly housekeeping.

A cellar under the whole house.

The front door can be reached from the kitchen, by a side passage, without going through any room.

The veranda can be carried clear across the front, if desired.

Wide openings, with curtains, would be an economical, sensible and artistic way of connecting the hall, parlor and dining-room.

The fireplace in the parlor has a pretty wood mantel. The staircase with its broad platform and window is a

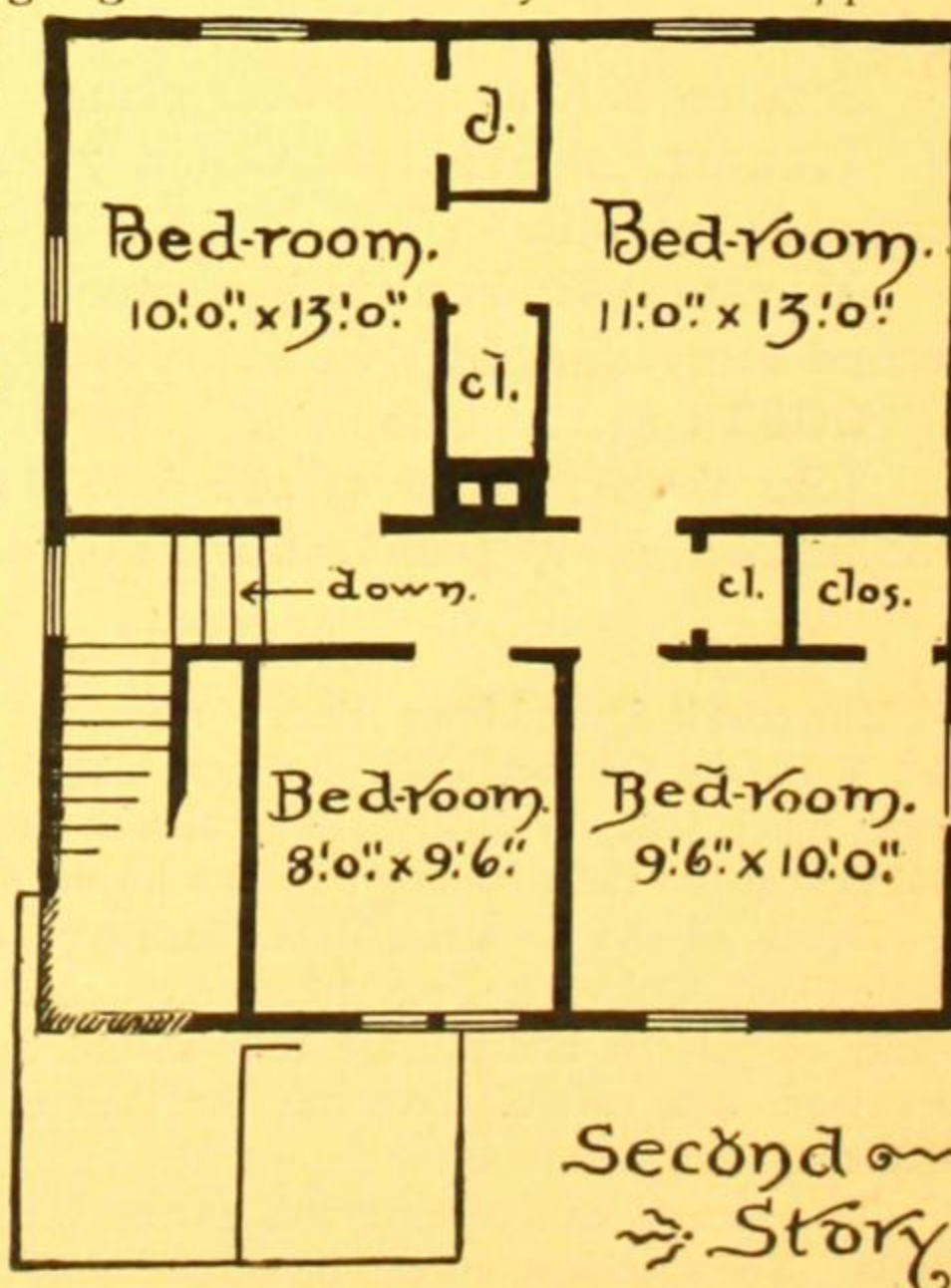
charming feature. Abundance of closets everywhere. A fireplace heater in the parlor would heat the second story.

Set on posts and no cellar reduces cost \$200.

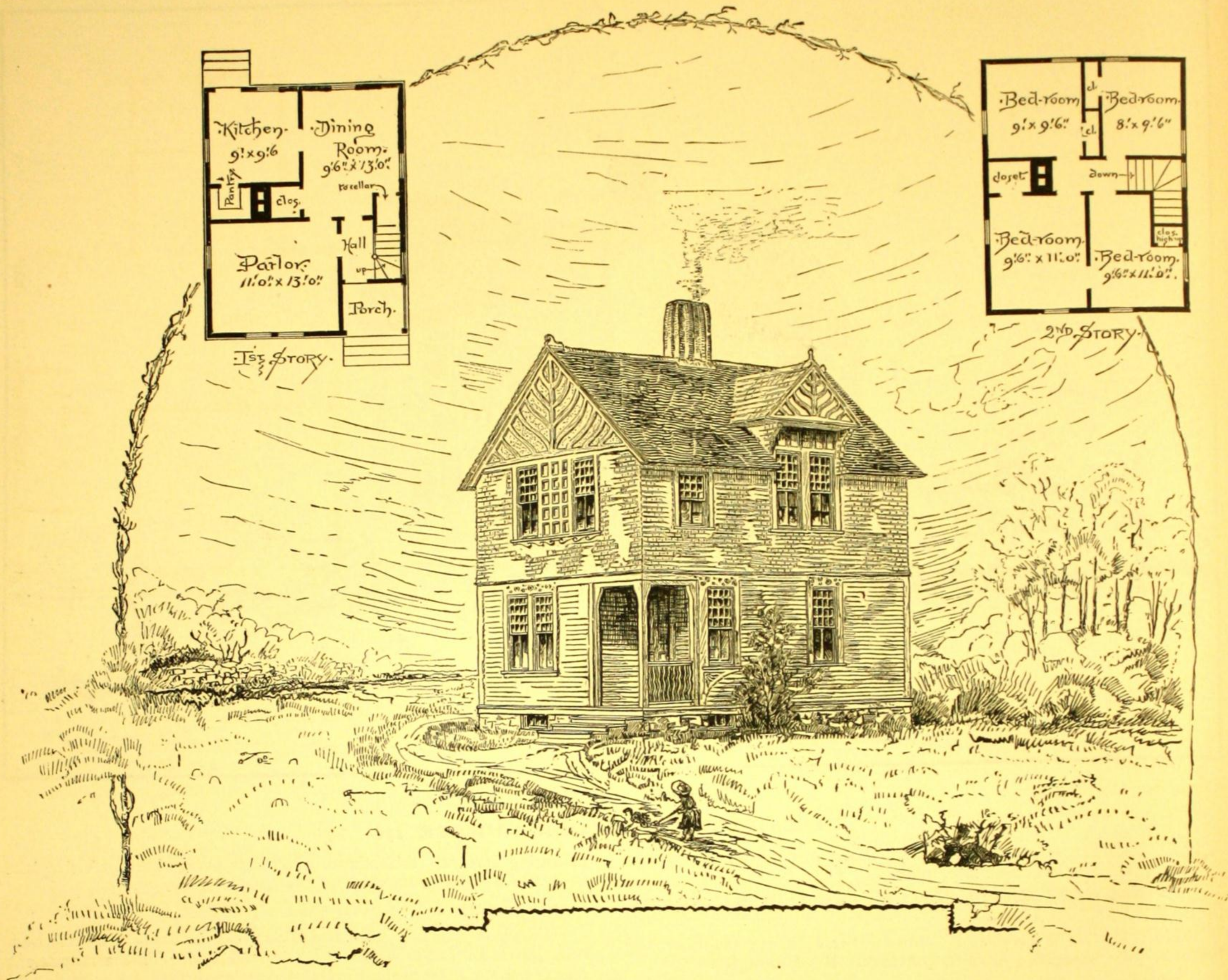
If desired, the two front bed-rooms can be made into one bedroom, with an extra large closet at the end. This arrangement reduces cost a little as there is less plastering surface, fewer studs, and the back of the closet can be boarded. It will also reduce cost if the projection in the front gable is left off and the ornament simplified. All the suggestions in the preceding design about reducing cost apply, also, to this. It is well to note, also, that spruce shingles cost only one-half as much as pine, making quite a reduction item when shingling the second story walls. Dipped in creosote stains they are quite lasting, but pine shingles are very much better.

Our working plans show a five-room arrangement of the second floor, when preferred. The extra room is obtained by omitting two closets and reducing size of the others.

We have an improved modification of this design, the changes being a lean-to addition in the rear for the kitchen, which allows all of the other rooms of the first floor to be thrown together by wide openings. The dining-room is enlarged and there is a veranda clear across the front. Also a bath-room and a storage-room over the kitchen. The increased cost is \$300.



SECOND STORY. NO. 176



DESIGN No. 177. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 177

SIZE OF STRUCTURE: Front, 20 ft. Side, 25 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles, Gables, panelled; Roof, shingles.

COST: \$1,120, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A handsome, compact design, yet simple and regular, and therefore cheaply and easily constructed. Good closets throughout, and a cellar under the whole house.

Set on posts or piers, with small cellar, reduces cost \$150.

No fireplaces are shown, as stoves are intended to heat, but fireplaces in the parlor and chamber above can be put in at an extra expense of \$50.

In the second story three bed-rooms can have double beds, and the one next the stairs a single bed.

All sash, doors, blinds and trim can be factory made, which reduces cost. The front gable is ornamented with bands, panels between the windows, and sawed aprons with rosettes planted on, all of which cost little and improve the appearance greatly. Besides being pretty in themselves, they give the painter an opportunity to display a variety of harmonious or contrasting colors. But just at this point the owner must be wise; he should have the architect specify the colors. Otherwise he runs the risk of spoiling the appearance of a very pretty house at the finish. The same construction that affords unusual opportunities for a pleasing and harmonious display of colors, will emphasize, disagreeably, any mistake in their selection.

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These inv capitalists, h means, with s to build the ation, if the By paying t



DESCRIPTION OF DESIGN NUMBER 178

COST: \$1,285, complete.

THIS is simply an improved modification of Number 175—being the same as that design in both exterior appearance and floor plans, with the exception that this has a kitchen addition, an inexpensive lean-to costing about \$100.

The intending builder should bear in mind that this feature can be added to almost any of our designs where they are not already shown.

It is a singular fact that there are but few modern low-cost houses for sale. The explanation is that the owners generally prefer to keep them and live in them. Whoever wants a small modern house must go to the trouble of building it, which is not a stupendous undertaking even for the novice, if working plans, specifications and details are procured and these made the basis of a contract with the builder.

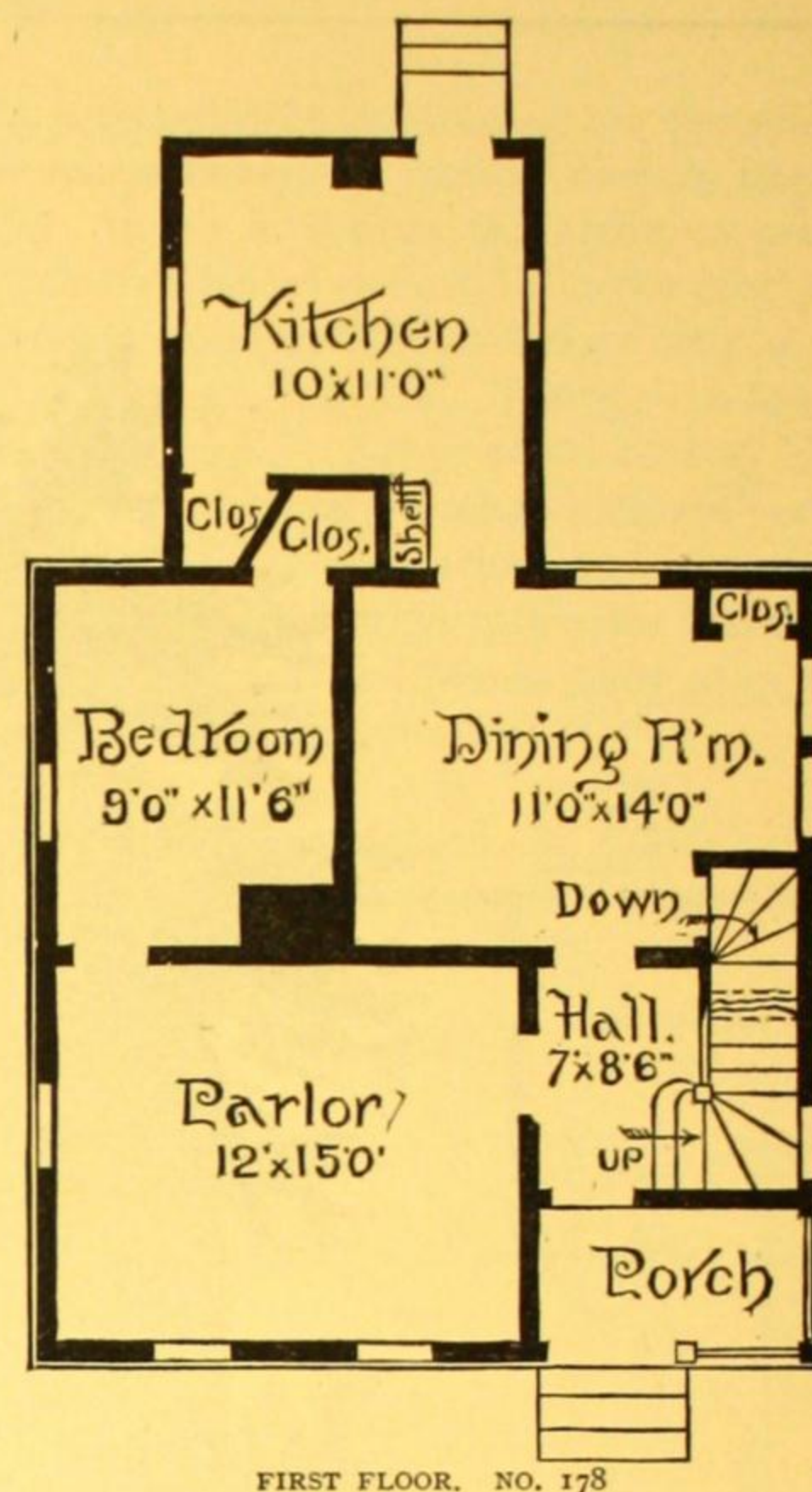
[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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FIRST FLOOR. NO. 178

DESCRIPTION OF A DOUBLE HOUSE NUMBER 179

COST OF DOUBLE HOUSE: \$1,950, complete.

THE elevations and floor plans are the same as Number 177, doubled, and the roofs connected. Height of stories, size of rooms, &c., the same.

It will be noticed that the two families are quite as well separated as they would be if the houses were detached. There is a reduction in cost of fifteen to twenty per cent. where houses are built in this manner, and it economizes space where lots are costly or growing in value. Built upon a fifty-foot lot, there is space for a five-foot alleyway on each side. Timid folks, particularly the ladies of a city family moving into the country, like near-by neighbors; they feel more secure.

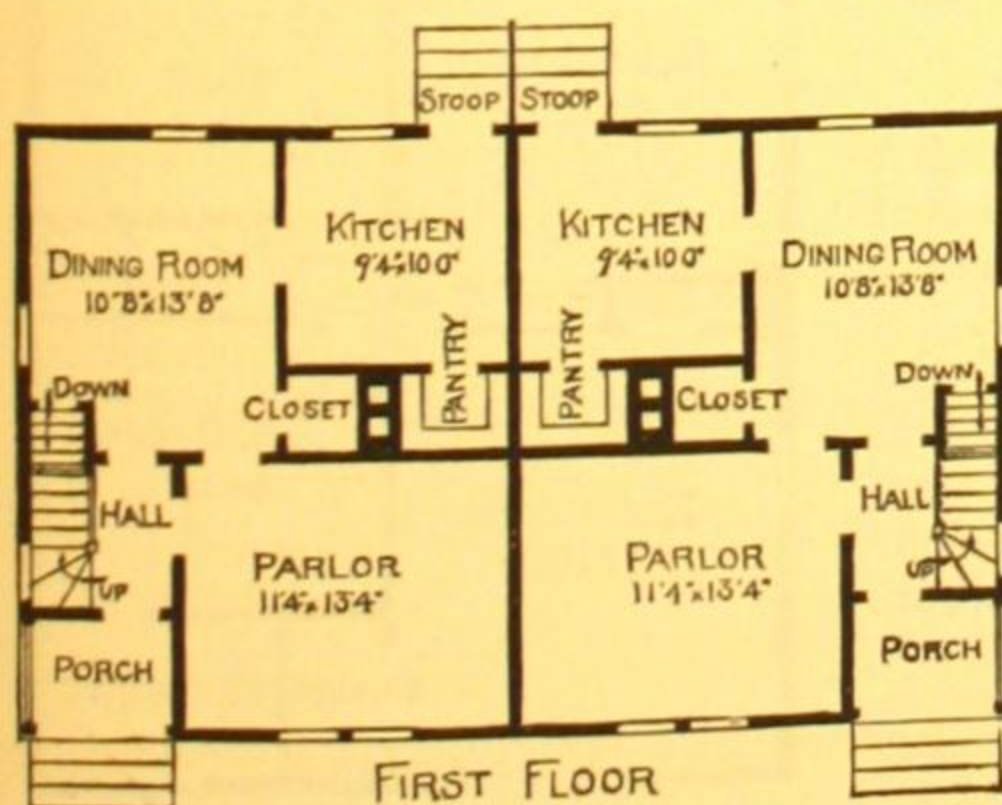
The capitalist who will build small modern houses, locating them within easy reach of a large population, will receive from ten to twelve per cent. on his investment, and at the same time see the property increase in value from year to year.

These investments are not confined to capitalists, however. Two men of small means, with say \$1,200, can easily manage to build the double house under consideration, if the lot does not cost over \$200. By paying the contractor \$1,000, as the

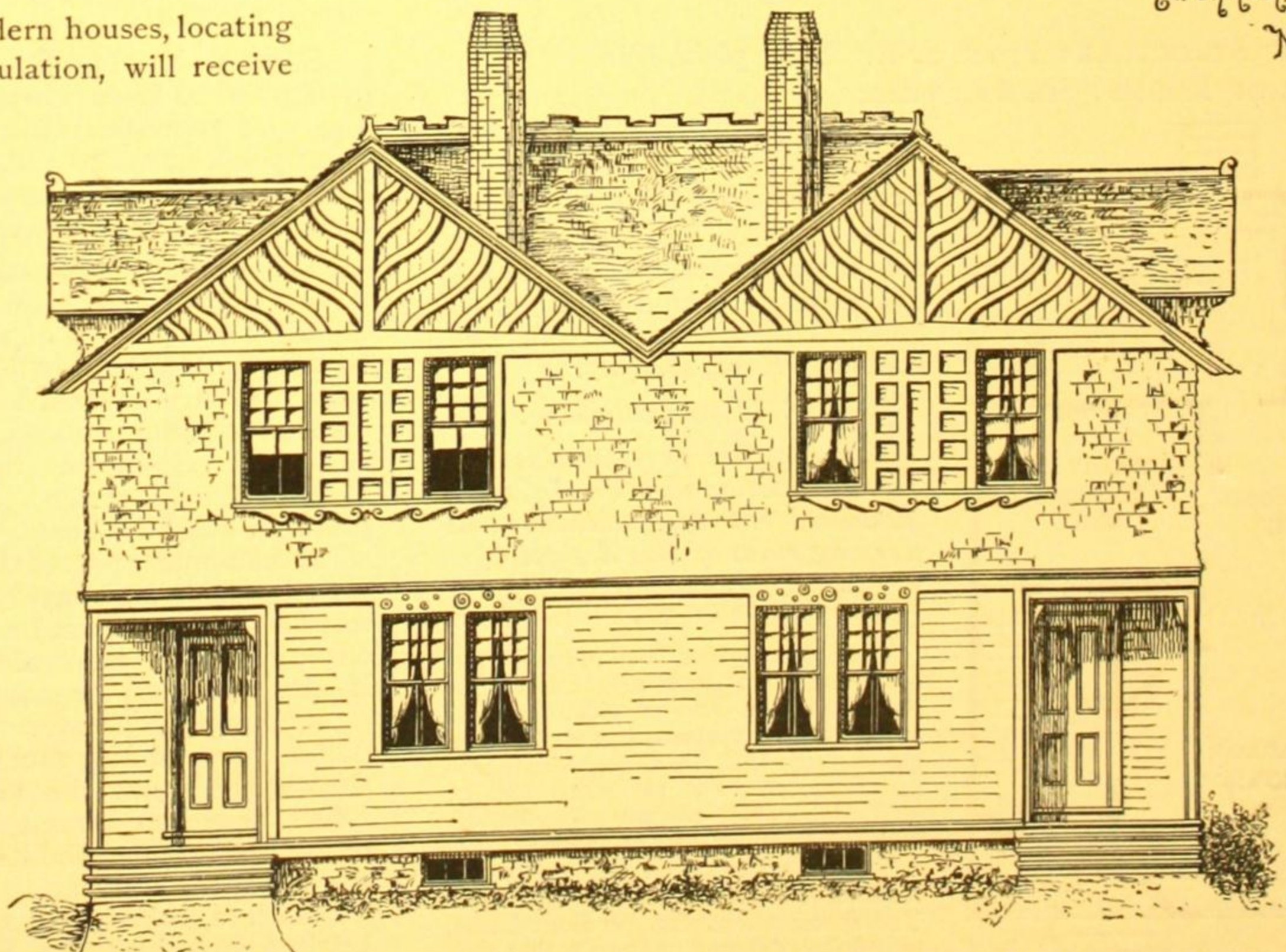
building progresses, and giving him a mortgage for \$950 at its completion (which he can easily negotiate and turn into cash if he wishes), the whole business is done. The interest on the mortgage would cost each man about \$15 every six months, which is cheaper than paying rent and makes it possible to accumulate savings that will pay off the mortgage in time. The same example shows also how one man, with a little more than half the amount above stated, can manage to build a single house.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

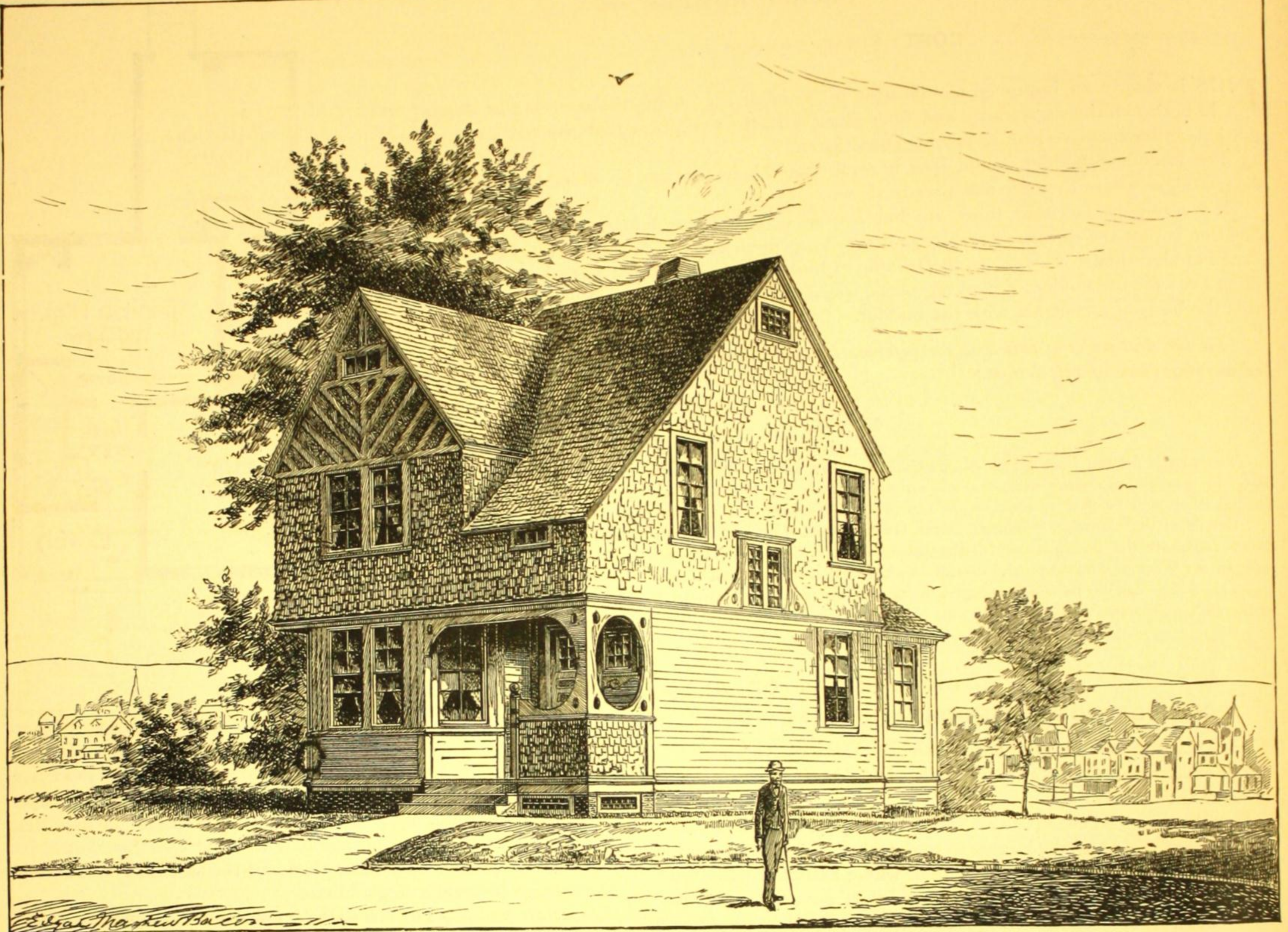
Co-operative Bldg Plan Assoc.
Architects
New York.



FIRST FLOOR. DOUBLE HOUSE NO. 179



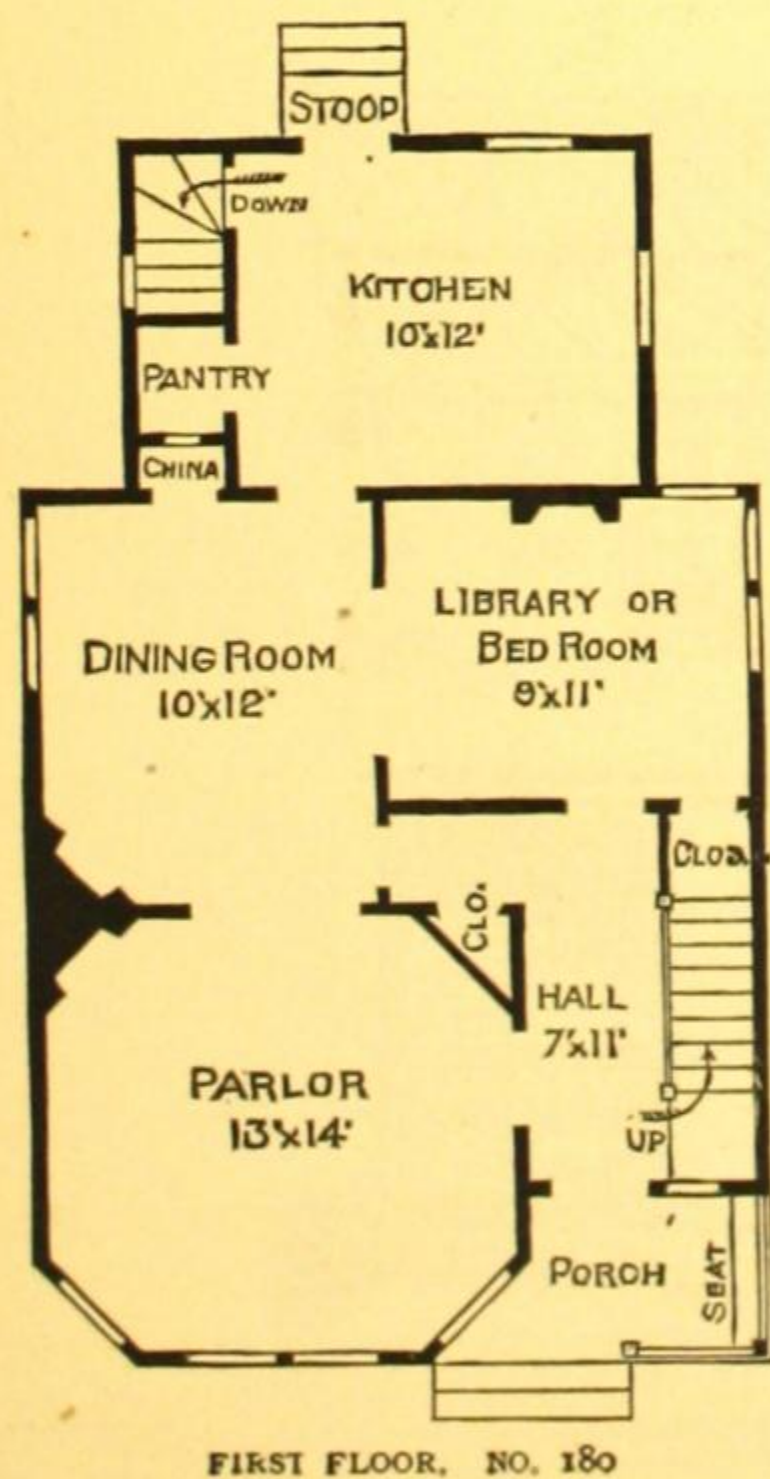
DOUBLE HOUSE DESIGN No. 179. FRONT ELEVATION



DESIGN No. 180. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 180

SIZE OF STRUCTURE: Front, 22 ft. Side, 36 ft., 6 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR, NO. 180

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, posts set in concrete; First Story, clapboards; Second Story, shingles; Gables, shingles and half timbers; Roof, shingles.

COST: \$1,500, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

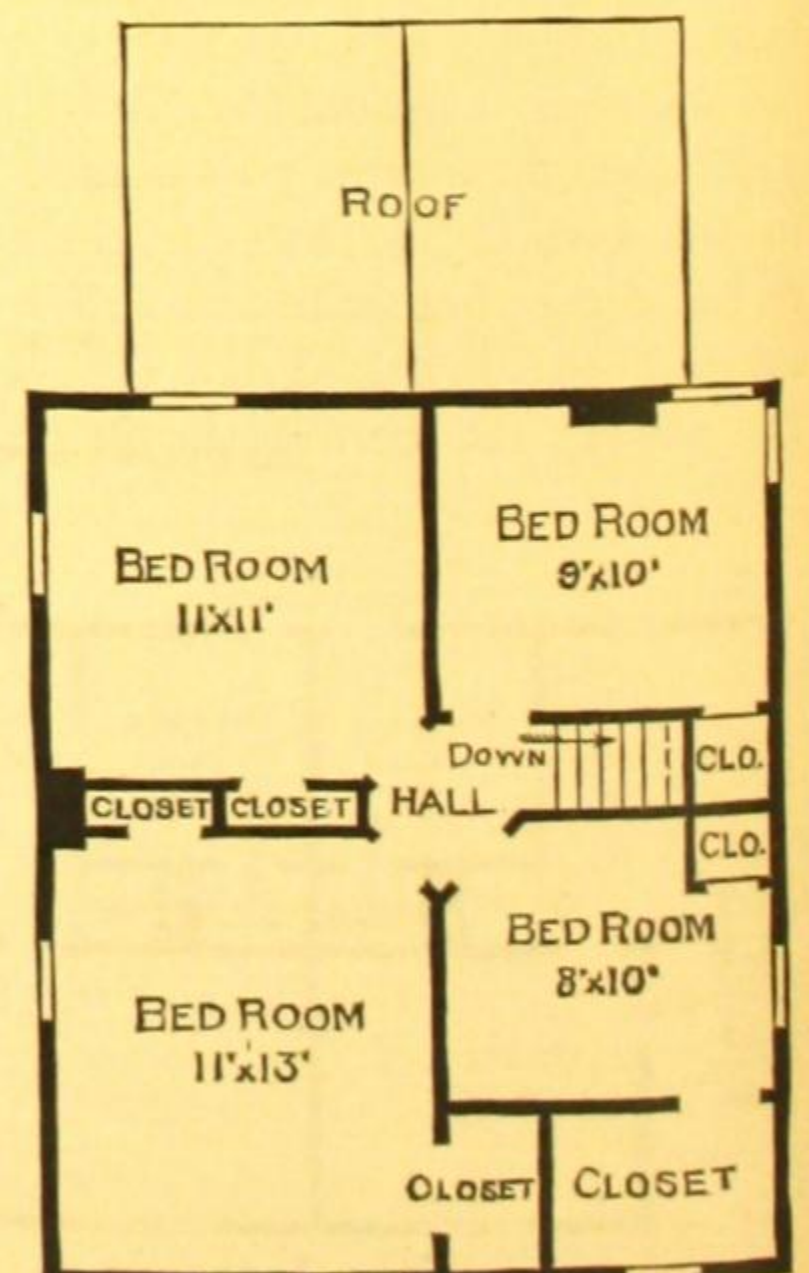
SPECIAL FEATURES.—This design is a great favorite, which is a good point to know when building to rent or to sell. It is natural and wise to respect what many other people respect and admire. There is a quaint beauty in this design that is quite unusual.

The whole front of the parlor is one large bay-window—a delightful feature. All of the principal rooms on the first floor have large openings, intended for curtains or folding doors. A hat and coat closet in the hall. Handsome stairway. A very pretty porch with seat.

A cellar under part of the house with an inside stairway to it. A servant's bed-room can be finished off in the attic, where, also, there is plenty of room for storage.

A fireplace heater in the parlor or dining-room will thoroughly warm the two bed-rooms above, or indeed all four of the bed-rooms if the hall doors are left open.

With a cellar, and stone or brick foundations, the cost will be increased about \$200.



SECOND FLOOR, NO. 180

DESCRIPTION OF DESIGNS NUMBERS 181 AND 182

COST: \$1,375, each.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

THESE are simply modifications of the preceding design; the second floors are precisely the same. The first floors omit the kitchen extension which reduces the side length of the house to 27 feet.

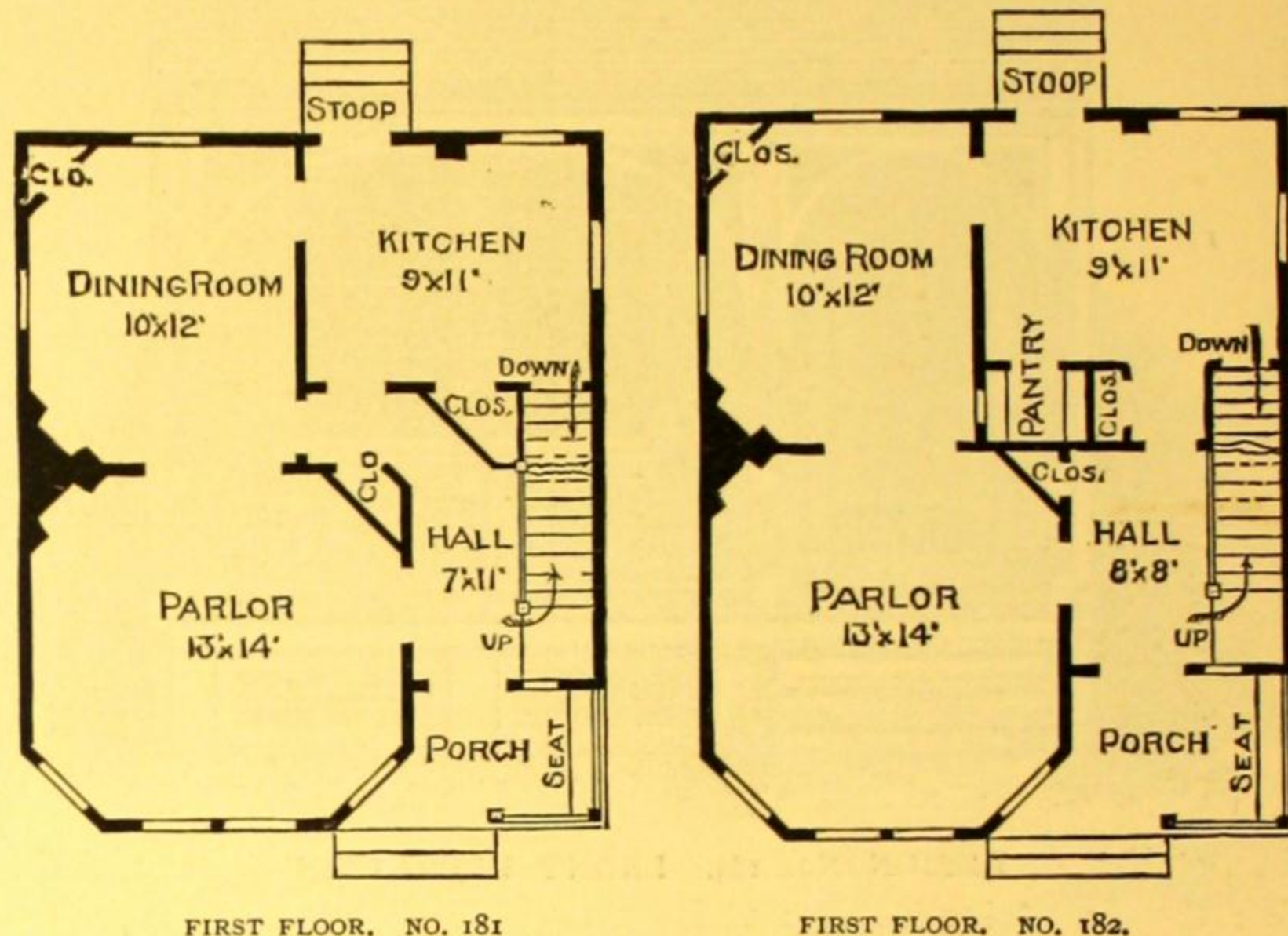
These two designs differ from each other only in the arrangement of partitions, which will be readily seen on the plans.

The man who has resolved to "stop paying rent"—to emancipate himself from the thralldom of the landlord, has taken a tremendous stride toward independence, and he should not let a kitchen extension or even a cellar obstruct his way. He can add the extension and dig the cellar at any time when his means and inclinations suggest.

In regard to the cost figures which we give in this work, we believe that our patrons desire exact information, therefore we give the actual cost (not calculating a builder's or contractor's profit), with a small percentage added for contingencies. If we wished to do so, we could not give a contractor's price, because that ranges all the way between the price asked by the honest carpenter, who is satisfied to get fair wages and ten per cent. profit on materials (if he furnishes them) and the prices asked by his more avaricious competitor, who wants twenty, thirty, forty, fifty and sometimes even a still greater per cent. of profit. With the aid of our bill of quantities the owner can buy all the materials and have the house built by day's work, which is the best way.

These designs and the preceding one have been well built a

number of times lately, by a responsible contractor, for the prices named, which shows that our estimate of actual cost is liberal enough to allow some profit. In no way does the architect profit by giving an owner wrong information as to cost. On the contrary he suffers by it. Yet interested builders always declare that architects' prices are wrong; that they are too low. Always too low—by no accident are they ever too high! They come to this conclusion from a mere glance of the plans in a book, which are necessarily small and imperfect. This misrepresentation is a real crying evil, its object being to get an unfairly high price for building. Every man should discountenance these fellows, as they stop improvements and retard the growth of a community.



DESCRIPTION OF DESIGN NUMBER 183

SIZE OF STRUCTURE: Front, 28 ft., 6 in. Side, 27 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

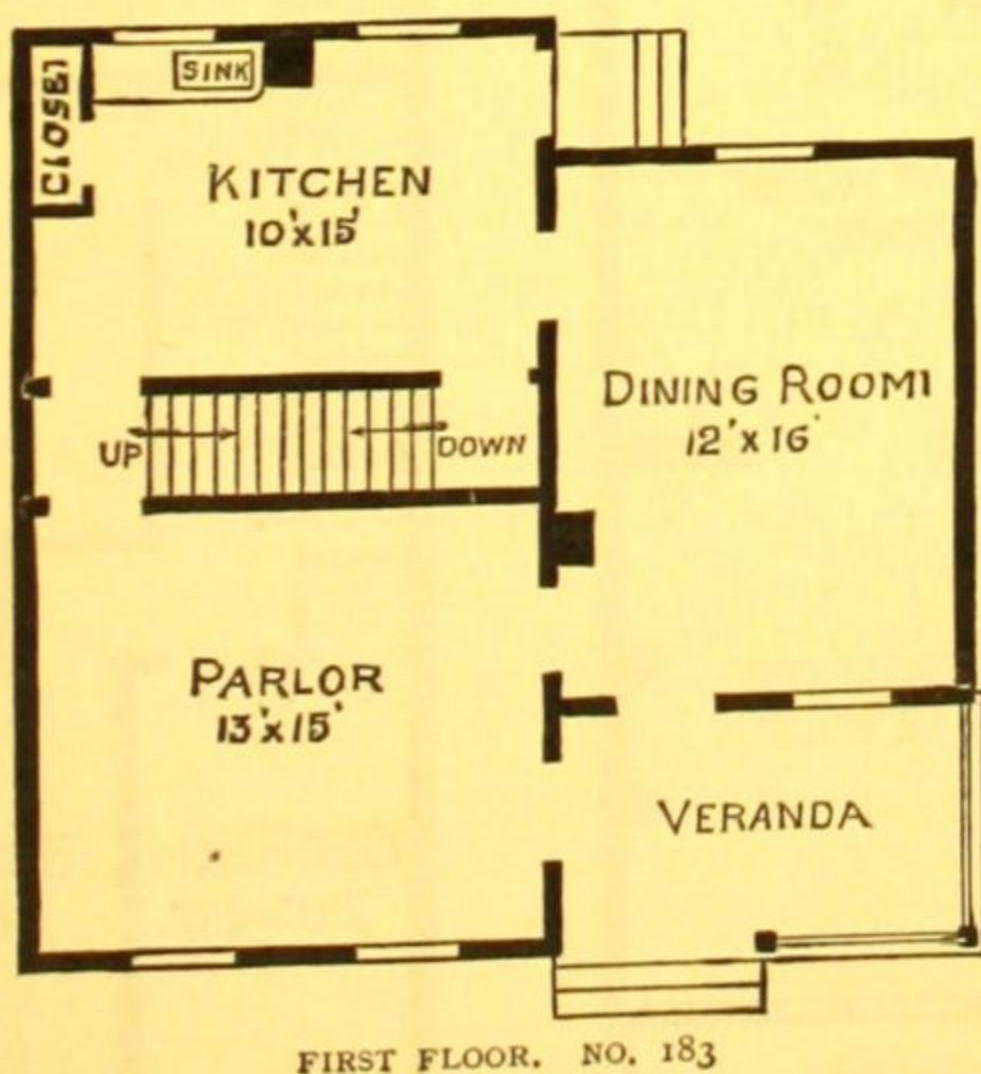
COST: \$1,100, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

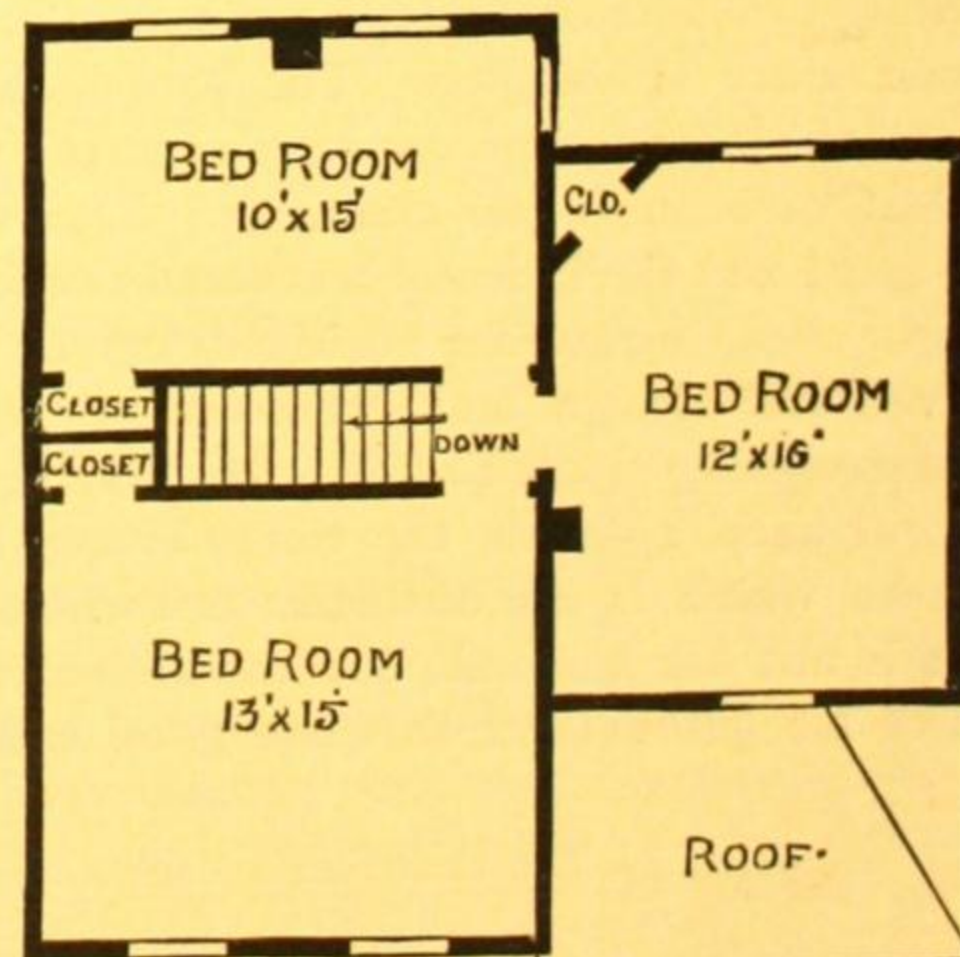
places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR, NO. 183



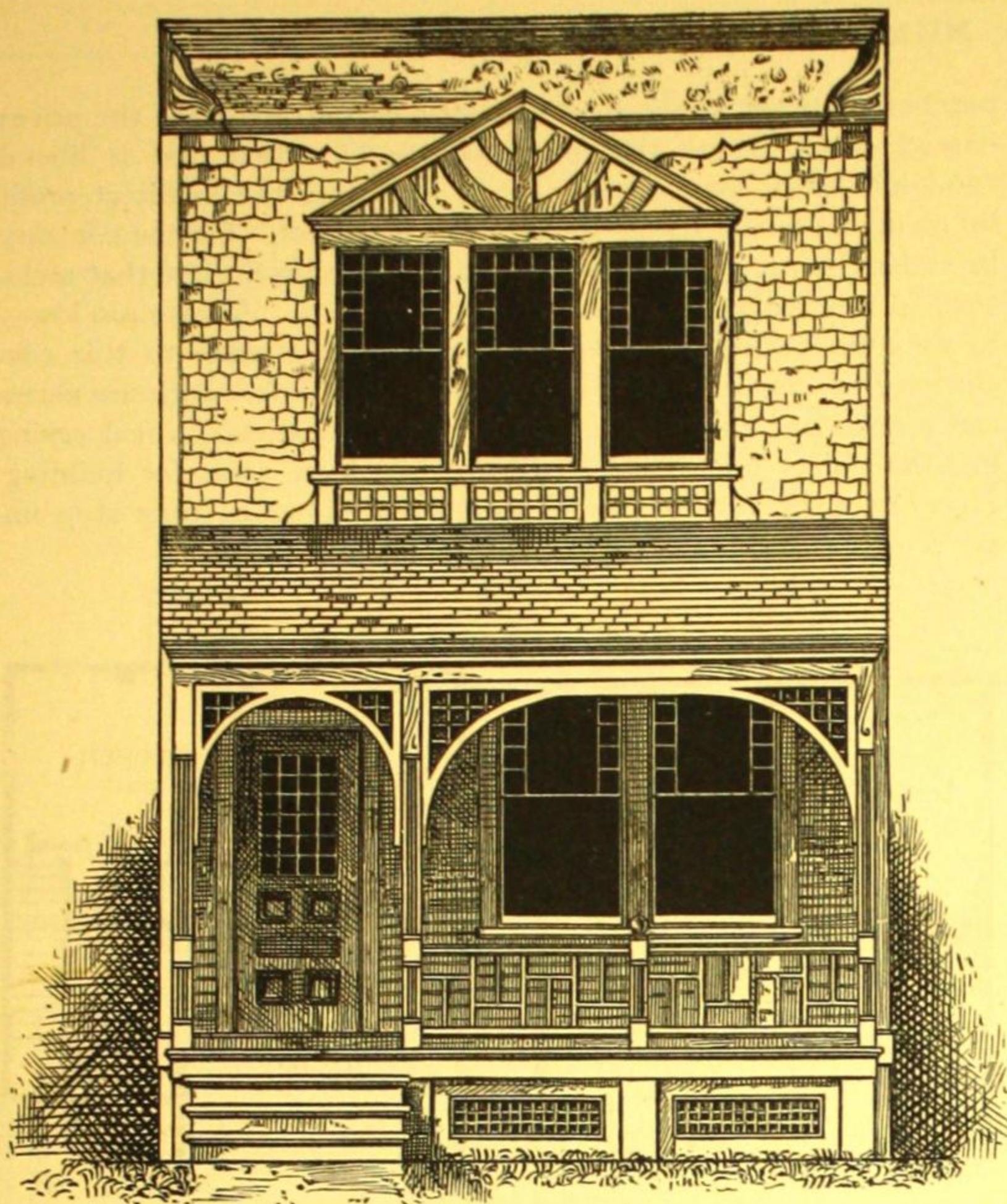
SECOND FLOOR, NO. 183

NOTES

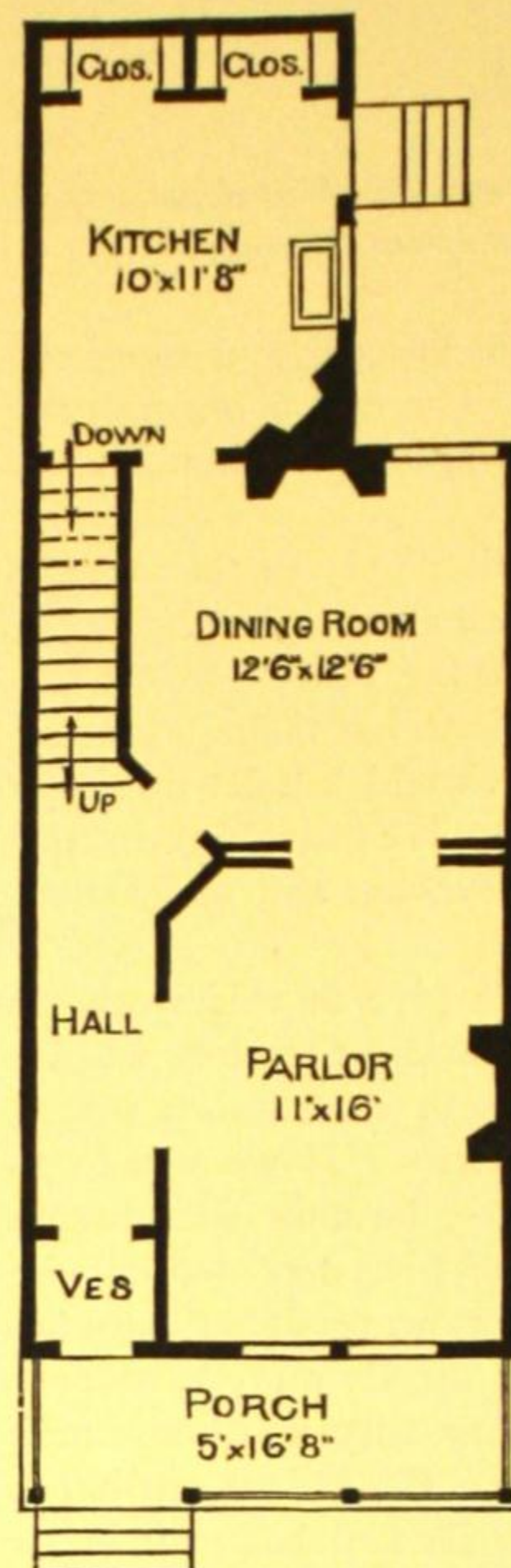
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some

SPECIAL FEATURES.—The general outside appearance of this design is the same as Number 180. The plans are quite popular.

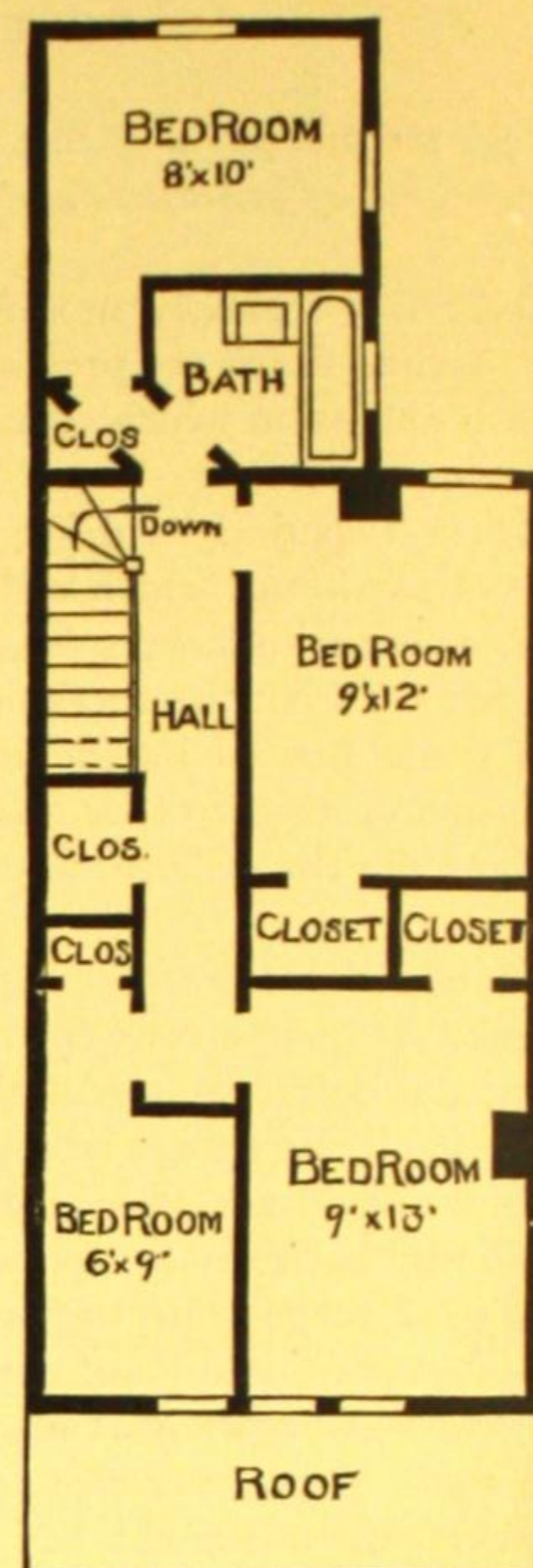
The same reduction in cost can be effected by setting on posts, omitting cellar, using plaster board, &c., that is suggested elsewhere.



DESIGN No. 184. FRONT ELEVATION



FIRST FLOOR, NO. 184



SECOND FLOOR, NO. 184

DESCRIPTION OF DESIGN NUMBER 184

SIZE OF STRUCTURE: Front, 16 ft., 8 in. Side, 44 ft., 9 in., including extension. Side 49 ft., 9 in., including porch.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 9 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles (in front); Roof, tin.

COST: \$1,520, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

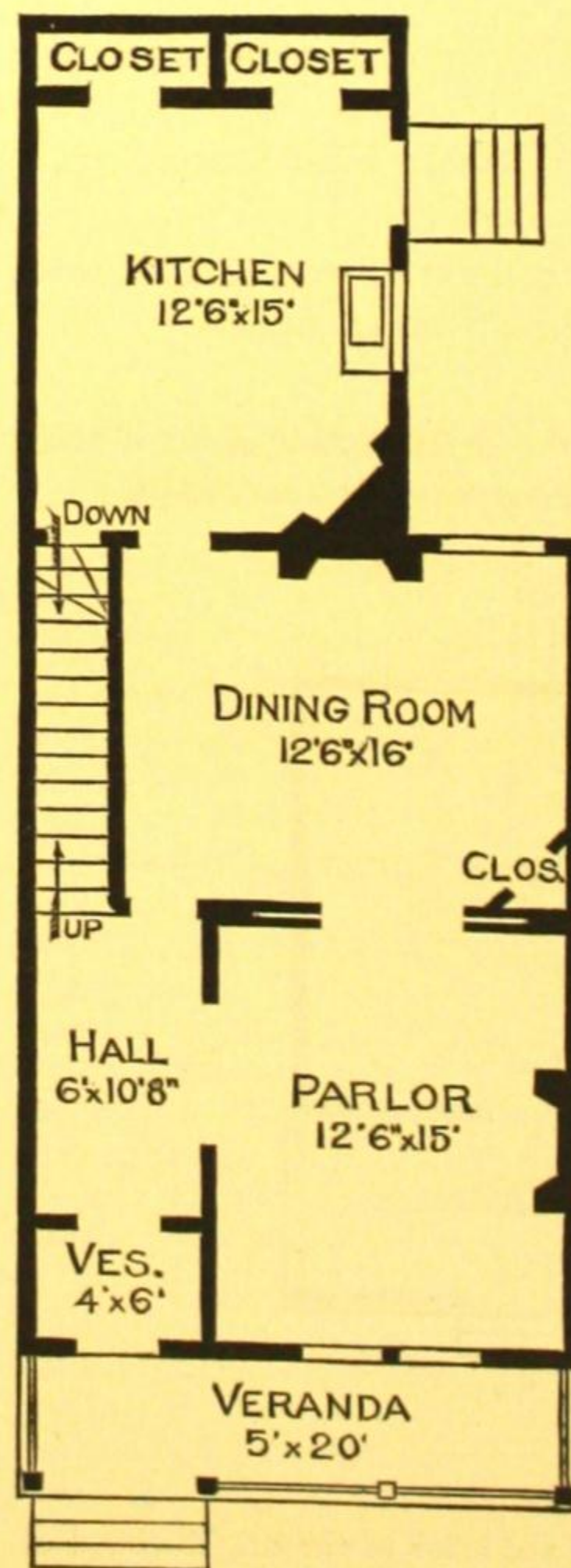
SPECIAL FEATURES.—This is a design for a narrow city lot.

A cellar under the whole house, with a laundry under the rear extension. Stationary tubs. There is sufficient air space over the second story ceiling to insure cool sleeping rooms in summer. The front of the second story is shingled. The half timbers over the triple windows and the new and pretty cornice at the top give this front a good deal of beauty and character. The small narrow windows, set far apart and the hideous bracketed cornices which we usually see in these cheap fronts, are positively ugly. The average carpenter, however, will design and construct just such a front every time, if the designing is left to him. He may be a very good carpenter, too, and keep up with the times in construction and mechanical matters, which is his business; but when it comes to designing, which is not his business, but the architect's, he brings forth the styles of his grandfather as quite good enough for this generation.

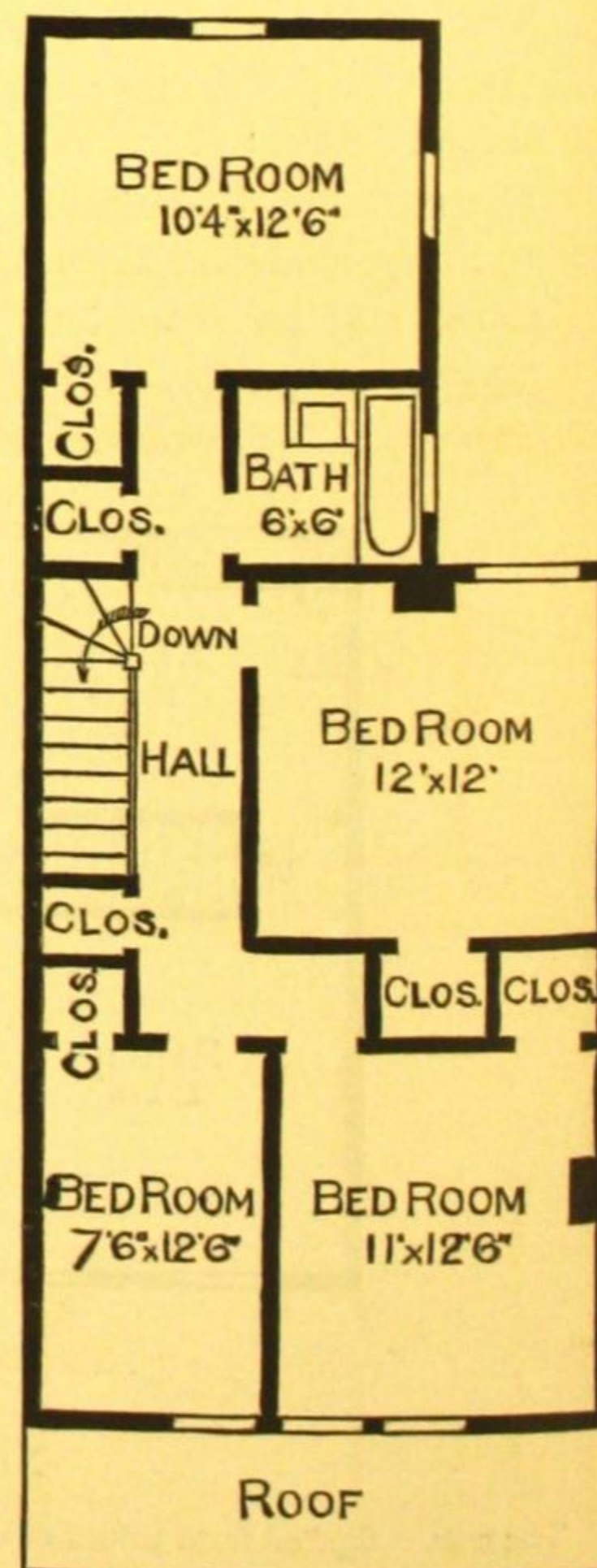
DESCRIPTION OF DESIGN NUMBER 185

This is an enlarged modification of the preceding design, being 20 feet wide and deeper. **COST:** \$1,800. Cellar under part of the house only.

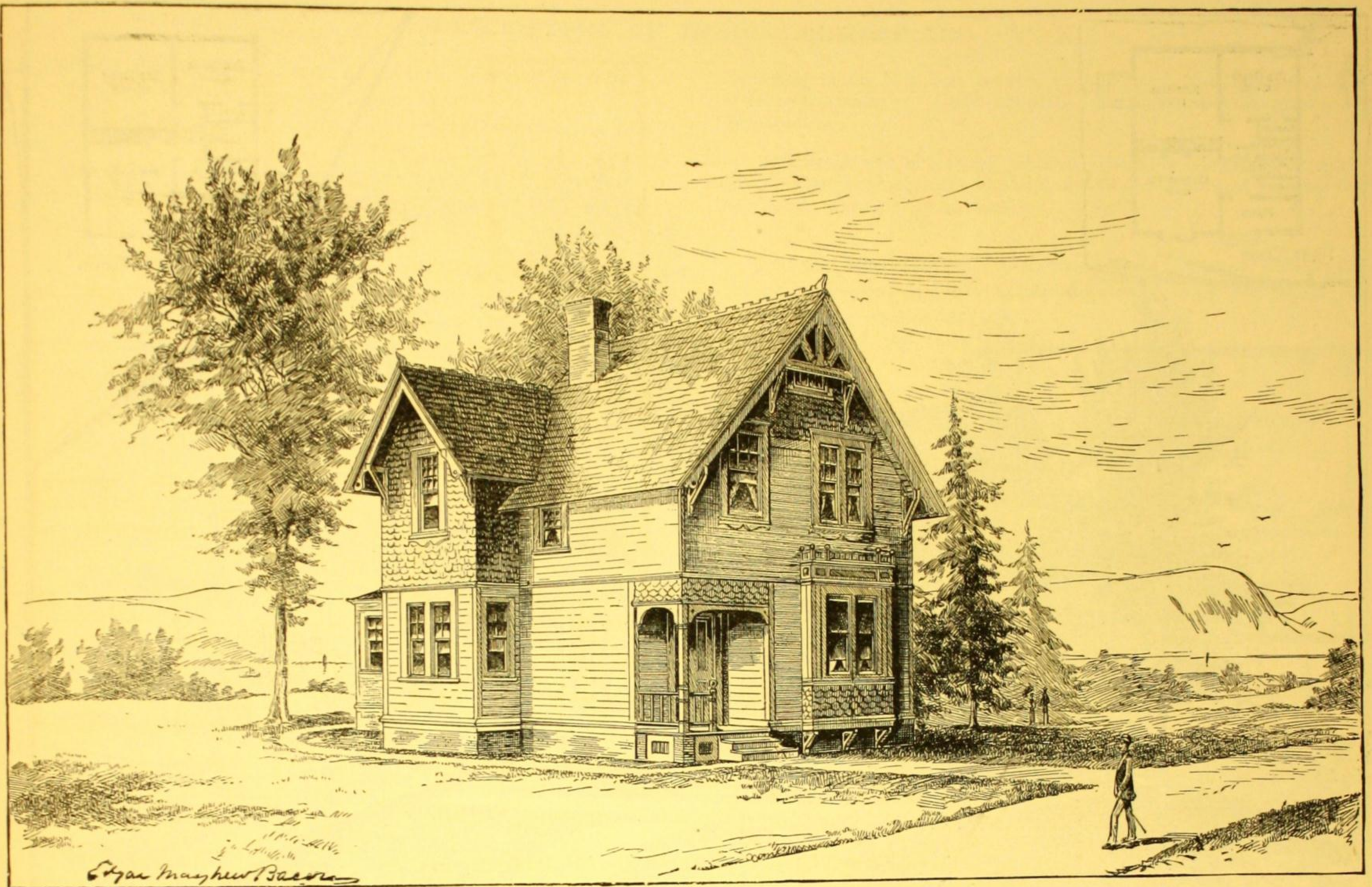
We have a still larger modification of this design, being 21 feet wide, and having a bay-window in the dining-room.



FIRST FLOOR, NO. 185



SECOND FLOOR, NO. 185



DESIGN No. 186. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 186

SIZE OF STRUCTURE: Front, 28 ft., 9 in. Side, 47 ft., including kitchen.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$1,650, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

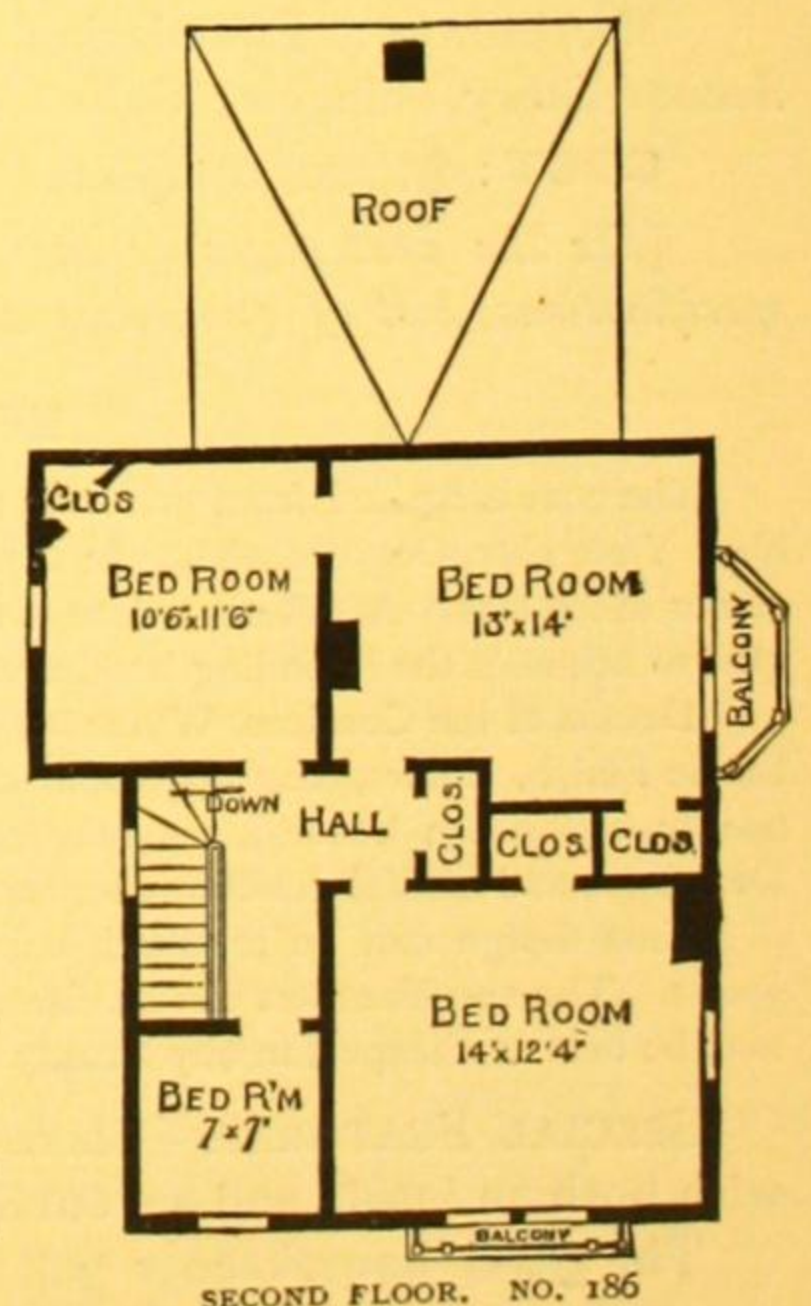
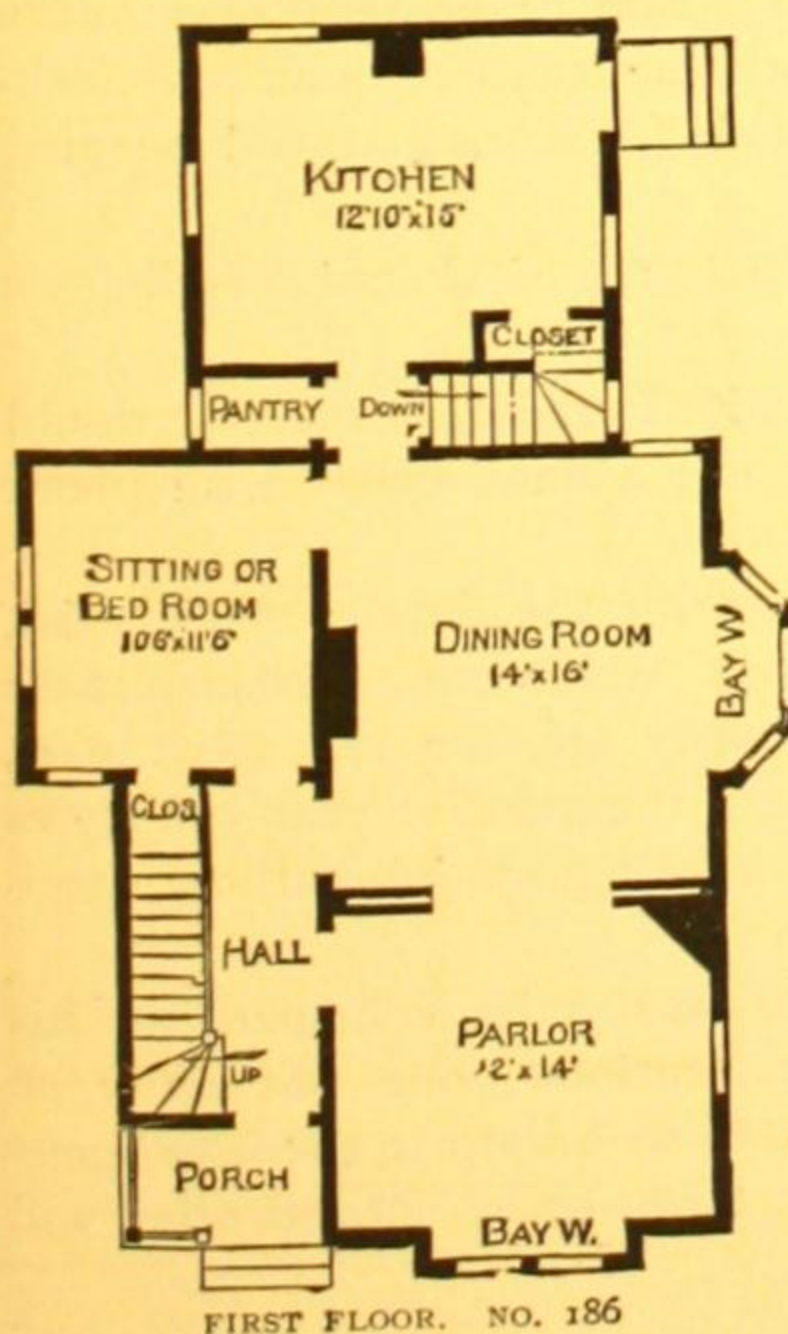
SPECIAL FEATURES.—These plans are good, economizing all the room to great advantage, making a very complete house. The exterior is quiet and unpretentious, but in thorough good taste and therefore pleasing. Modern styles of painting look very well on a design like this.

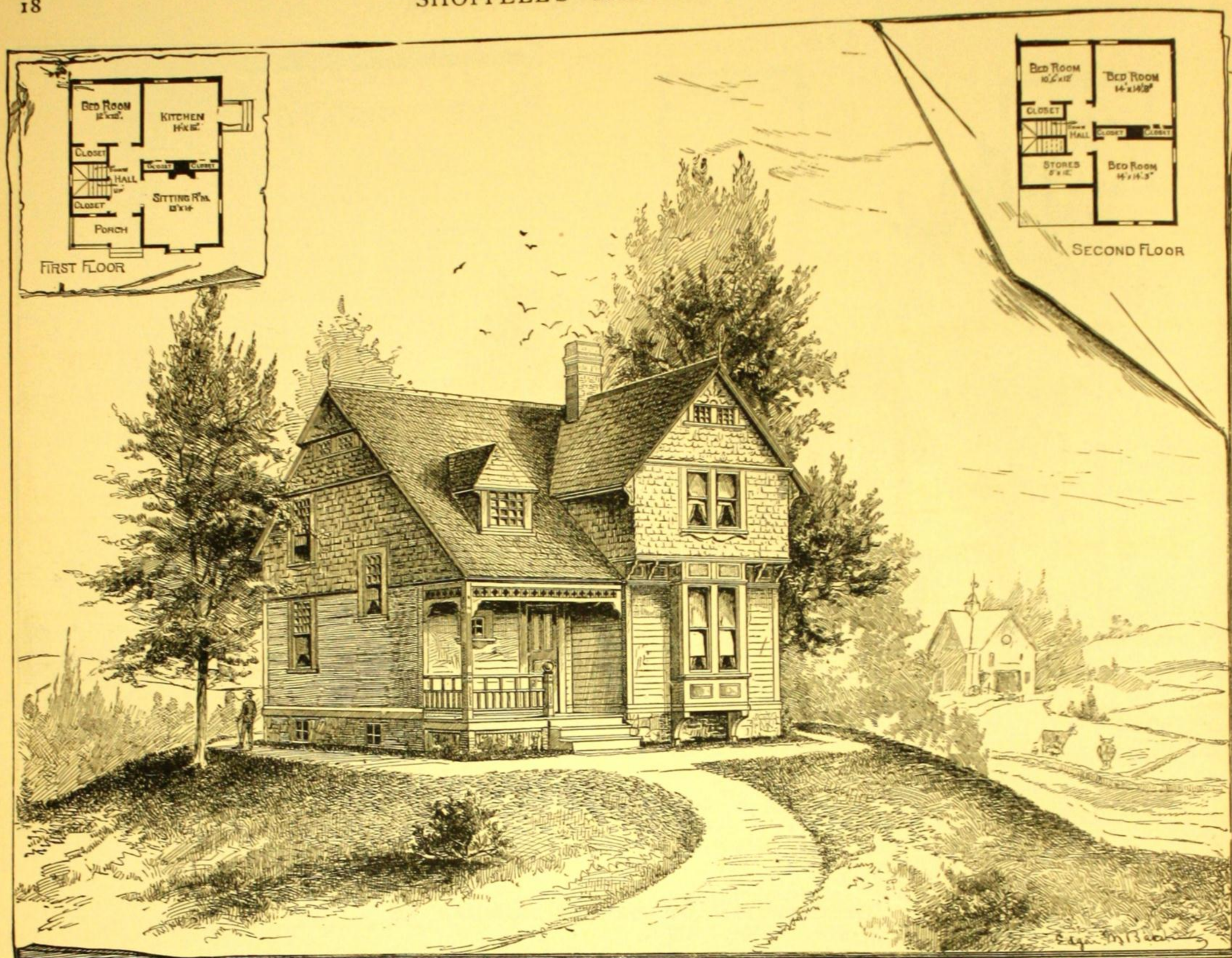
Cellar under half the house.

The bay-windows and projection afford fine outlooks from every side.

The strong feature of this design is that it affords a great deal of room for a small outlay.

The accomplishment of this is a rare achievement. It is very easy to design a house regardless of cost and very difficult to economize at every point, without sacrificing beauty and substantial worth. We believe that all owners and builders who examine our working plans and specifications give us credit for thorough work and a good deal of special knowledge in this class of designs.





DESIGN No. 187. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 187

SIZE OF STRUCTURE: Front, 27 ft., 6 in. Side, 30 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,500, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—There is a cellar under the whole house, with both an inside and an outside stairway to it.

The good housekeeper will notice the very ample closet and

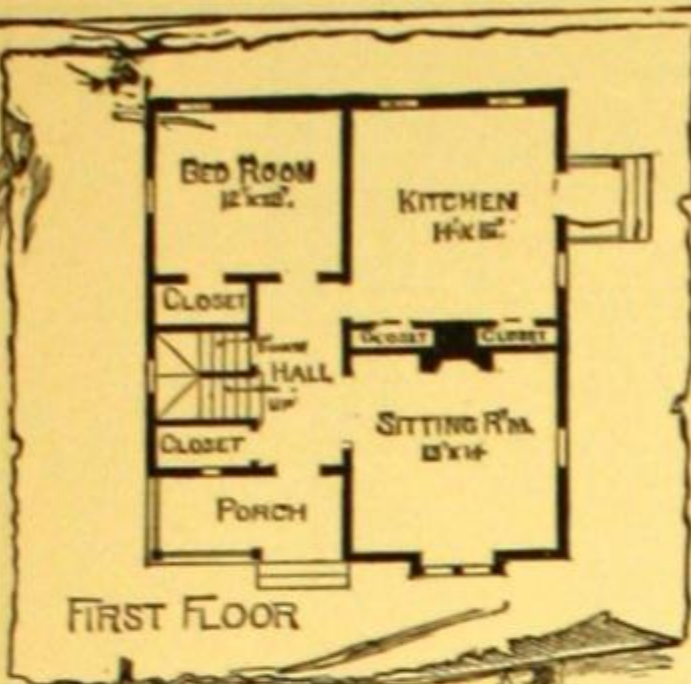
store room. First of all there is a large closet in the hall where the men folks will hang up their coats and hats with great regularity after a little disciplining. Then there are closets all over the house and a large, lighted store-room. Plenty of closets is a prevailing feature in all of our plans, however. The refinement of modern life requires so much now in the way of household goods and clothing, that ample provision must be made for storing it and keeping it in order.

The exterior of this design has a touch of Colonial feeling—a style that is growing in popularity.

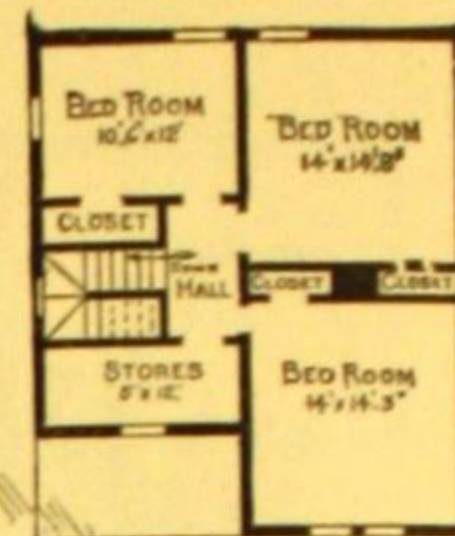
With brick or stone piers or posts for foundation the cost would be reduced; and without cellar (or only a small cellar with plank walls) the cost would be greatly reduced.

Very few carpenters are familiar with the details of Colonial, "Queen Anne," and other new styles of architecture, because these styles are of recent origin. While they are, for the most part, simple and inexpensive—actually more inexpensive than old styles—the most skillful workman cannot make a good job without specifications and drawings of the details.

A very ignorant carpenter is always quite vehement in his denunciation of drawings and specifications; one not quite so ignorant, is not quite so vehement, and so on, up to the intelligent workman, who is always glad to have them—who, indeed, often will not work without them.



FIRST FLOOR



SECOND FLOOR

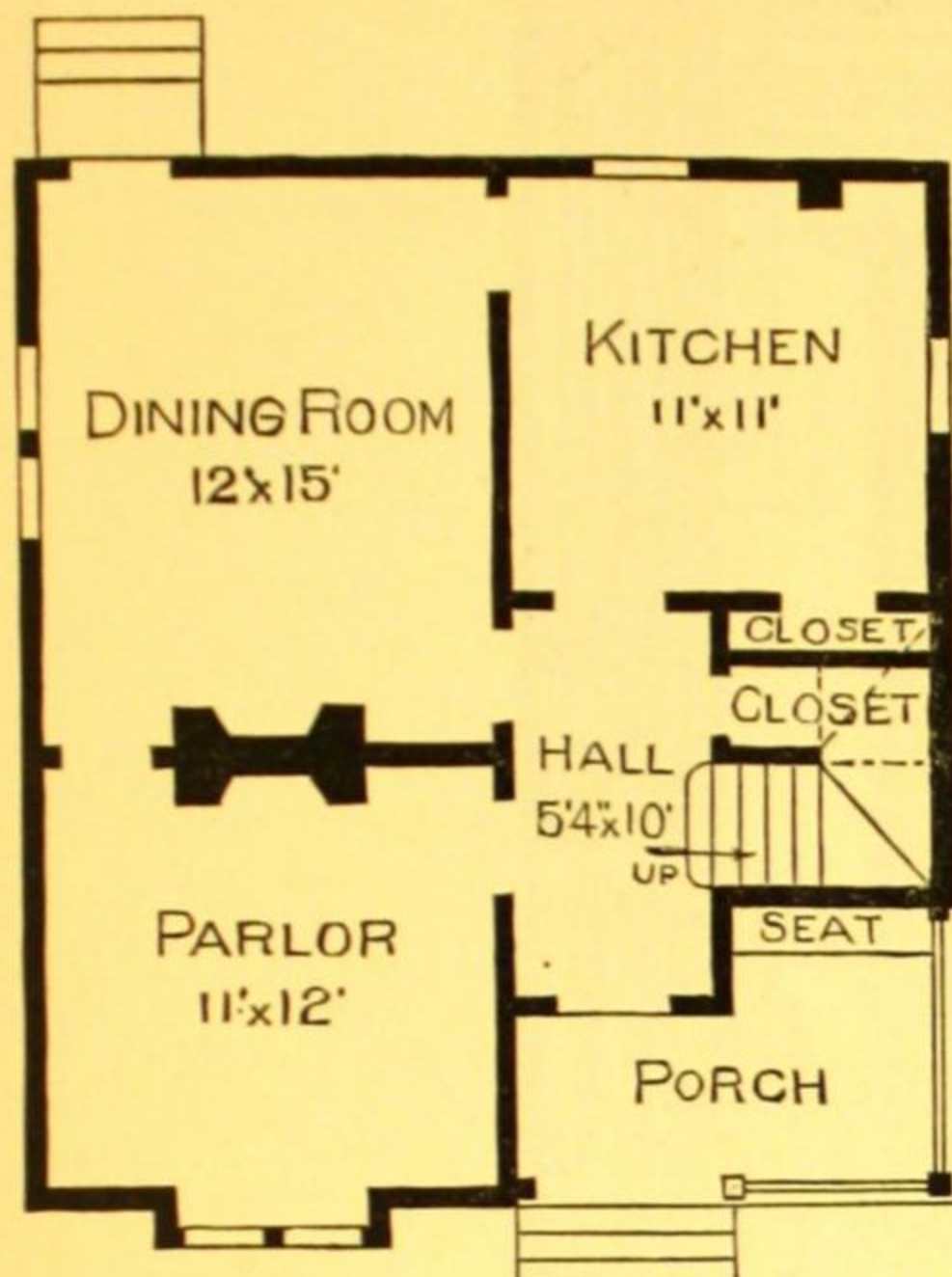
DESCRIPTION OF DESIGN NUMBER 188

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 27 ft., 6 in.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts set in concrete, or brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$925, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 188

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

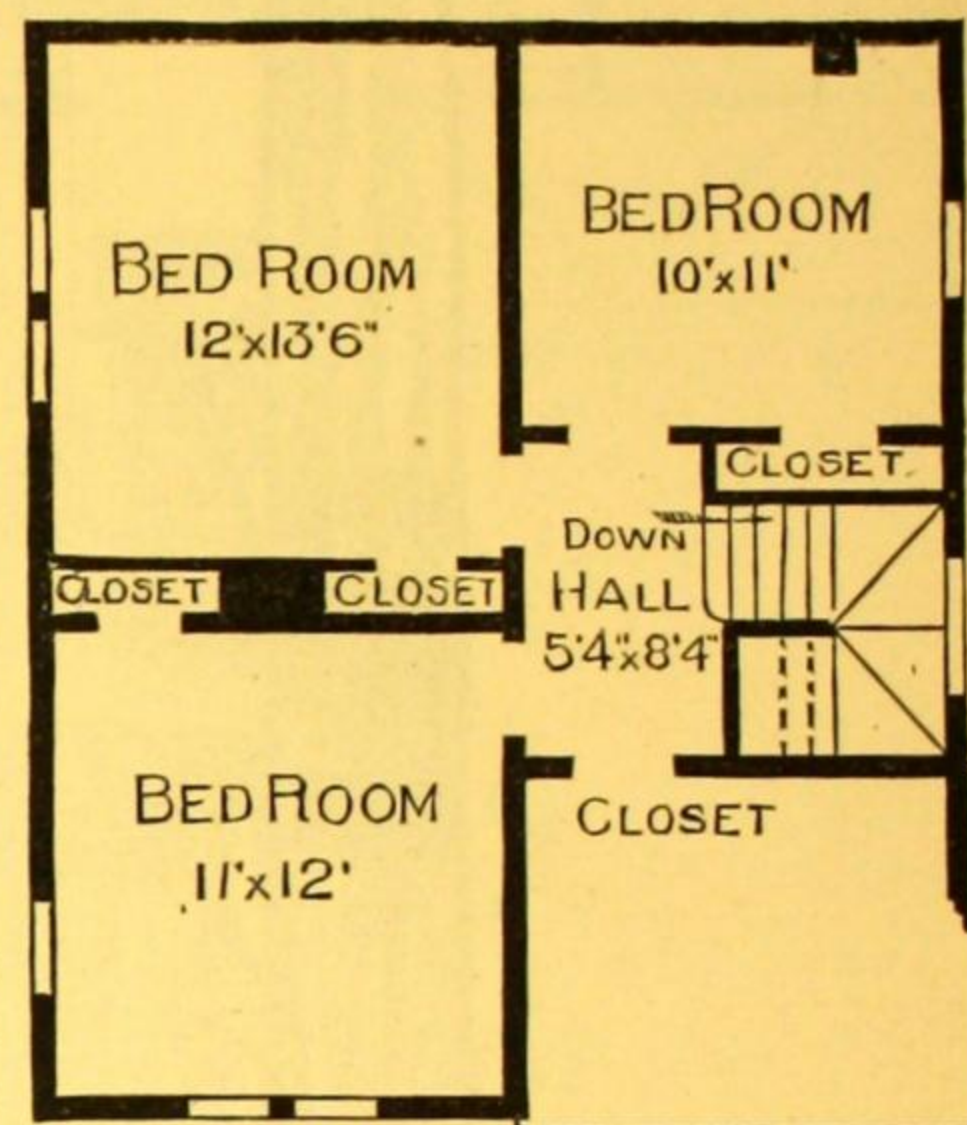
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and dis-

tinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior is in the same style as the preceding design, and the accommodations inside are much the same. Being smaller and set on posts the cost is much less. With stone or brick foundations and a cellar under the whole house the cost is increased \$200. Persons who have built this house are very much pleased with it.

When this house is built for Summer occupancy only, or in a warm climate, the porch should be extended into a veranda around the side. This is not a very costly addition, and adds greatly to comfort and convenience during the hot weather.



SECOND FLOOR. NO. 188

DESCRIPTION OF DESIGN NUMBER 189

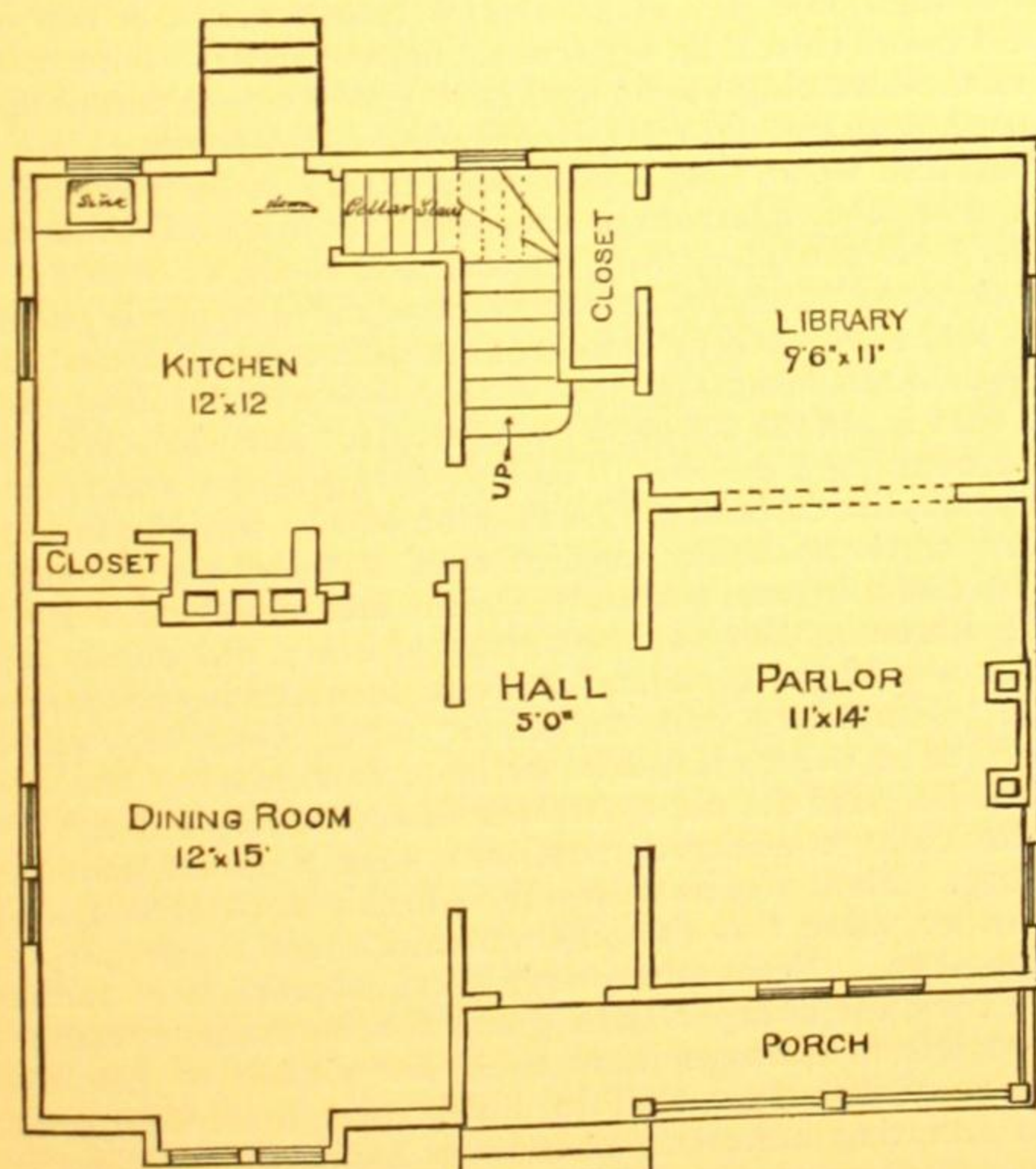
SIZE OF STRUCTURE: Front, 30 ft. Side, 28 ft., 6 in.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: Cellar, 6 ft., 6 in. First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, clapboards; Roof, shingles.

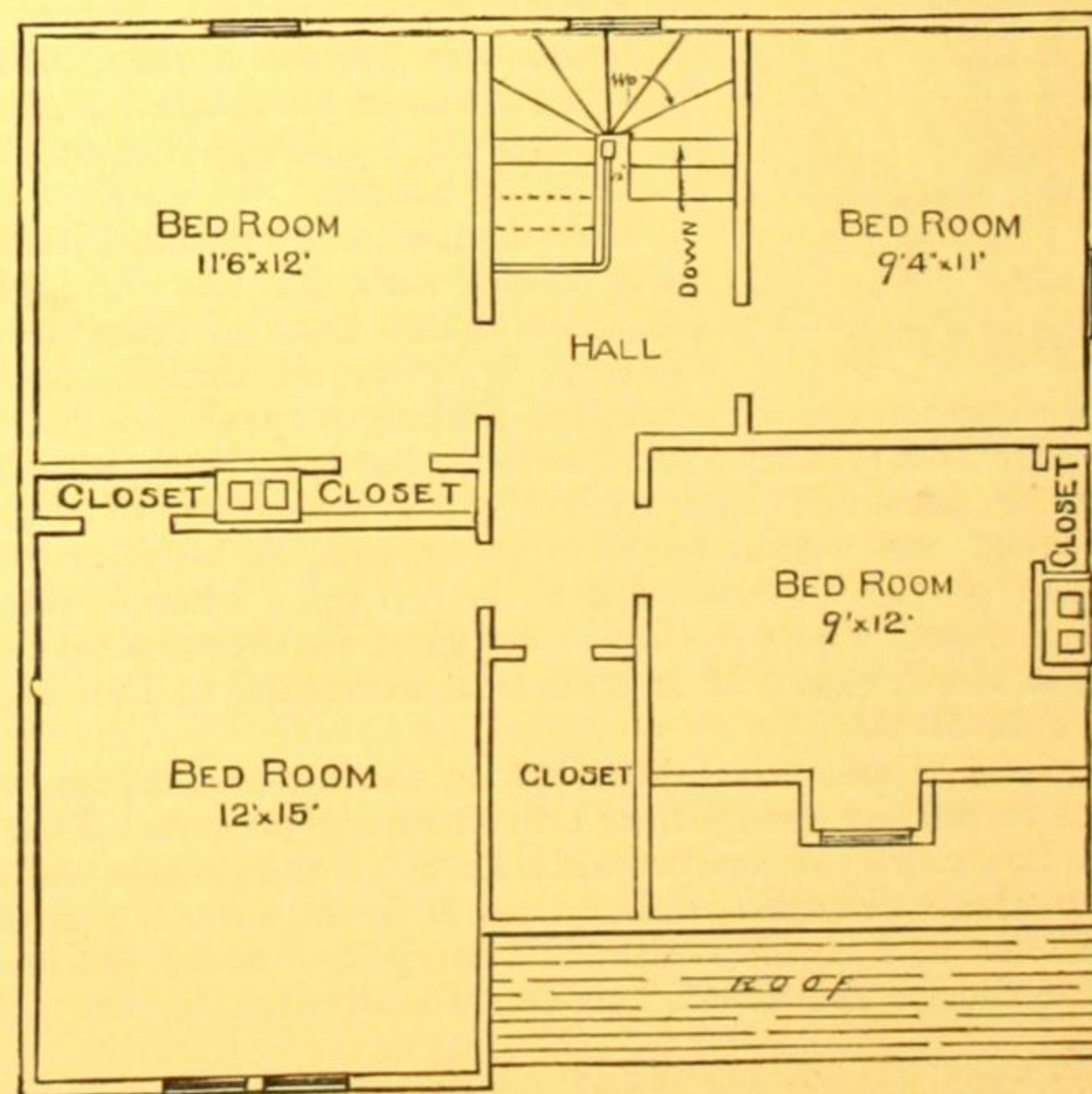
COST: \$1,875, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

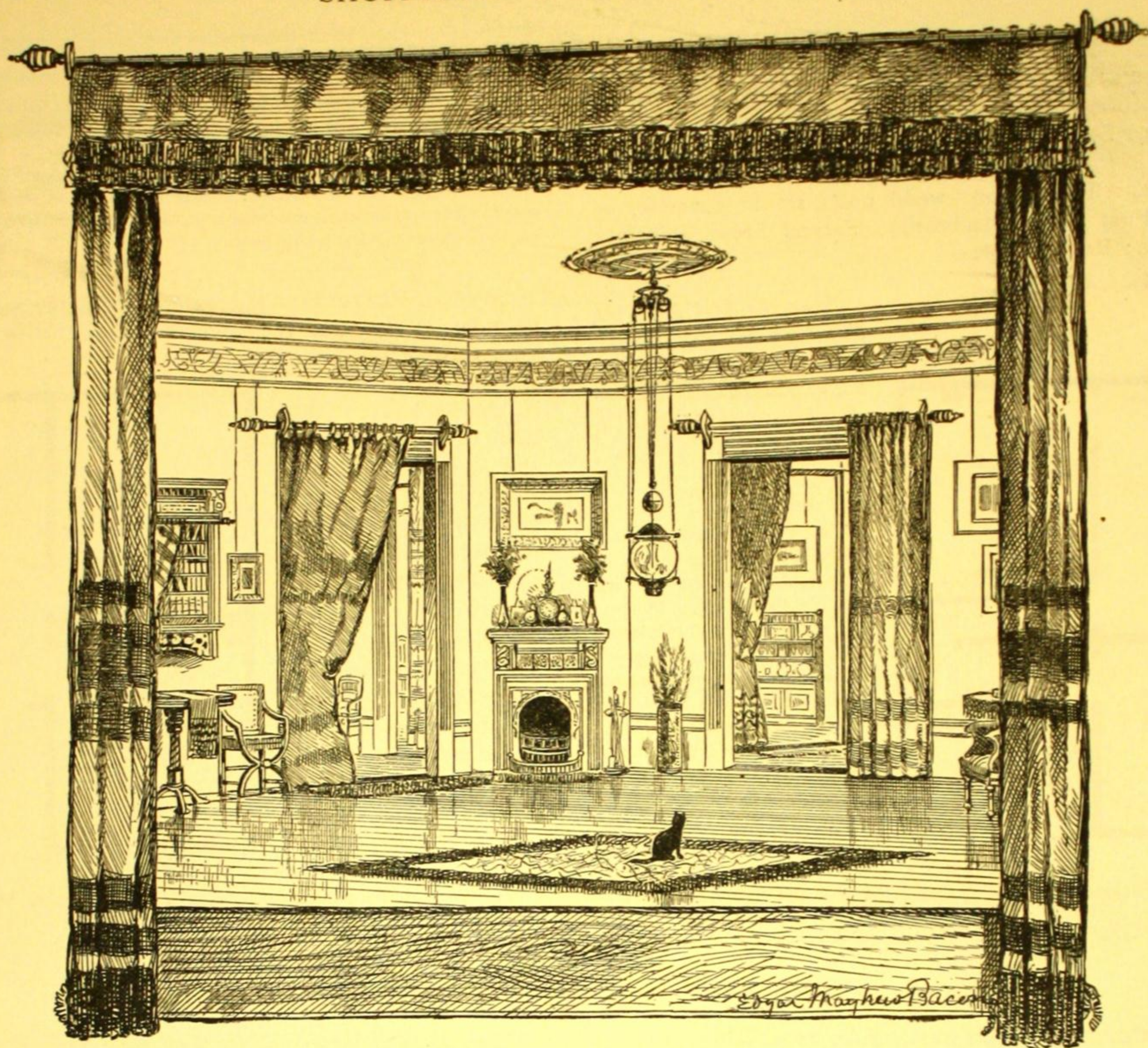
SPECIAL FEATURES.—The elevations are in the same style as the two preceding designs, and are not given here for want of space. The stairway is placed at the rear of the hall, which gives a free and roomy appearance to the front apartments. Cellar under the whole house.



FIRST FLOOR. NO. 189



SECOND FLOOR. NO 189



VIEW OF AN INTERIOR WITH PORTIÈRES

A PLEA FOR PORTIÈRES



WITHIN a comparatively few years the portière has been working its way into popular notice and favor.

At first in public places, in lecture halls and theatres, the little curtains were found to be an improvement upon noisily swinging doors or treacherous screens; then their beauty and utility began to be appreciated in private houses, till at last they have won a recognized position in the household economy of thousands of home-loving people.

The day of the angular, hard and noisy door, with its unyielding habits and unfortunate trick of being always in the way, is nearly numbered, except for principal passageways. People are finding out that a portière does not get ajar and take one unexpectedly between the eyes at night; the portière does not slam with every sudden gust of wind and disturb every one within ear-shot as a cannon or a dynamite blast would; the portière is not liable to be left open when it should be closed and closed when it should be open by thoughtless children or careless domestics. It is noiseless, inexpensive, inviting, convenient, comfortable.

But many people will object that by the use of the portière one is subject to sudden draughts or unwelcome incursions. This is not the case, however. When properly hung a light curtain will admit air, yet exclude draughts, better than a door: with the door it is always a feast or a famine—either all draught or no air, but its softer substitute checks the direct current and admits only the pleasant coolness.

As we have already suggested, no one would dream of closing a hallway or entrance to a detached suite of rooms by a portière; propriety will dictate where it should be used. Between apartments

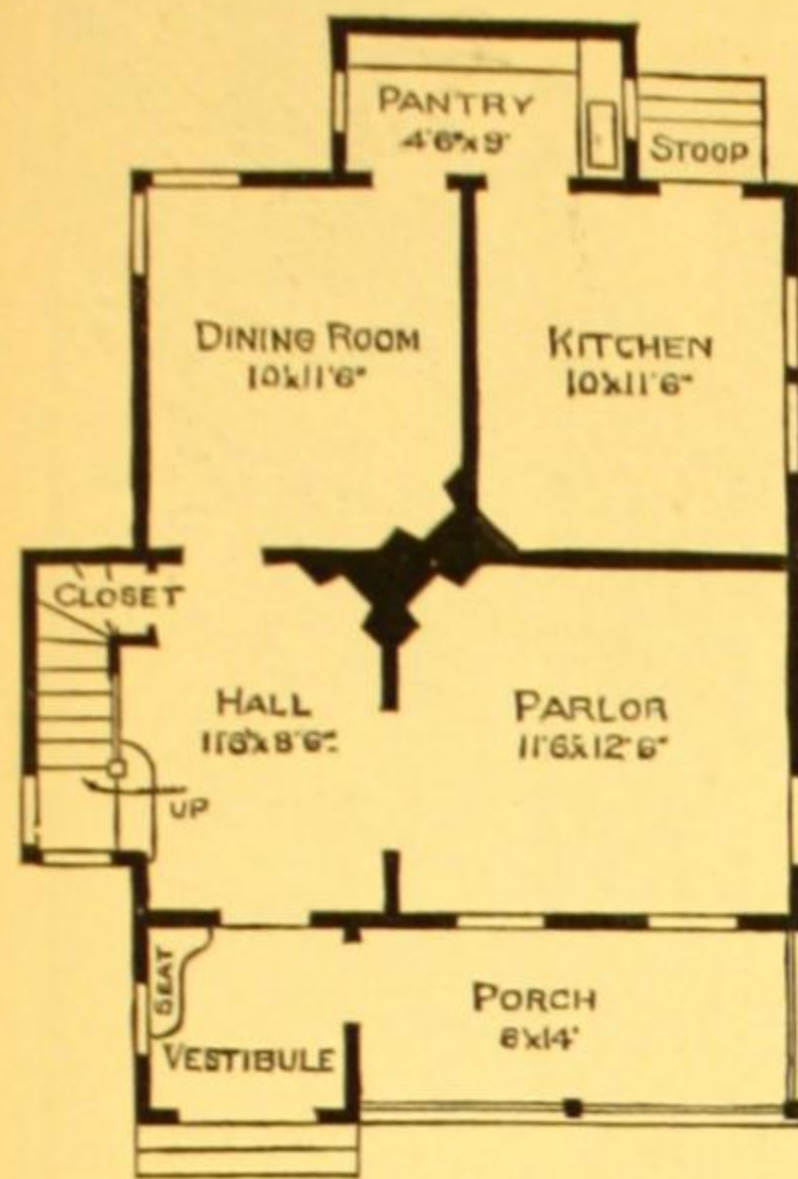
naturally connected, as between parlor and library, or nursery or alcove, for study or boudoir or music room, no other means of separation is so good because it separates without disconnecting.

In the old times, when one "living room" was superheated and the rest of the house left at an Arctic temperature, it was wise to have solid doors to seal an apartment hermetically. Now when the aim of modern heating appliances is to give an even temperature to the whole house, the old-time freezing hall and passages are things of the past and we no longer need tight fitting doors to inside rooms.

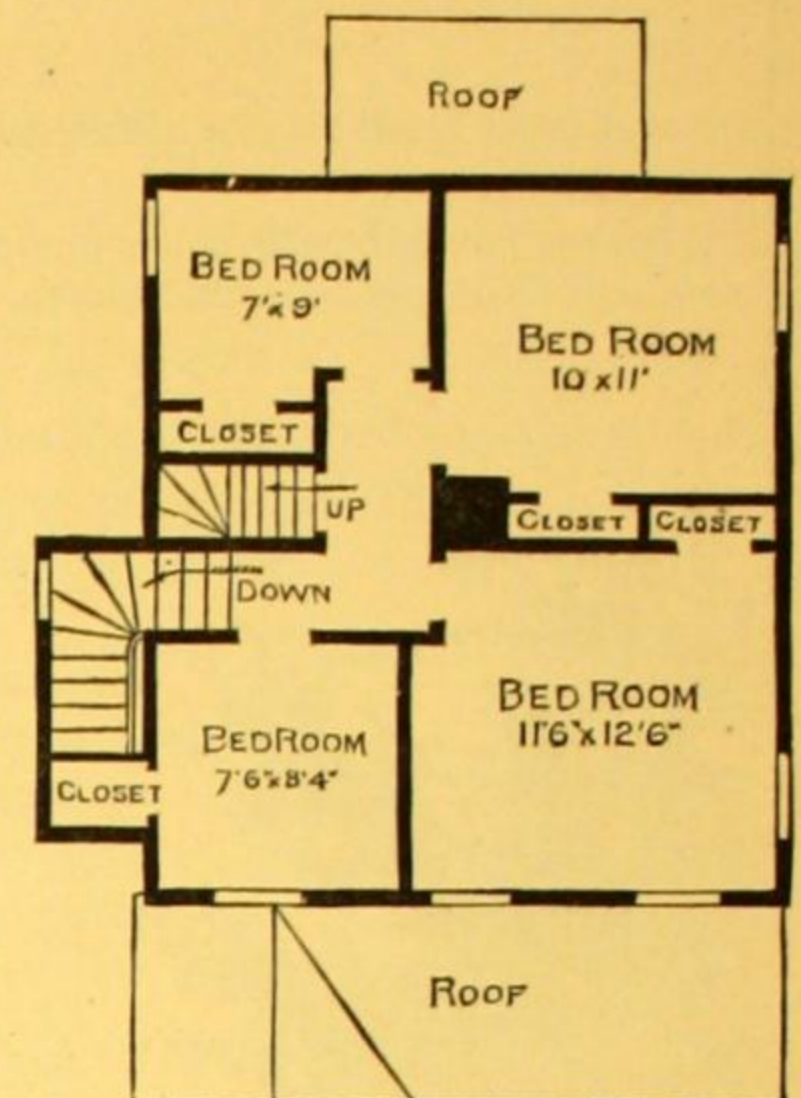
And now the question comes up, "how shall we hang our portières?" It is a query very quickly and easily answered. A rod of brass or wood or whatever material one cares to use is placed over the door and supported by brackets on each end. This is the first step. We do not insist upon the material of either rod or brackets, because that is always a matter for individual taste to settle. Along the rod are strung a number of loosely fitting rings, and from these rings depends the curtain, which may be of any suitable fabric. We have seen cretonne, heavy curtain stuff, Persian fabrics and decorated sail cloth in use, sometimes plain and unadorned and again covered with embroidery or ornaments of brass, old coins, Japanese figures, or any of the thousand and one fashionable adornments of the day. Sometimes one curtain is used, swinging across the entire length of the rod, and sometimes two, leaving the aperture in the middle. At the floor curtains should touch, but not drag.

Æsthetically considered portières supply much needed color and beauty. They are, in themselves, highly decorative and if they had no other value this should commend them to people of taste and refinement. From an economical standpoint it is sufficient to say that they are cheaper than good doors—much cheaper if the ladies are left to manage it, as their knowledge of beautiful but inexpensive stuffs, their skill in lining thin materials, their good taste in adapting materials already on hand, brought forth from chests or store-rooms, not only secure economy, but give an individuality to the rooms which is invaluable.

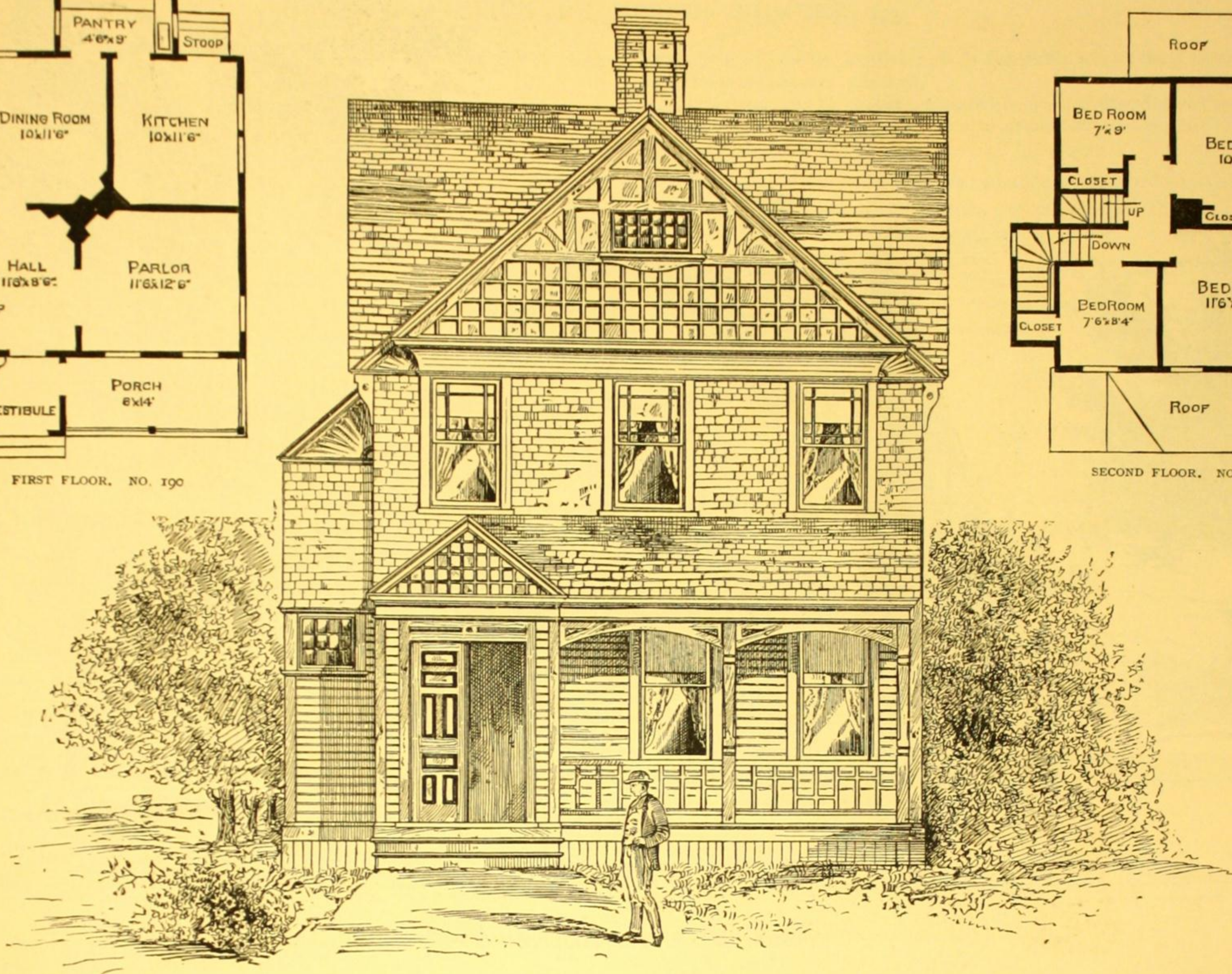
SIZE
S
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8 ft.
M
First
Gables
C



FIRST FLOOR, NO. 190



SECOND FLOOR, NO. 190



DESIGN No. 190. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 190

SIZE OF STRUCTURE: Front, 21 ft., 6 in. Side, 35 ft., 6 in., including front veranda and pantry annex.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 8 ft., 8 in.; Second Story, 8 ft.

MATERIALS: Foundation, posts set in concrete or brick piers; First Story, clapboards; Second Story, clapboards and shingles; Gables, panelled; Roof, shingles.

COST: \$1,200, complete, except blinds.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—One of the handsomest designs and most compact arrangement of rooms ever planned.

A large vestibule (with seat) protects the house from cold blasts. A beautiful hall, well lighted, and with a pretty fireplace, mantel and staircase, is connected with the parlor by a wide portière, practically making the two apartments one large room. The kitchen is so arranged that cooking odors do not pervade the house, and communicates with the dining-room

through a large and convenient pantry, in which are shelves, drawers and the sink.

Four good bed-rooms and closets in the second story and a stairway to the attic story, where two rooms can be finished off at any time.

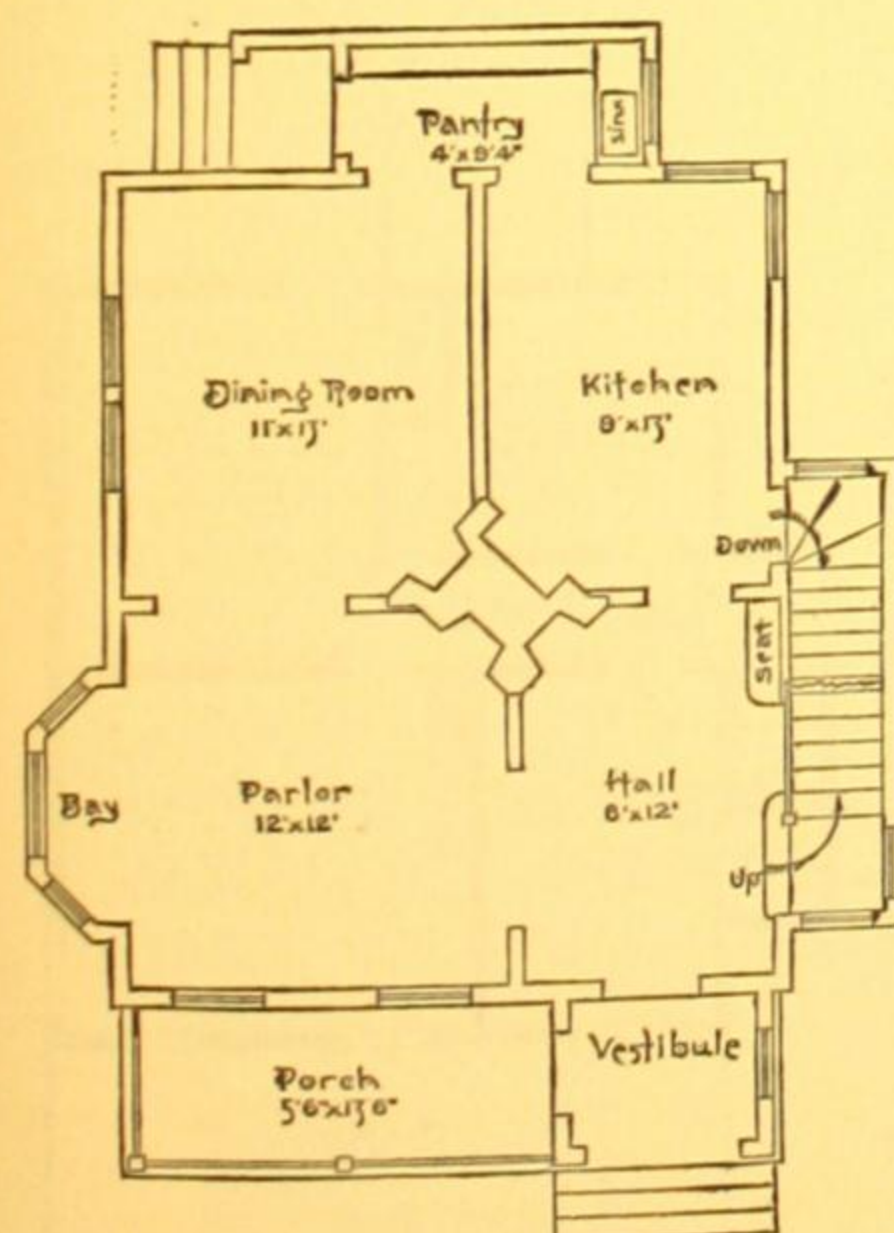
Our working drawings also show a cellar plan for parties who prefer a cellar, which can be built under the whole house at an additional cost of \$200. We furnish, also, a specification for the cellar and a bill of quantities giving in detail the additional material required.

This design has been built, from our plans, at many different places all over the country. When properly painted, it is, generally, the best looking house in the neighborhood, notwithstanding its moderate cost.

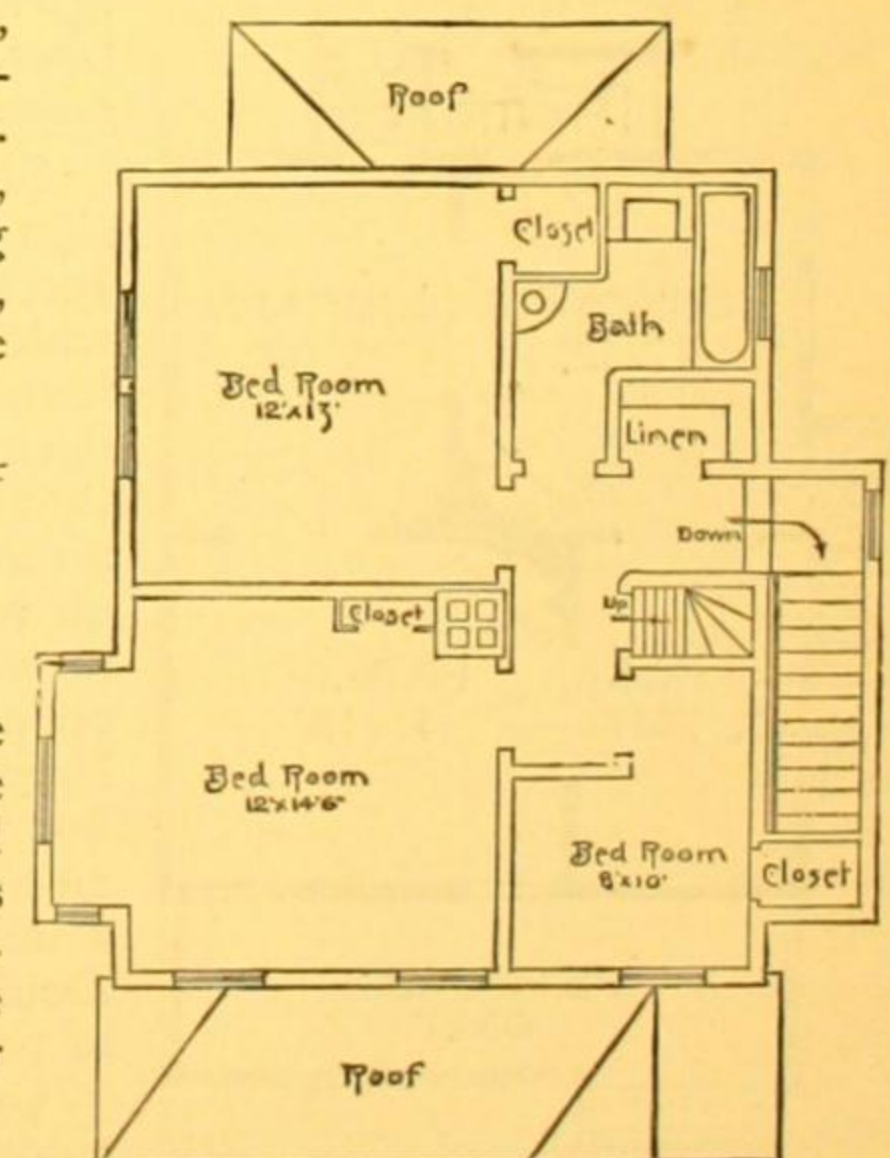
DESCRIPTION OF DESIGN NUMBER 191

Elevation in the same style as Number 190, and much like it in arrangement, but reversed and slightly enlarged. Has stone foundations, a bathroom, a cellar under the whole house, and fine bay-windows for both first and second stories.

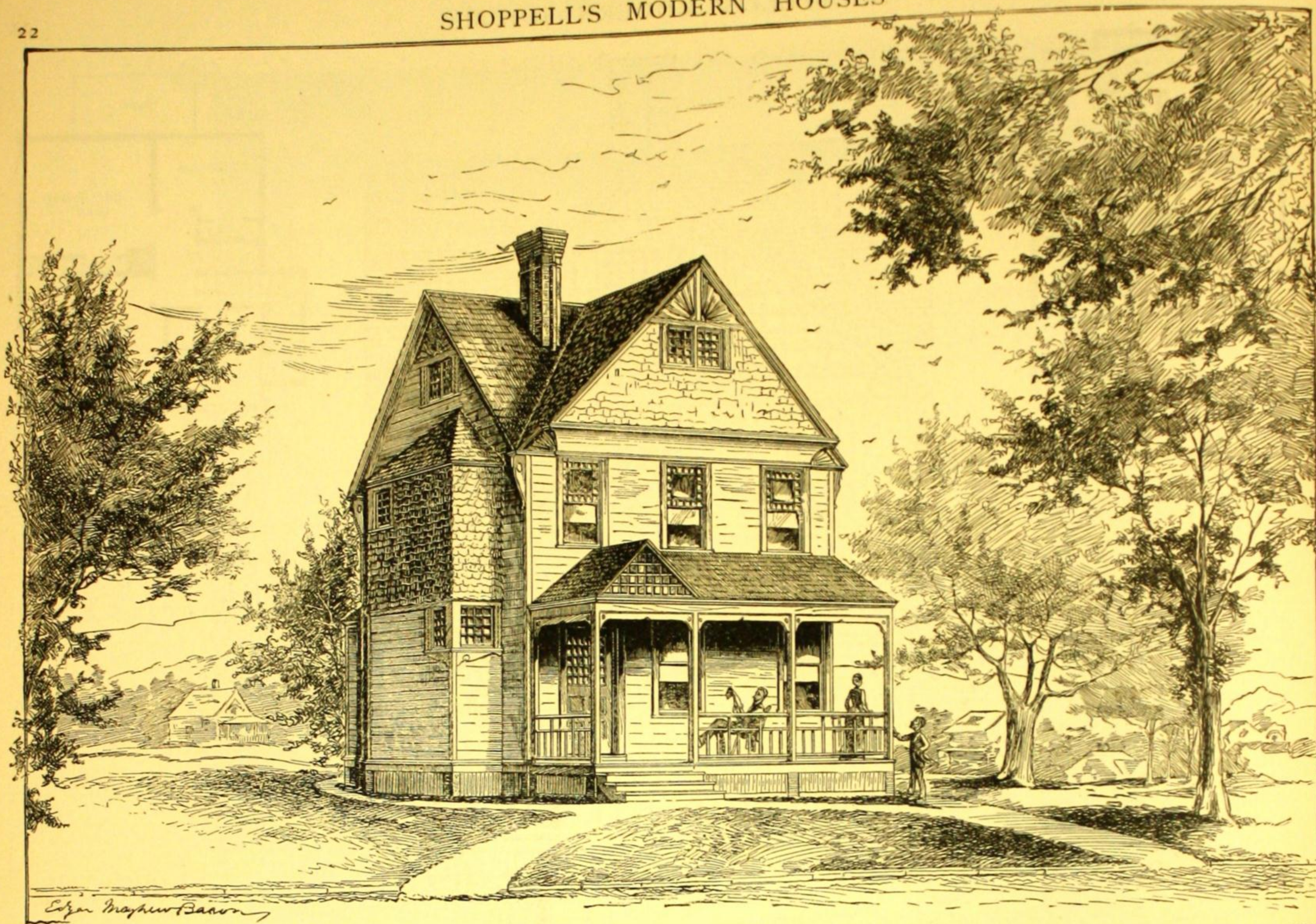
COST: \$1,875, complete, except range and blinds.



FIRST FLOOR, NO. 191



SECOND FLRDR, NO. 191



DESIGN No. 192. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 192

SIZE OF STRUCTURE: Front, 21 ft., 6 in., not including the staircase annex. Side, 36 ft., 6 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, posts set in concrete or brick piers; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$1,500, complete, except grates and blinds.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This design is an improvement of Number 190, having a kitchen extension, which enables us to connect all the rooms of the first floor by wide openings, producing an effect like that shown by the illustration of an interior and the use of portières on page 20. Throwing all of the rooms together by these wide openings practically makes one large apartment of the whole first floor, when desired. This gives an air of elegance and size to a small house that is astonishing. Double doors can be used in place of portières if preferred.

Our estimate includes neat hardwood mantels and fireplaces of pressed brick. Inside trim of clear

pine or white wood stained and very handsome in design. The staircase hardwood of unique design. Stained glass windows over the stair landing.

If a bath-room is required the small, rear bed-room can be converted into one.

Two rooms can be finished in the attic story, to which a stairway is provided.

Plenty of closets, and over the kitchen a good store-room is obtained.

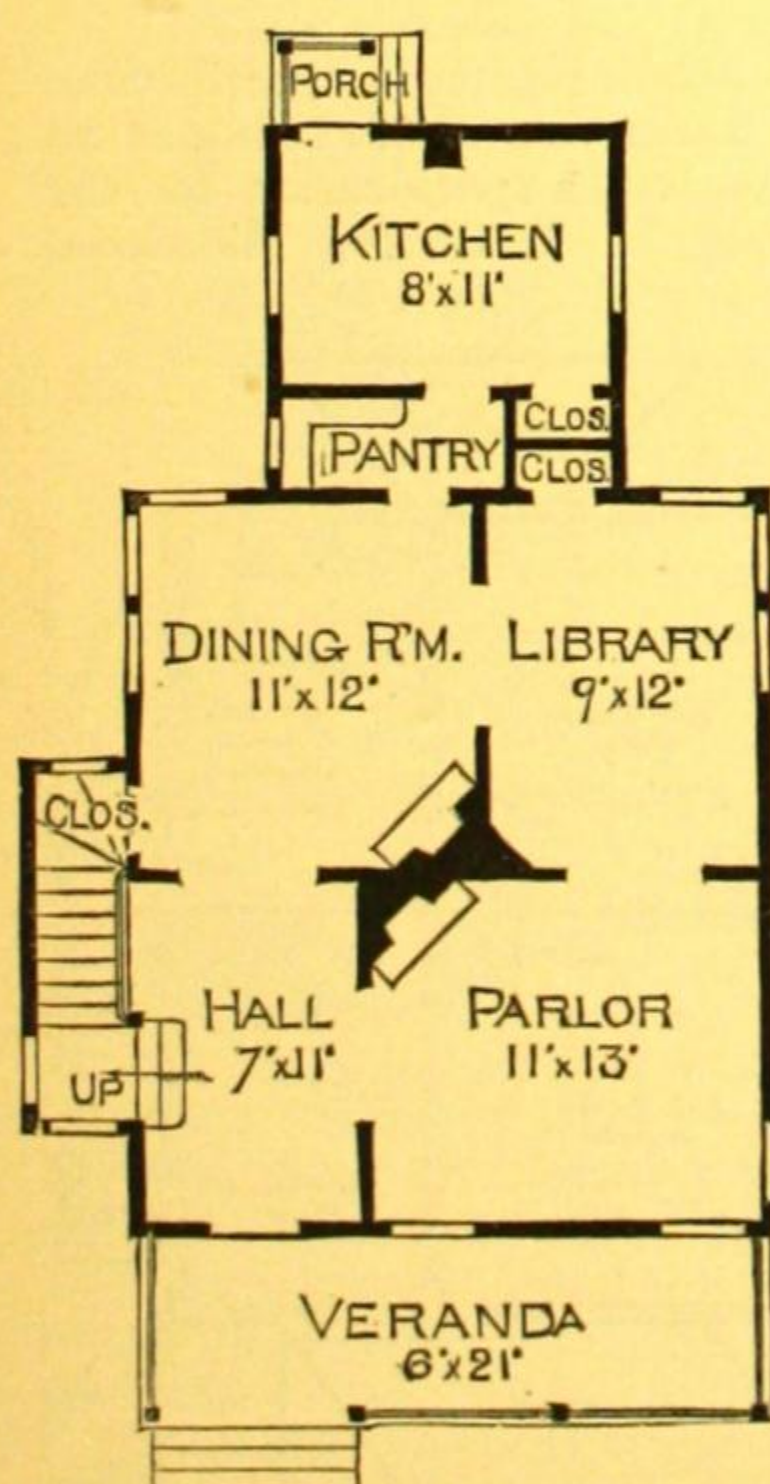
A Baltimore or fireplace heater placed in the parlor or dining-room warms two of the bed-rooms and hall above, and except in the most rigorous weather the other rooms will be comfortable.

There is a small cellar under the kitchen only. A cellar under the whole house, with stone or brick walls, costs \$150 additional.

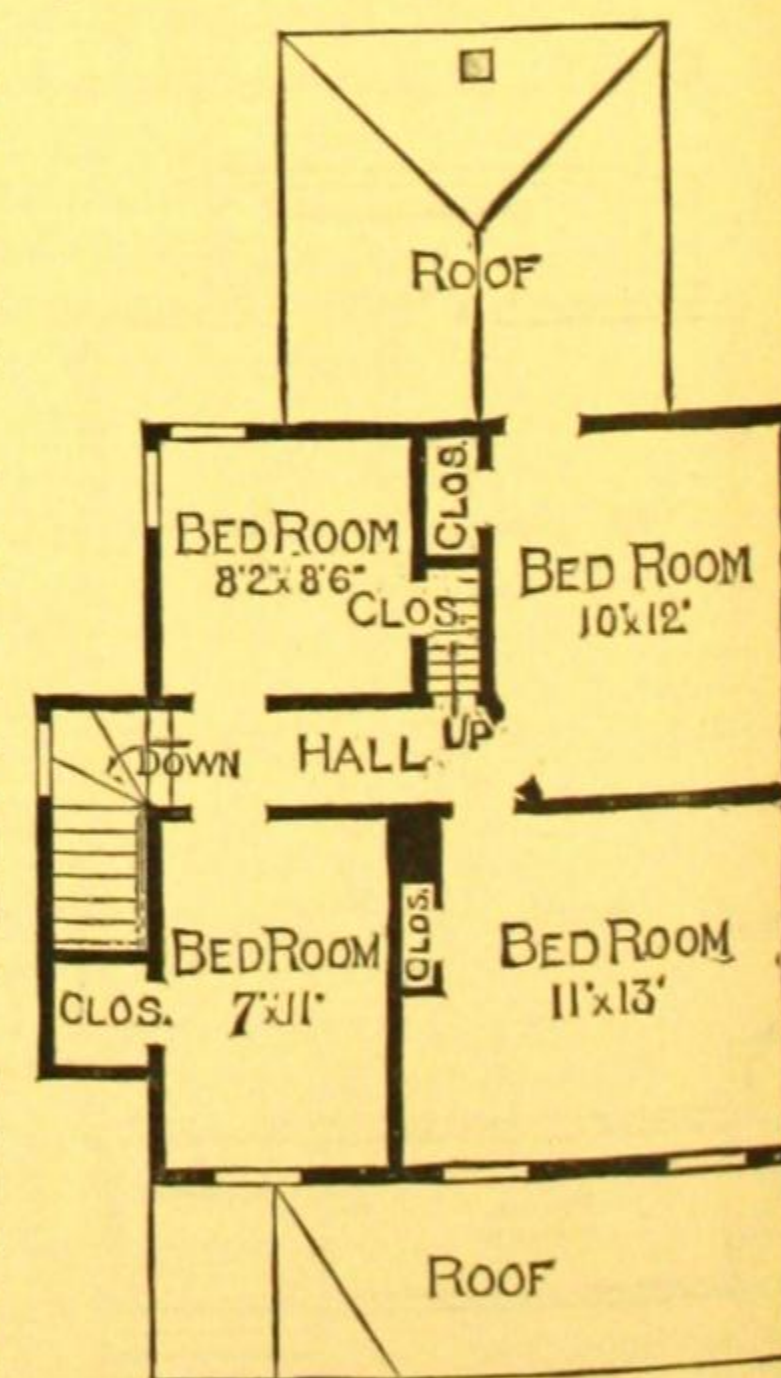
For a seaside cottage the veranda can be carried around the side.

If a bay-window is wanted it can be built in either the parlor or library at an additional expense of \$50. If a large dining-room is preferred, leave out the partition between the library and the dining-room, making it all dining-room, and build the fireplace straight instead of angular.

Painted in proper colors (which are described in our specifications) this makes a very attractive and striking house. Its appearance always suggests that it is a larger and more expensive house than it really is.



FIRST FLOOR. NO. 192



SECOND FLOOR. NO. 192

DESCRIPTION OF DESIGN NUMBER 193

SIZE OF STRUCTURE: Front, 23 ft., 6 in. Side, 41 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.; Third Story, open attic.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards and shingles; Roof, shingles.

COST: \$1,850, complete, except grates or heaters.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different time also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution

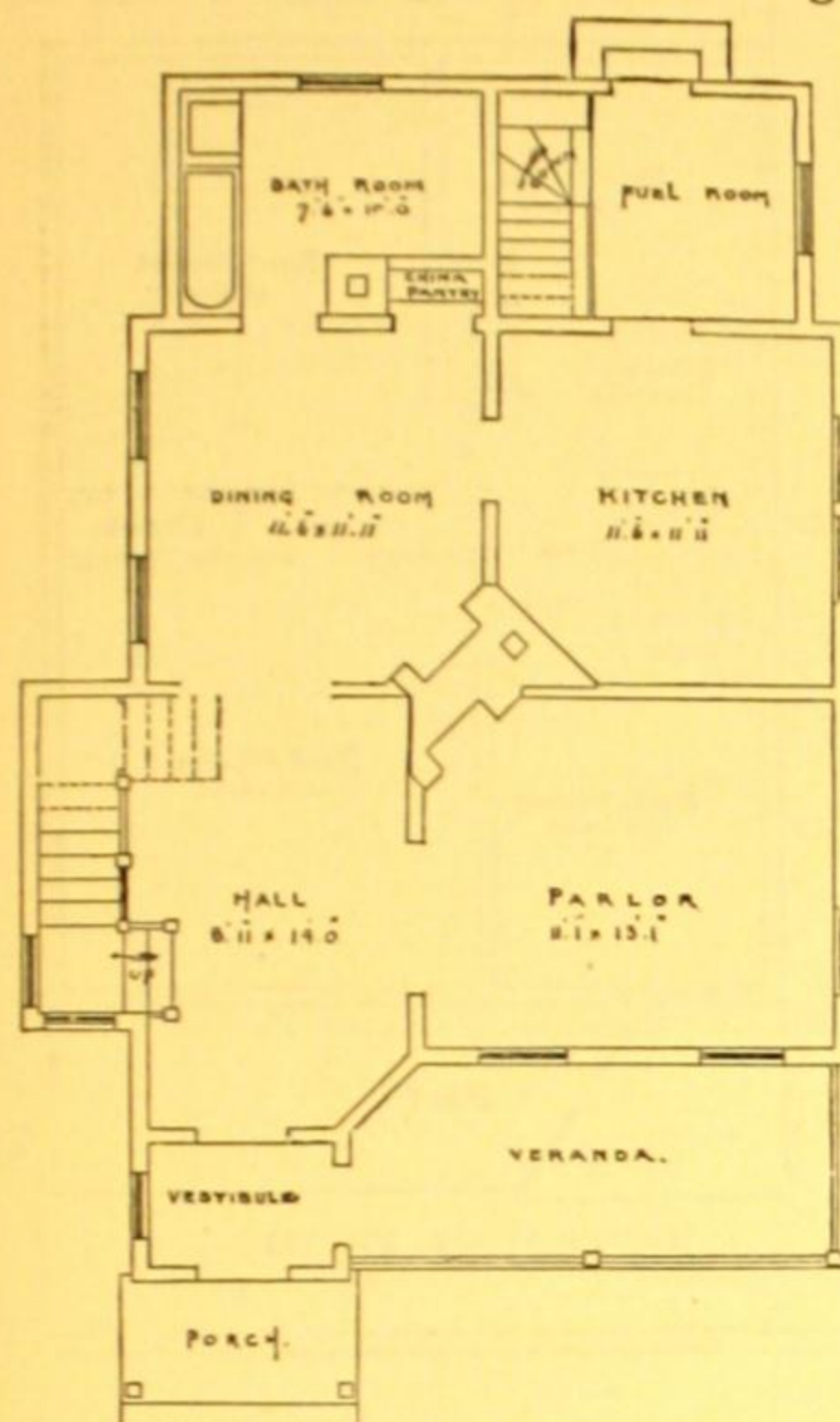
are given in our Specifications. It is impossible to give them here, as it would require many pages of this book.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

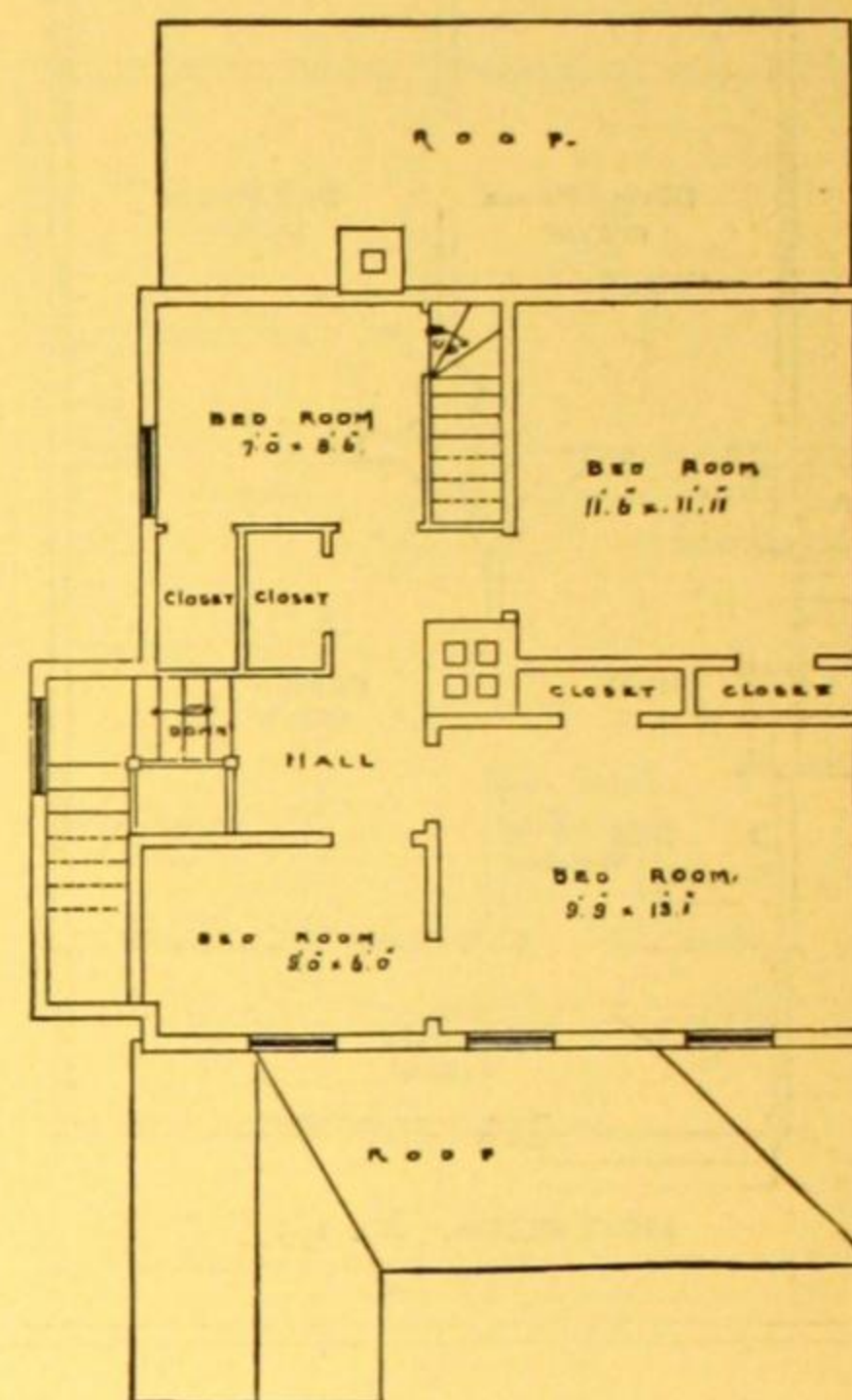
SPECIAL FEATURES.—These plans are enlarged modifications of the favorite Design Number 192, preceding, and the exterior is in the same style. Cellar under the whole house.

To reduce cost, employ piers or posts for foundations, use plaster board for inside walls, reduce size of cellar or have none at all, or employ any of the other economies of construction suggested on other pages.

If preferred, the bathroom can be placed in the second story, the space thus vacated, with a little addition, would make a fine kitchen, and thus relieve the main floor. In very severe climates, however, it is just as well to retain the kitchen where it is, as it helps to warm the house. Warmth is essential, and the odor of a good dinner in preparation is not very objectionable in zero weather.



FIRST FLOOR. NO. 193



SECOND FLOOR. NO. 193

DESCRIPTION OF DESIGN NUMBER 194

SIZE OF STRUCTURE: Front, 23 ft., 8 in., exclusive of hall annex. Side, 45 ft., 2 in., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles; Gables, panelled; Roof, shingled.

COST: \$2,100, complete, except furnace.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors &c., &c. (these constitute the prin-

icipal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

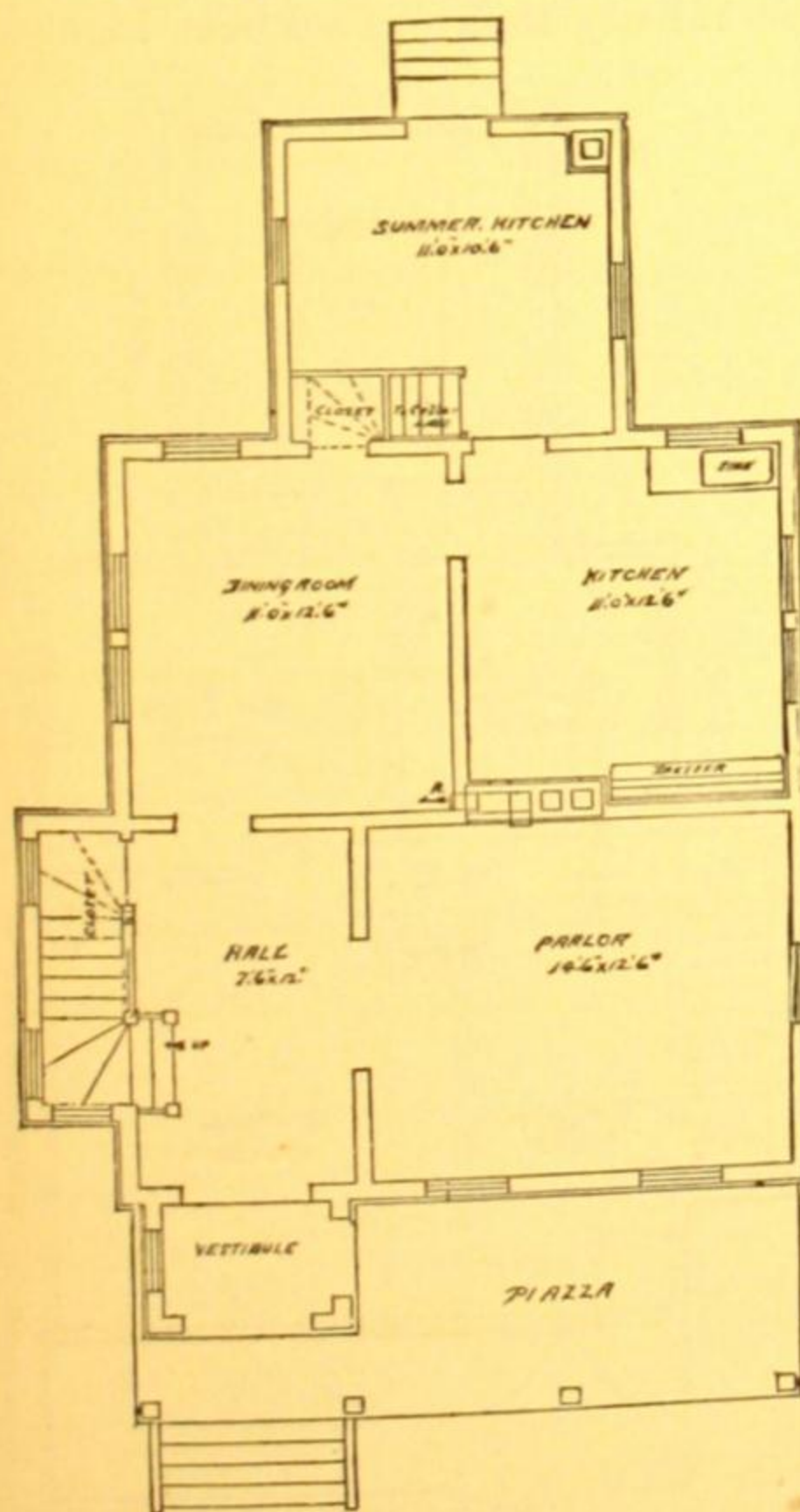
SPECIAL FEATURES.—This is another modification of Design Number 192, the plans being similar and the exterior in the same style.

It is designed to heat this house with furnace, and plans are made accordingly.

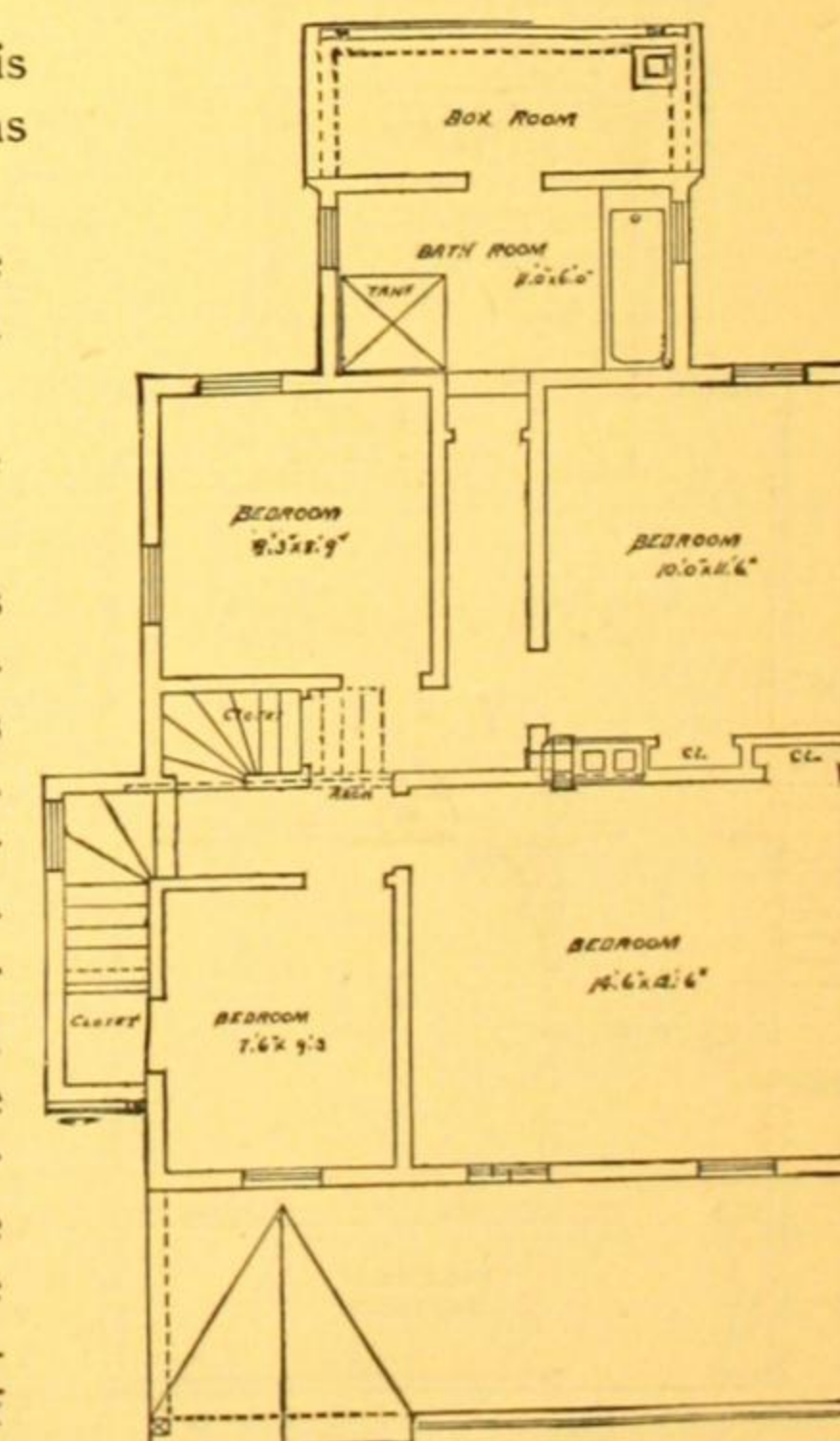
Summer kitchen can be used as a wash-room and wood shed.

Cellar under the whole house.

One of the popular features of this series of designs (Number 192 and modifications) is the side projection. It is inexpensive, and admirably serves its special purpose—that of providing a place for the stairway, leaving the hall clear and unobstructed. The exterior appearance is very pretty also; it breaks the monotony of the side. The shingled sides afford an opportunity for a contrast of colors in painting.



FIRST FLOOR. NO. 194



SECOND FLOOR. NO. 194

SHOPPELL'S MODERN HOUSES

DESCRIPTION OF DESIGN NUMBER 195

SIZE OF STRUCTURE: Front, 24 ft., exclusive of hall annex.
Side, 51 ft., 6 in., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles; Roof, shingles.

COST: \$2,075, complete, except grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

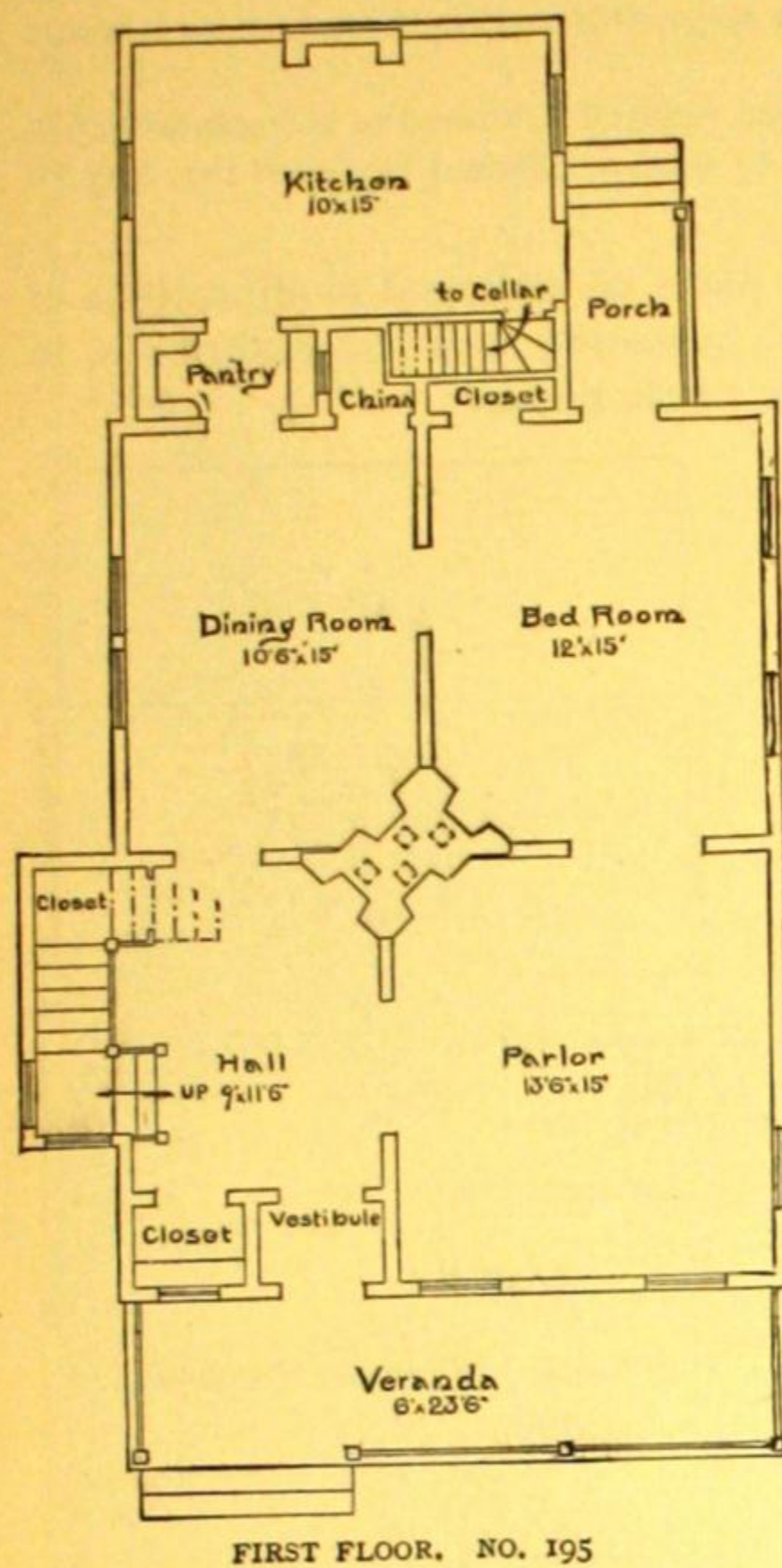
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

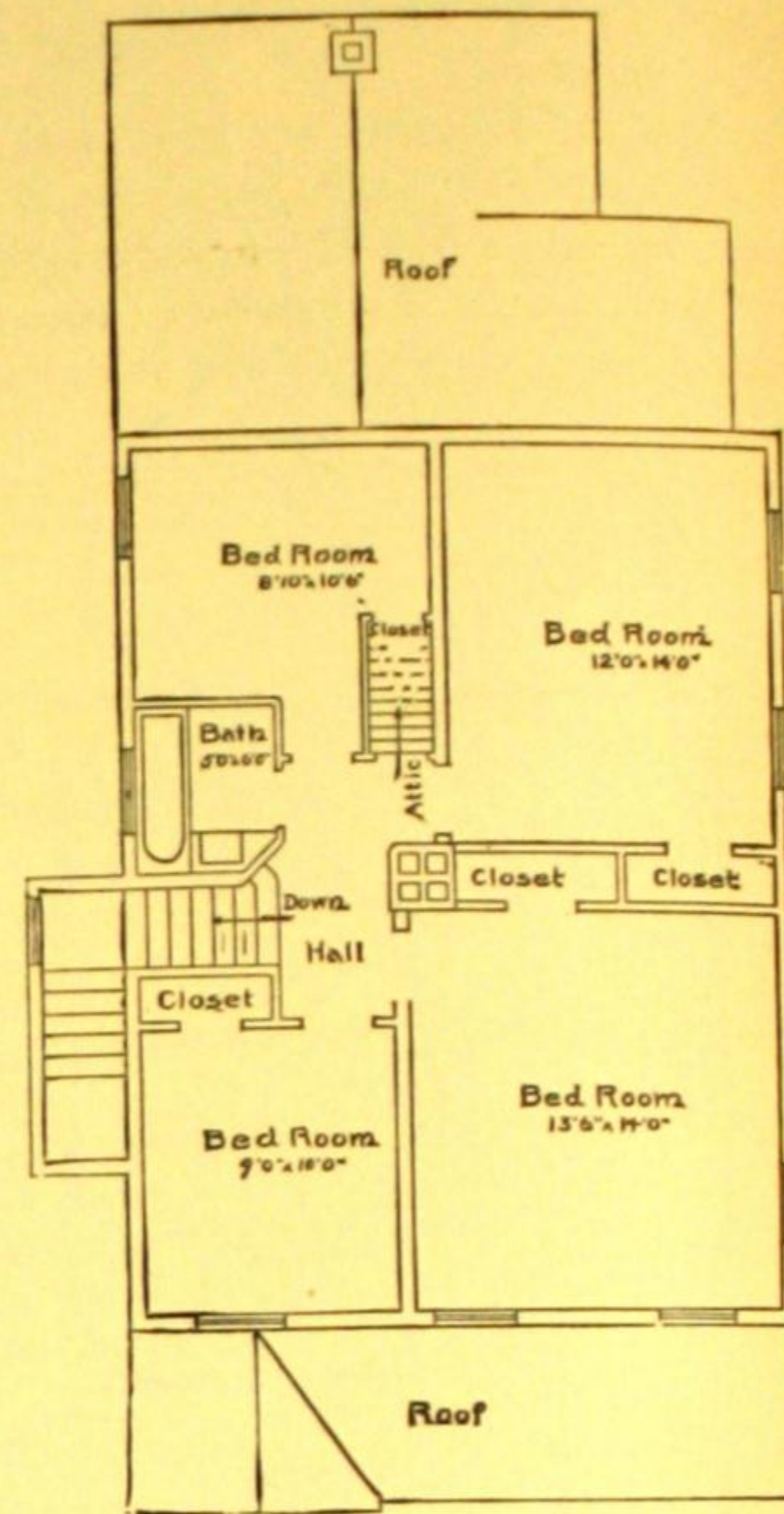
SPECIAL FEATURES.—Exterior in same style as Number 192.

Cellar under kitchen, dining-room and bed-room.

This is a very complete house, having a vestibule, hall closet, four fireplaces, china closet, pantry, inside cellar stairs, back porch, closets to every room and a bath-room.



FIRST FLOOR. NO. 195



SECOND FLOOR. NO. 195

DESCRIPTION OF DESIGN NUMBER 196

SIZE OF STRUCTURE: Front, 22 ft., 6 in., exclusive of hall annex.
Side, 48 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles; Roof, shingles.

COST: \$2,100, complete, except grates or heaters.

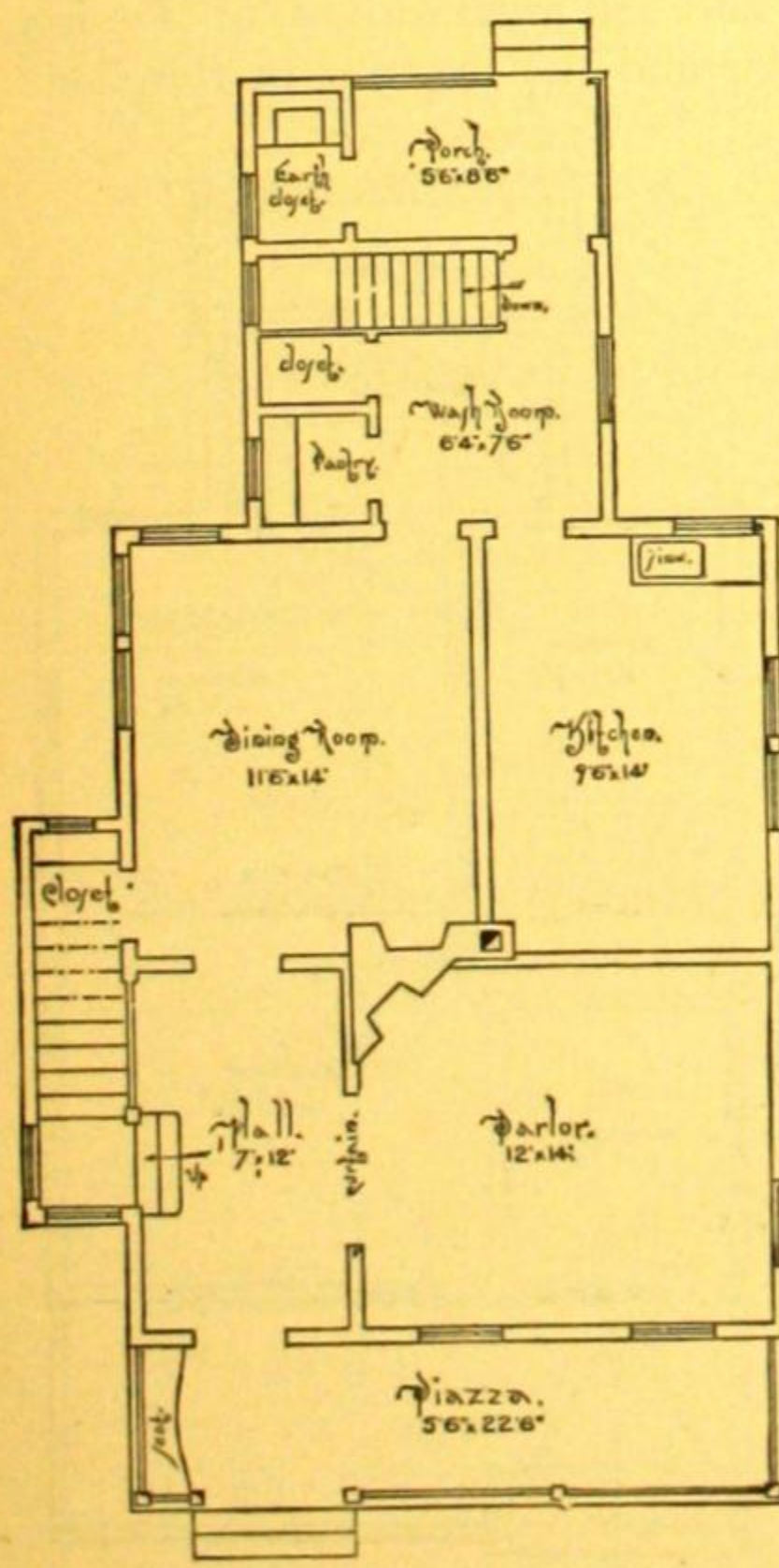
[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 196

SPECIAL FEATURES.—This is another modification of design Number 192.

Has a fine wash-room, and a cellar under half of the house.

A rear porch enclosed with lattice, and an earth closet.

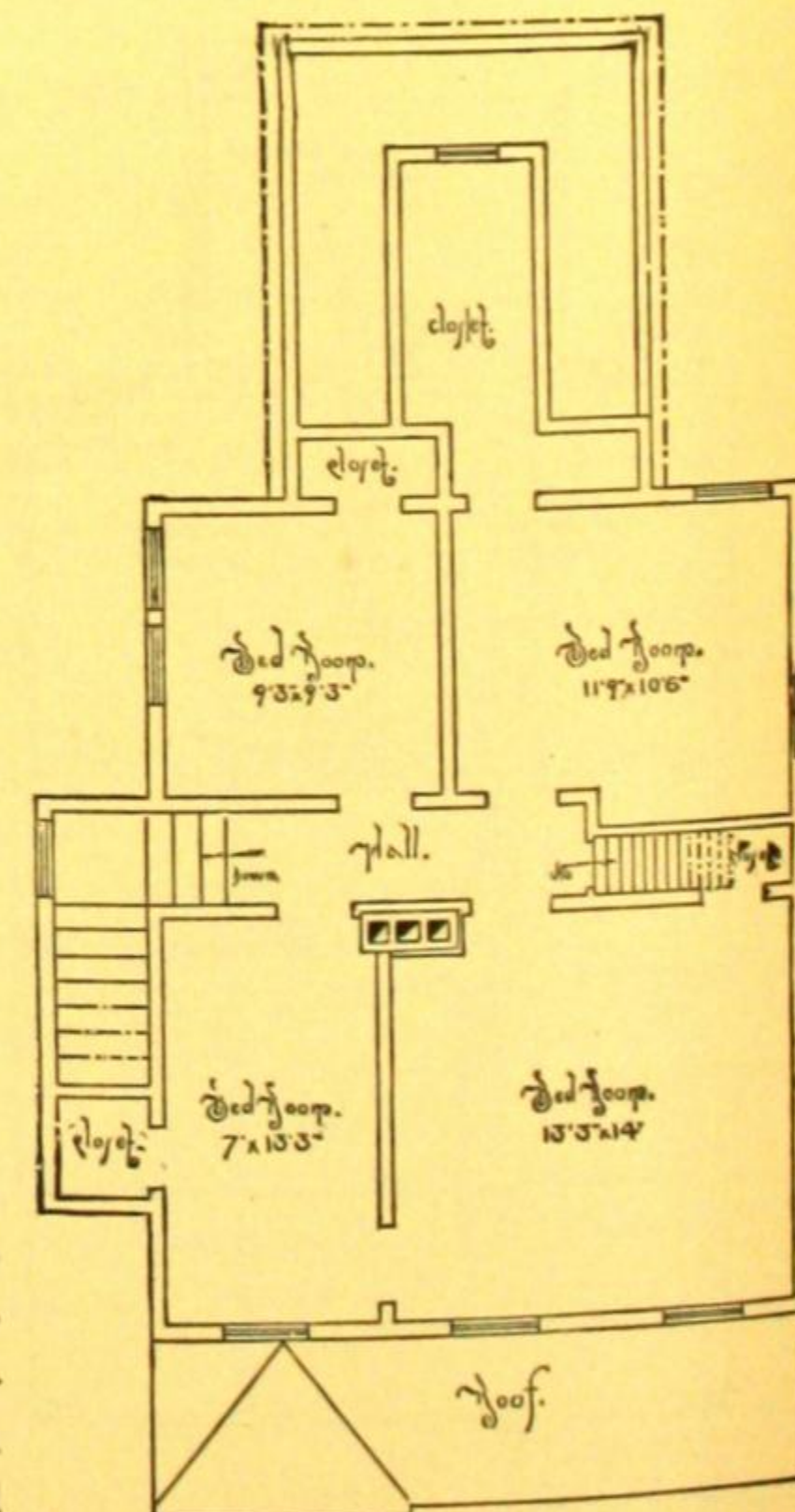
A fine, large china closet under the stairs for the dining-room.

In this series of plans the location of the chimney in the middle is a good feature. It saves all of the heat for the house in winter.

Open fireplaces cannot be recommended too strongly. From the earliest times down to the present day their use has been highly

satisfactory; now when sanitary precautions and artistic effects are considered of great importance, we find that the fireplace affords the best ventilation and its living flame gives a touch of beauty to an interior that nothing else supplies. The best grates, set well forward, will thoroughly heat rooms of the sizes shown on the plans of this design, except in the very coldest weather. For very large rooms they are not sufficient (except in the mildest climates), and furnaces or other methods of heating should be employed in addition.

In regard to heating and ventilating, however, it is well to keep thoroughly posted as to the latest devices. Thousands of experienced and inventive men are working on the problem and some improved methods can be fairly expected.



SECOND FLOOR. NO. 196

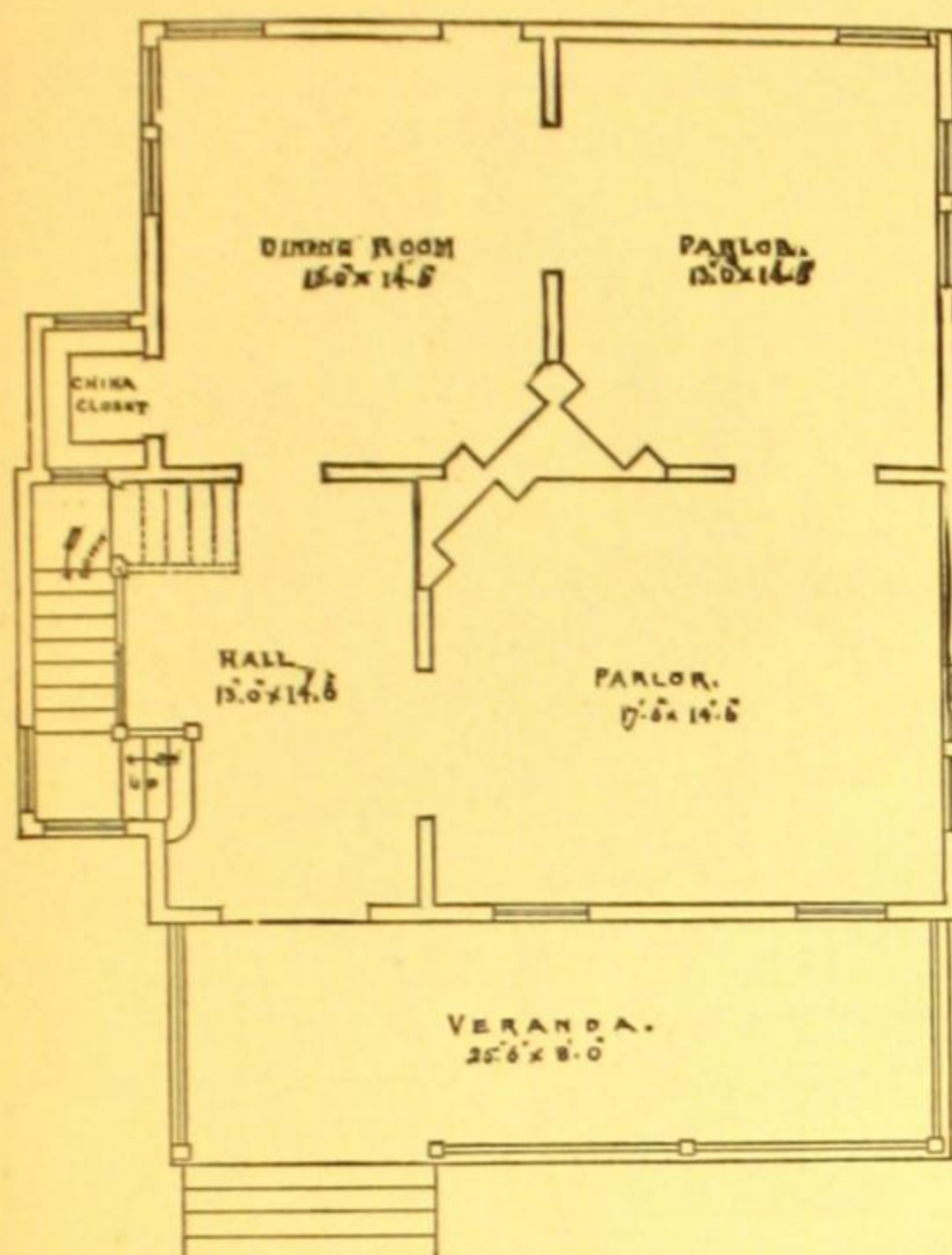
DESCRIPTION OF DESIGN NUMBER 197

SIZE OF STRUCTURE: Front, 28 ft., exclusive of hall annex. Side, 39 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft., 6 in.; Second Story, 9 ft.; Third Story, unfinished.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles. Roof, shingles.



FIRST FLOOR. NO. 197

COST: \$2,575, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables,

Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

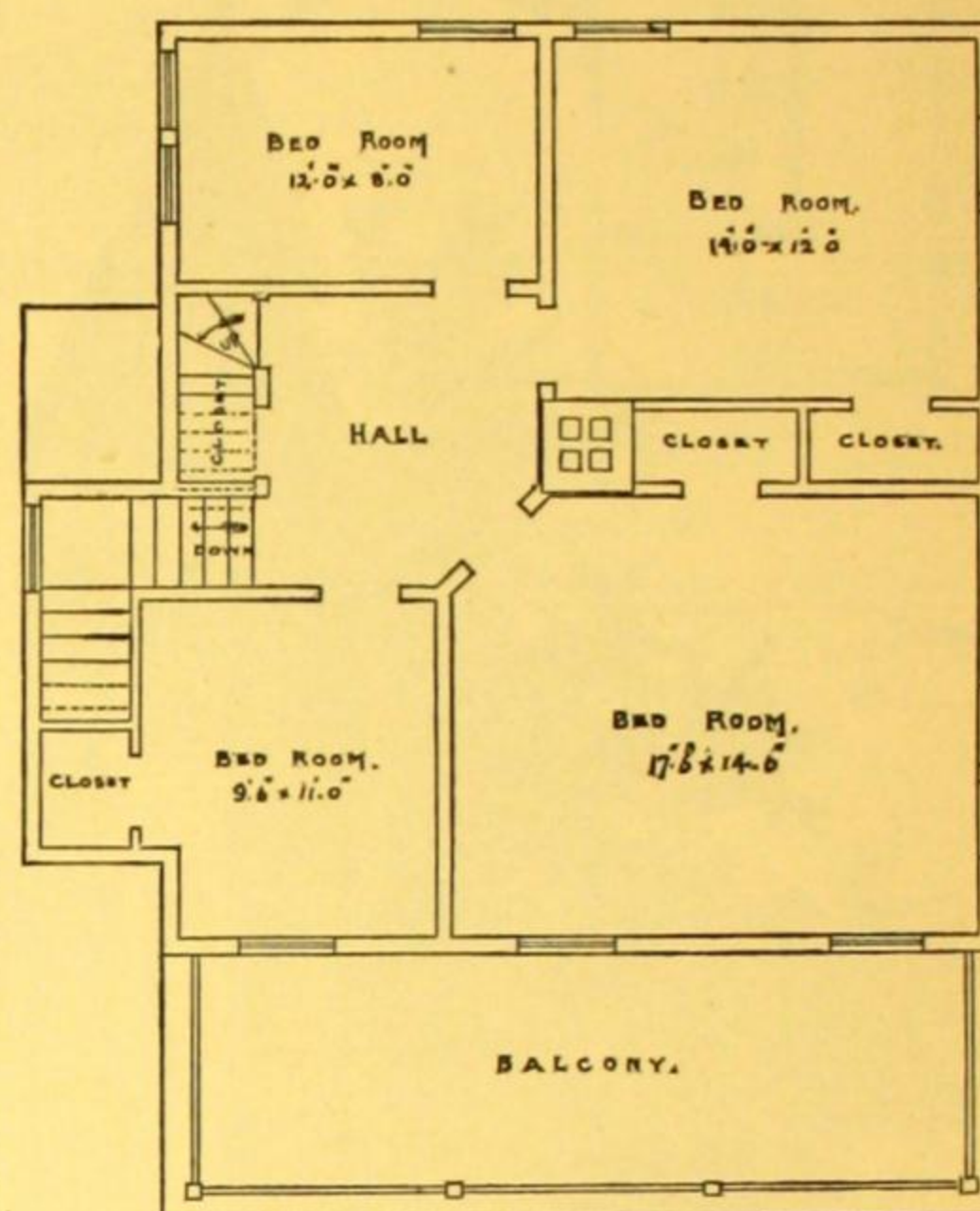
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is another modification of the favorite design, Number 192. The exterior is in the same style.

Designed for the South, it has large rooms, high ceilings, open fireplaces, and a large balcony over the veranda. The kitchen is in a detached building in the rear, according to the custom in the South. There is a cellar under the whole house, fine closets and plenty of room.

We can furnish plans for foundation of brick or stone piers or posts, also without cellar, which materially reduce cost.

Where an attached kitchen is wanted, a small one-story lean-to can be added at the rear.



SECOND FLOOR. NO. 197

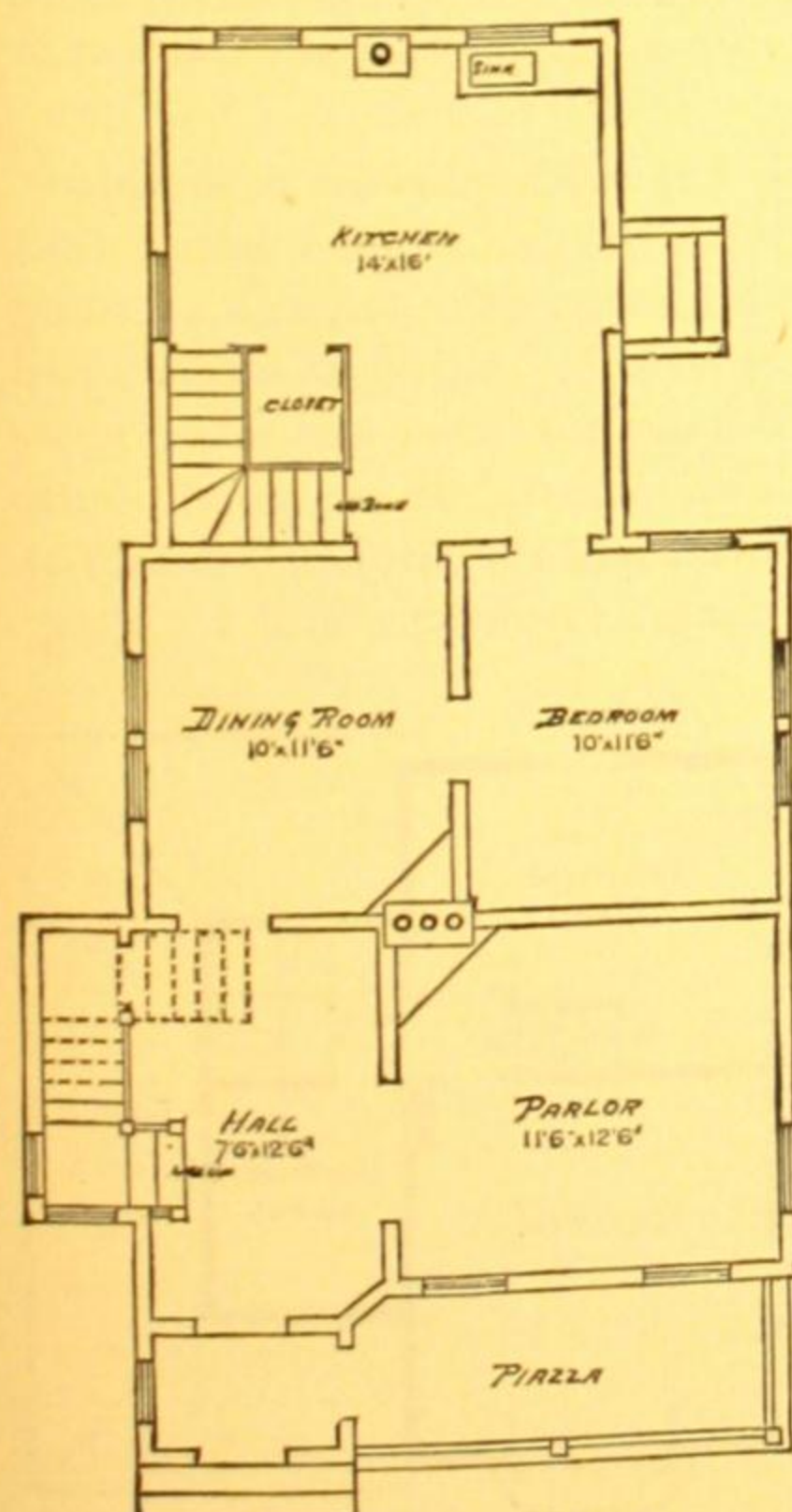
DESCRIPTION OF DESIGN NUMBER 198

SIZE OF STRUCTURE: Front, 21 ft., 6 in.; exclusive of hall annex. Side, 47 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft. Second Story, 8 ft., 6 in.; Third Story, unfinished.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, panelled; Roof, shingles.



FIRST FLOOR. NO. 198

COST: \$1,950, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

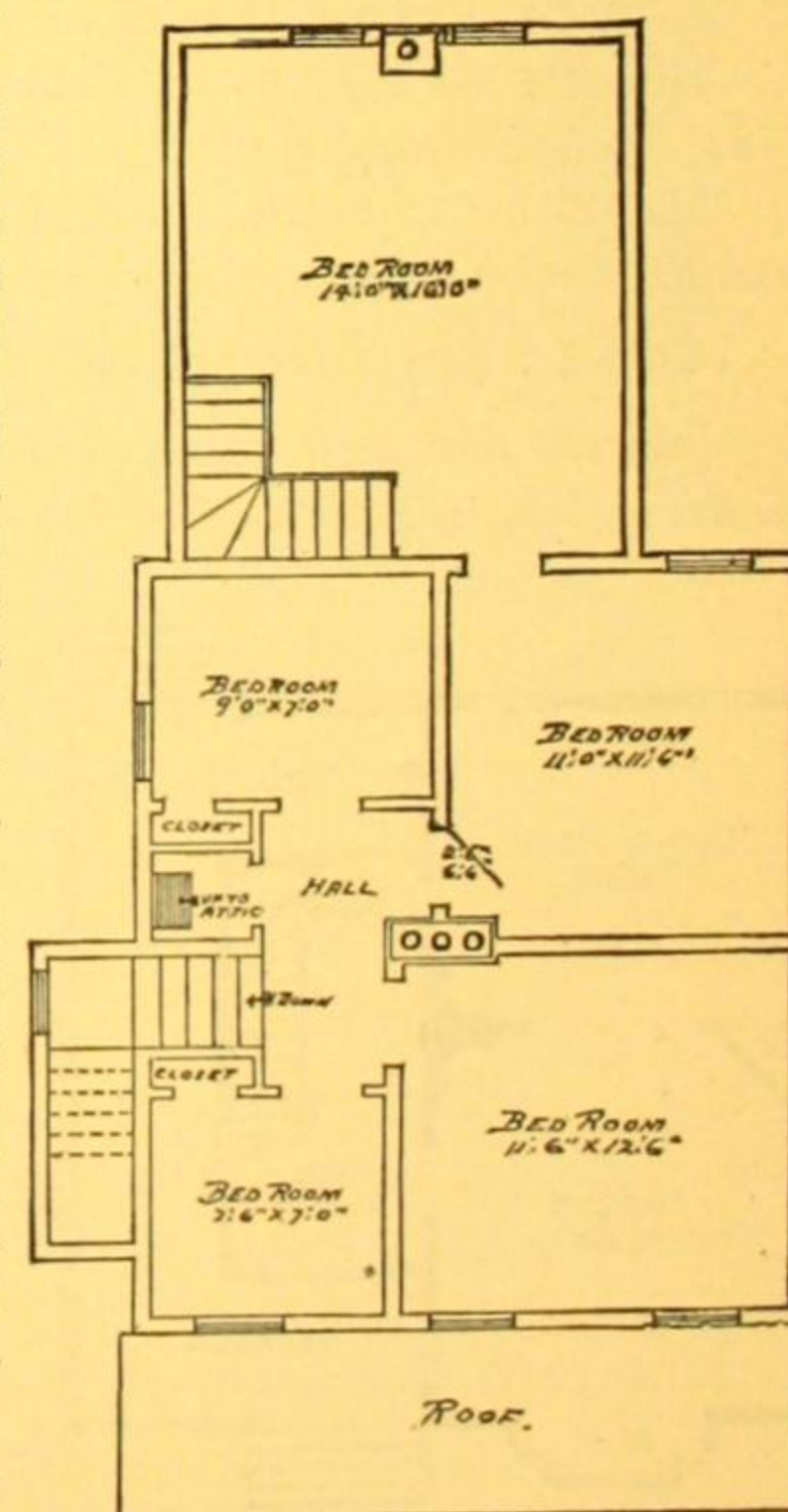
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is still another modification of Number 192, the exterior being in the same style and the arrangement of rooms similar. This kitchen extension has two stories. Cellar under the whole house and a back stairway. Stoves or a furnace to be used for heating.

This and the preceding series of designs (Number 192 and its modifications) are strongly recommended. The accommodations and conveniences they afford and the fine appearance they make, surprise and please all who build them. The costs given are correct, having been proved over and over again. As pertinent to this important matter of costs, and as illustrating the reliability of our figures, we give below an extract from a recent letter from a gentleman who built this house (Number 198) in Central New York State: "The actual cost of house you furnished plans and specifications for was \$1,475, by day's work. I did not build the areas,* as called for in the plans, and I do not include the cost of plans. The house is very satisfactory, and is liked very much by everybody."

* Small excavations bricked up around cellar windows an expense of only \$21.



SECOND FLOOR. NO. 198



DESIGN No. 199. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 199

SIZE OF STRUCTURE: Front, 31 ft., 6 in. Side, 30 ft., 6 in.

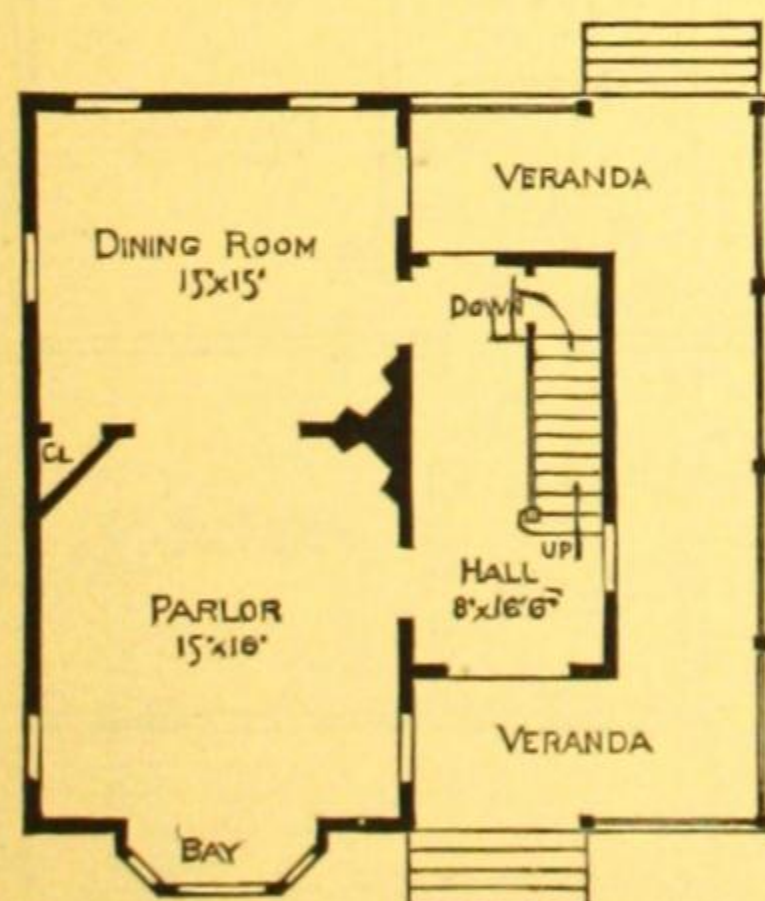
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 2 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,750, complete, except kitchen range.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 199

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

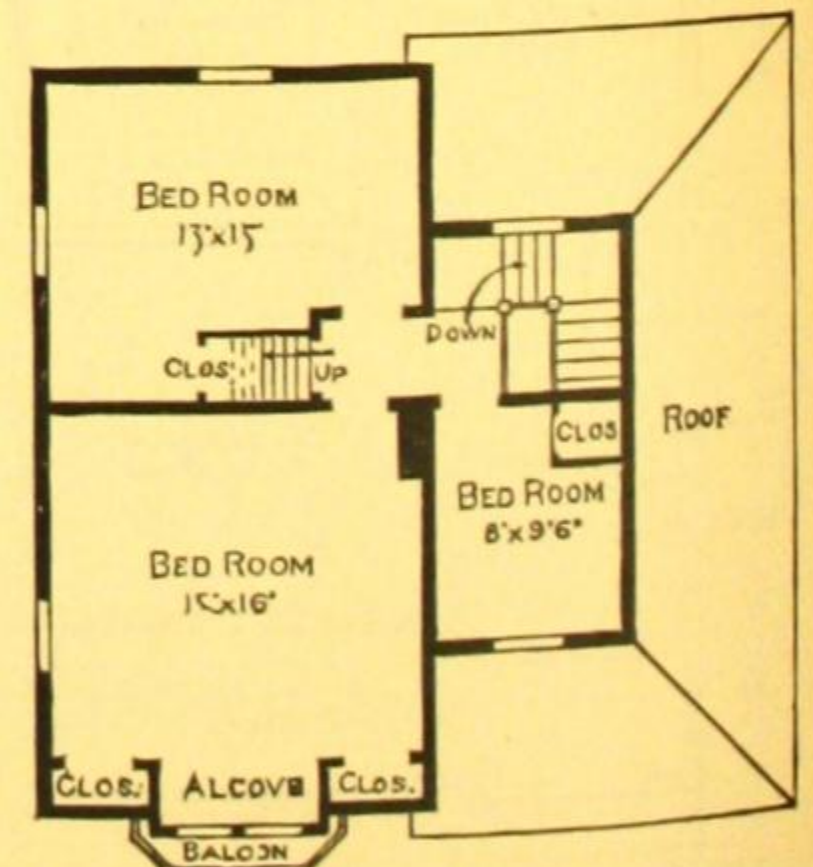
SPECIAL FEATURES.—This is a capital house for a seaside or summer resort, where meals can be procured from a hotel, thus doing away with the necessity for a kitchen and cellar, and avoiding the most troublesome part of housekeeping. Without kitchen and cellar (which are included in our estimate, however), and set on posts or brick piers, there is a large reduction in cost. It is a good Southern house, also, where no cellar is wanted, and the kitchen is detached.

This is a good design for any climate, however, and for a permanent residence. It is very showy, has plenty of light and air and a fine, wide veranda.

There is a charming alcove in the front bed-room; also a stairway to the attic, where three rooms can be obtained, if wanted.

Our plans and specifications call for a kitchen and cellar in the basement, which can be modified, however, as suggested above, or according to a plan shown on the next page.

A showy house like this always rents well.



SECOND FLOOR. NO. 199

DESCRIPTION OF DESIGN NUMBER 200

This design is an improved modification of the preceding one (Number 199). The exterior and the second story are exactly the same. The changes consist in the addition of an ample pantry (large enough for a barrel of flour and all culinary supplies), and a one-story kitchen. There is a cellar under the whole of the main house, with convenient access to the cellar stairs.

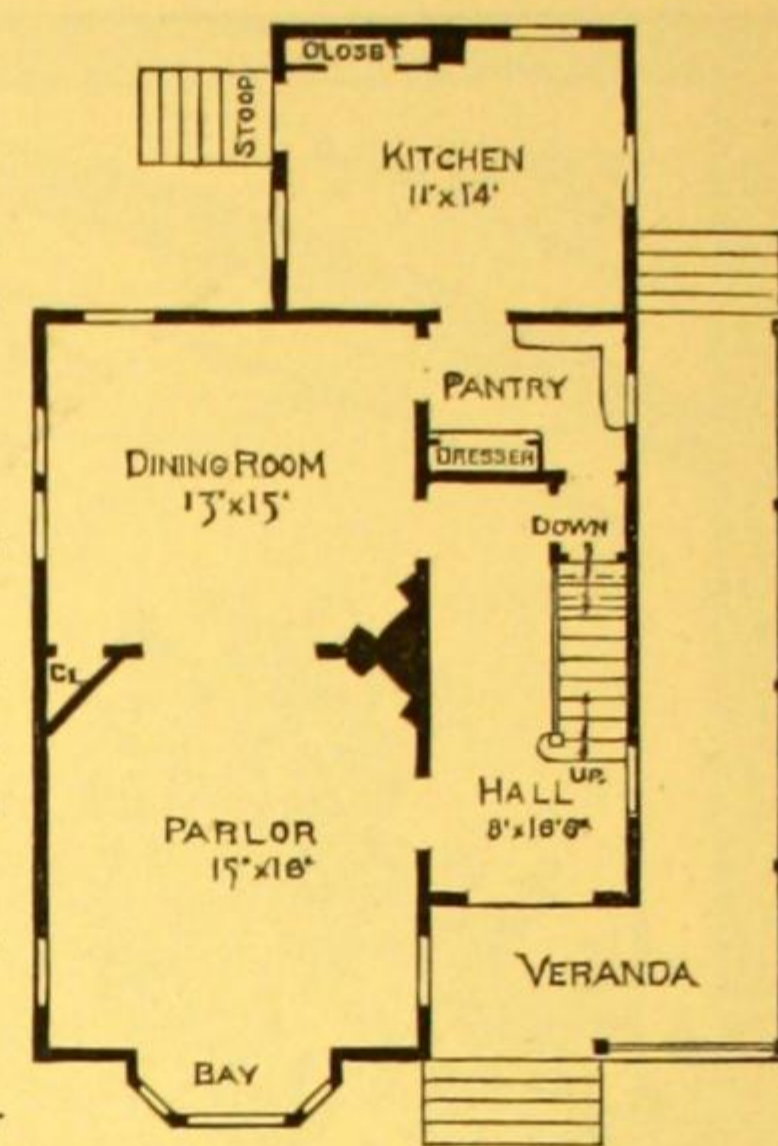
COST: \$1,975, complete.

Exceedingly comfortable as a residence, this house presents a finer appearance than many houses that cost two or three times as much.

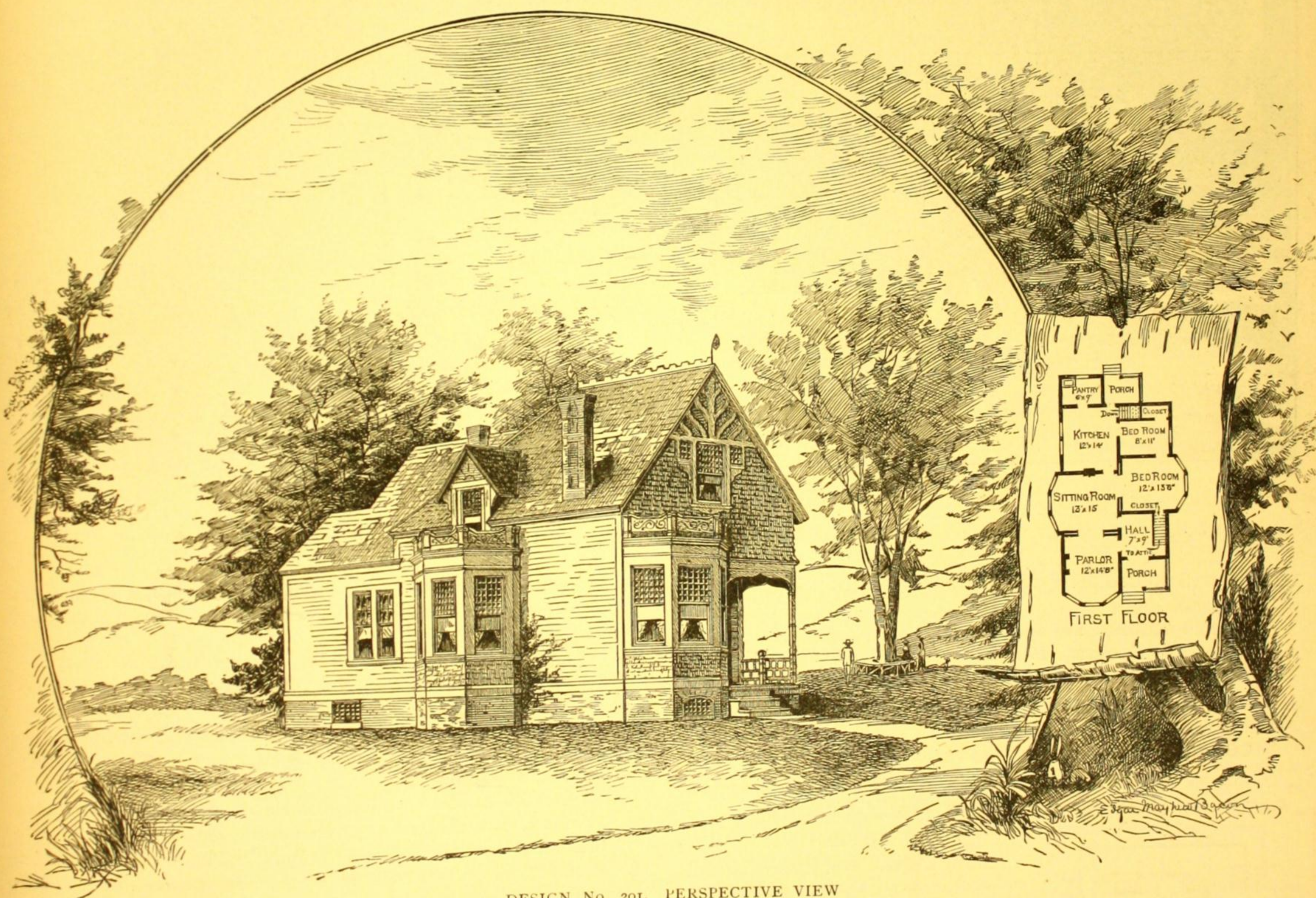
A bay-window is an exceedingly pleasant feature in a room, and it should be borne in mind that where there is plenty of space a bay-window or two can be added to almost any of our plans at small additional cost and without injury to the appearance. In fact, it is generally an improvement as to appearance.

In this plan (Number 200), for instance, a bay-window added to the dining-room would make the room pleasanter, materially increase its size, and its effect on the exterior would be beneficial.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 200



DESIGN No. 201. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 201

SIZE OF STRUCTURE: Front, 30 ft. Side, 50 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$2,250, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A cellar under the rear part.

If more veranda is wanted it can be carried around the side. A reduction in cost is effected by omitting the sliding doors and using curtains in place of them.

Three or four rooms can be obtained in the second story, if desired. Our estimate includes two only.

In a lumber district the cost is greatly reduced.

This design has three immense bay-windows.



DESIGN No. 202. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 202

SIZE OF STRUCTURE: Front, 32 ft. Side, 41 ft., 6 in., including piazzas.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Basement, 7 ft.; First Story, 8 ft., 9 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, wood; Second Story, wood; Roof, shingled.

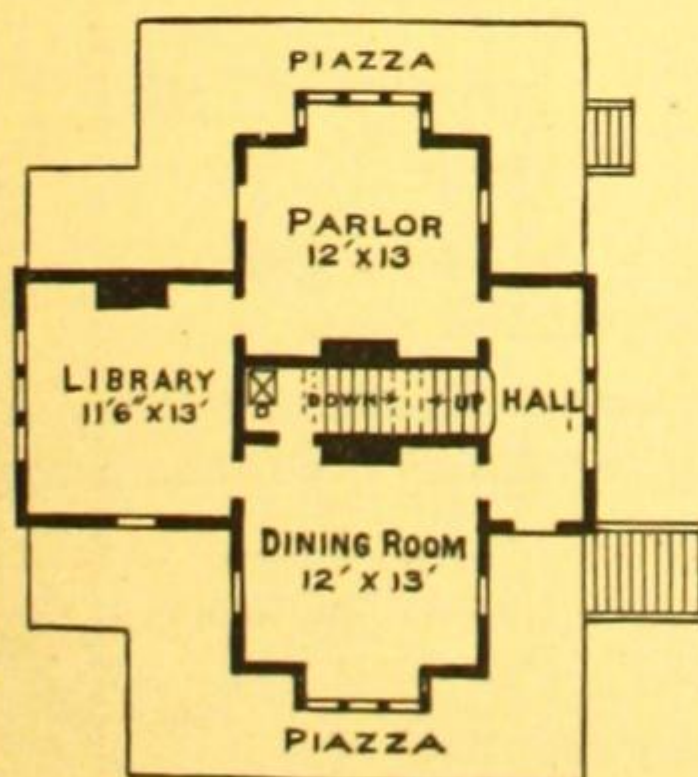
COST: \$2,850, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.



FIRST FLOOR. NO. 202

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—An excellent design in the Swiss style—a style that has many beauties and conveniences, and that is growing in popularity. There is the utmost economy of room—not an inch is wasted. Two large piazzas almost surround the first story, and four pretty hanging balconies, covered by the wide projecting eaves, adorn the second story.

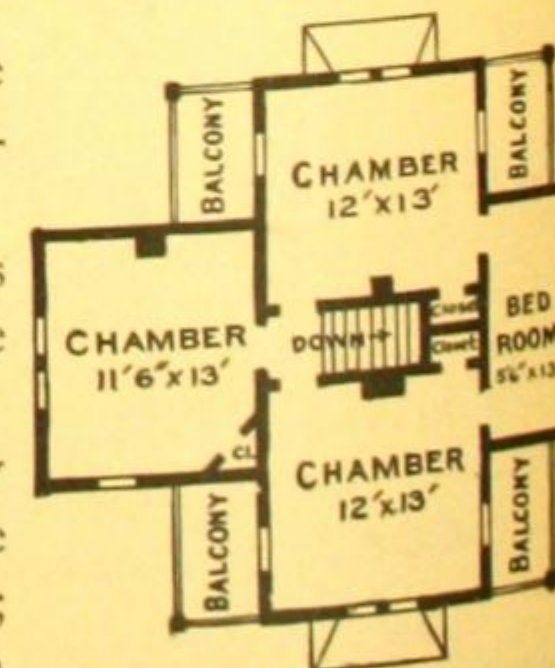
The small bed-room on the right makes a good children's room, as it connects with the two larger chambers.

This house was built on sloping ground, the kitchen and servant's bed-room in the basement, under the dining-room, with dumb waiter service between them.

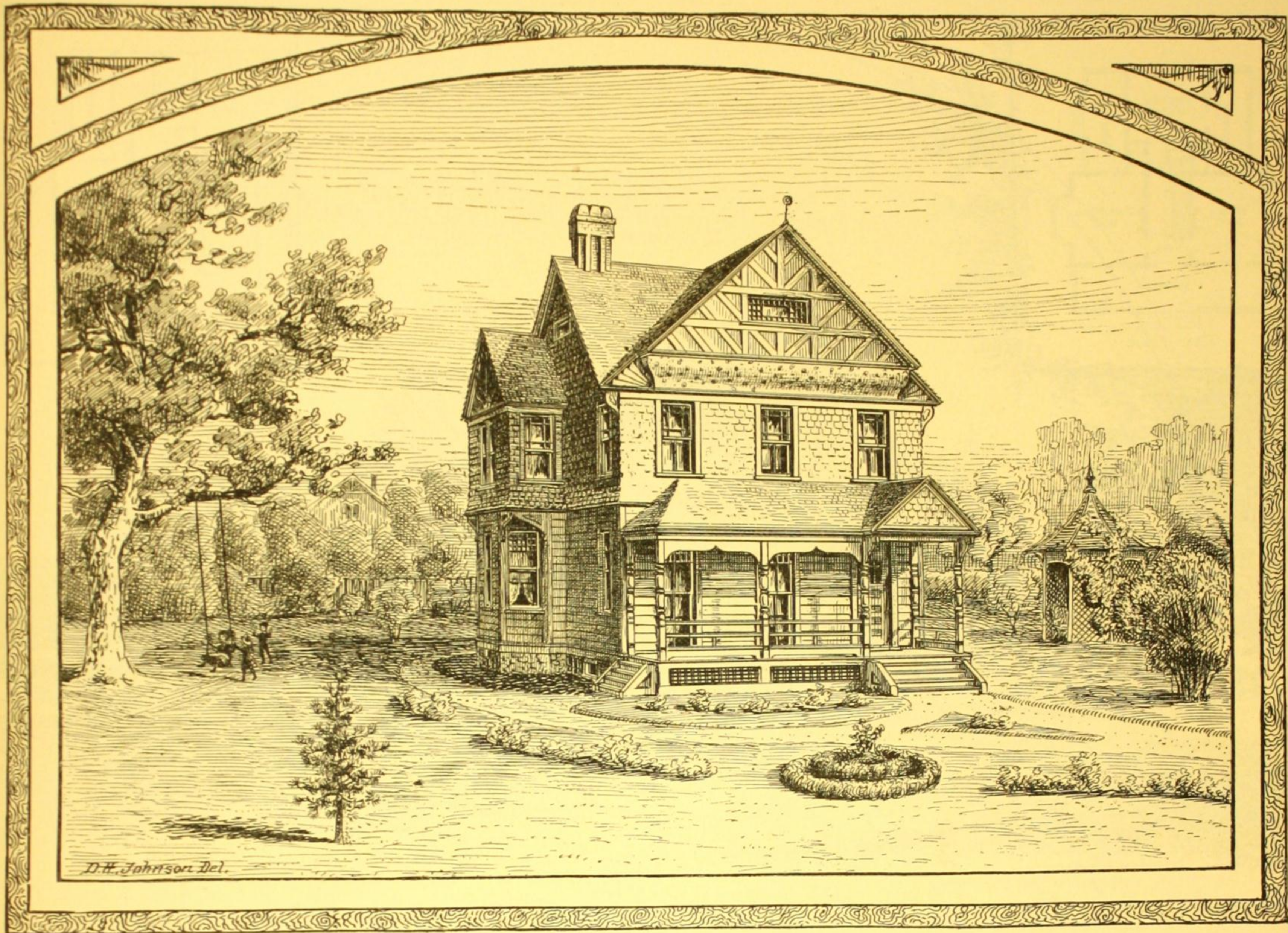
The apartment marked library can be made into a kitchen if preferred, or an extension built on to the library side.

It reduces cost amazingly to set this house on brick piers or posts and have little or no cellar.

The bold overhanging eaves, the shady balconies and the extensive piazzas make this a capital design for a summer cottage; roofing the piazzas completes it for such a purpose.



SECOND FLOOR. NO. 202



DESIGN No. 203. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 203

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 35 ft., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 3 in.; Third Story, open attic.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, paneled; Roof, shingled.

COST: \$1,800, all complete, except grates or heaters.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—A cellar under the whole house, with access to it from the kitchen. A stairway to the attic is provided, where two good rooms can be finished if desired.

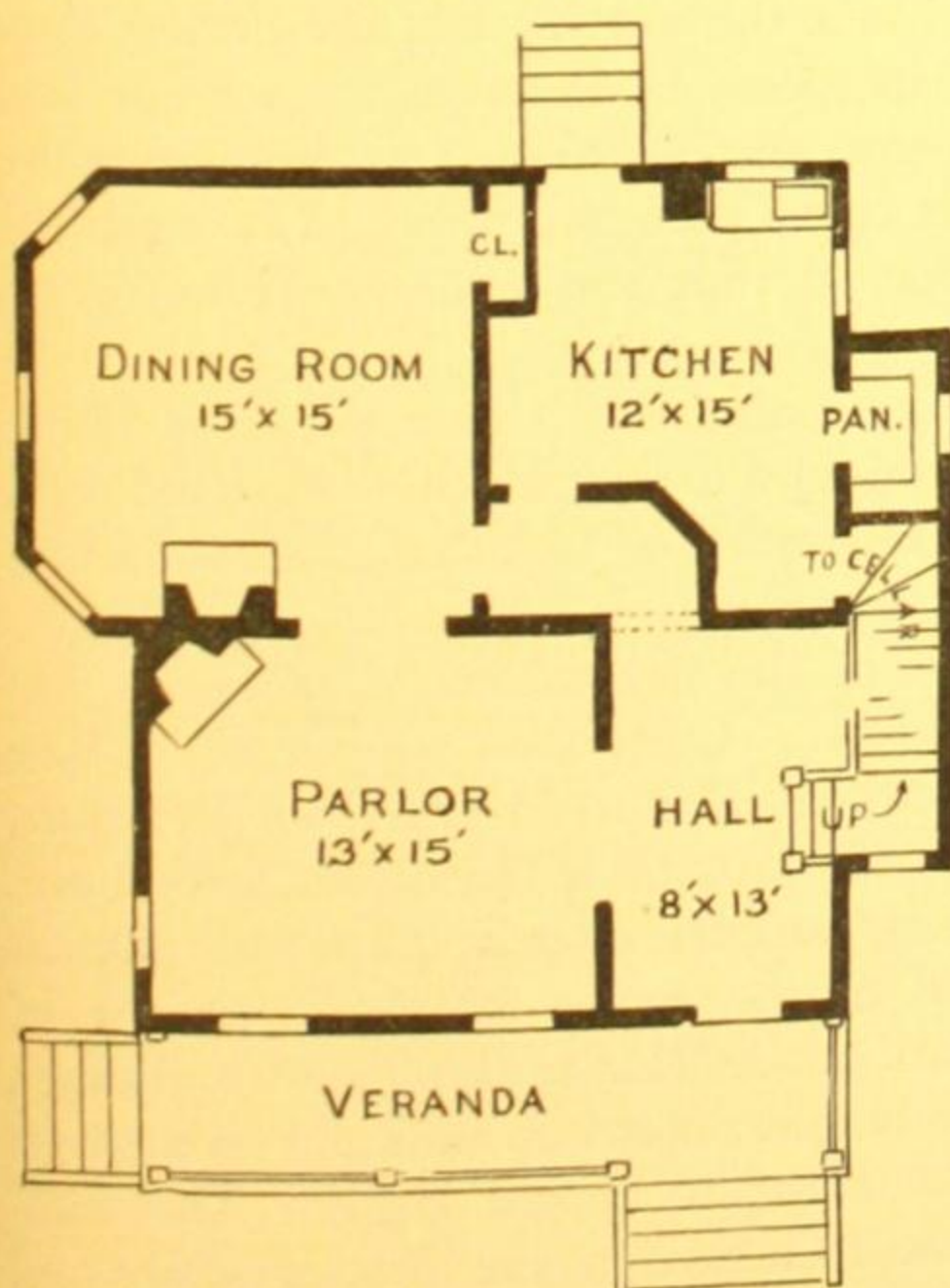
Wide openings between the hall, parlor and dining-room make these apartments very attractive and roomy. The central and corner windows of the dining-room give a beautiful bay-window effect to that apartment.

In the second story are four bed-rooms and a bath-room, each with a good closet.

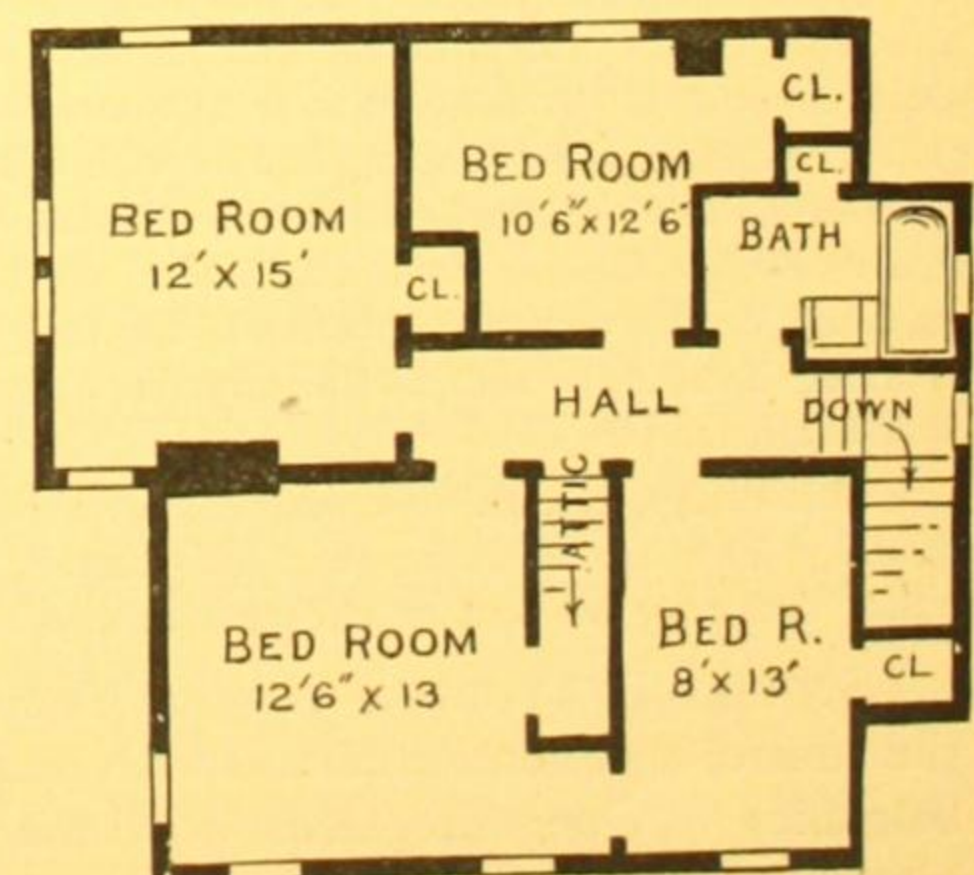
A good way to heat this house is by fireplace heaters in the parlor and dining-room, which would heat the two chambers above also. The hall and other bed-rooms, except in the coldest weather, would receive sufficient heat from the other rooms to be comfortable.

A furnace in the cellar would heat the house more perfectly, and we will indicate the proper position of the pipes and registers on the plans if it is desired to use one.

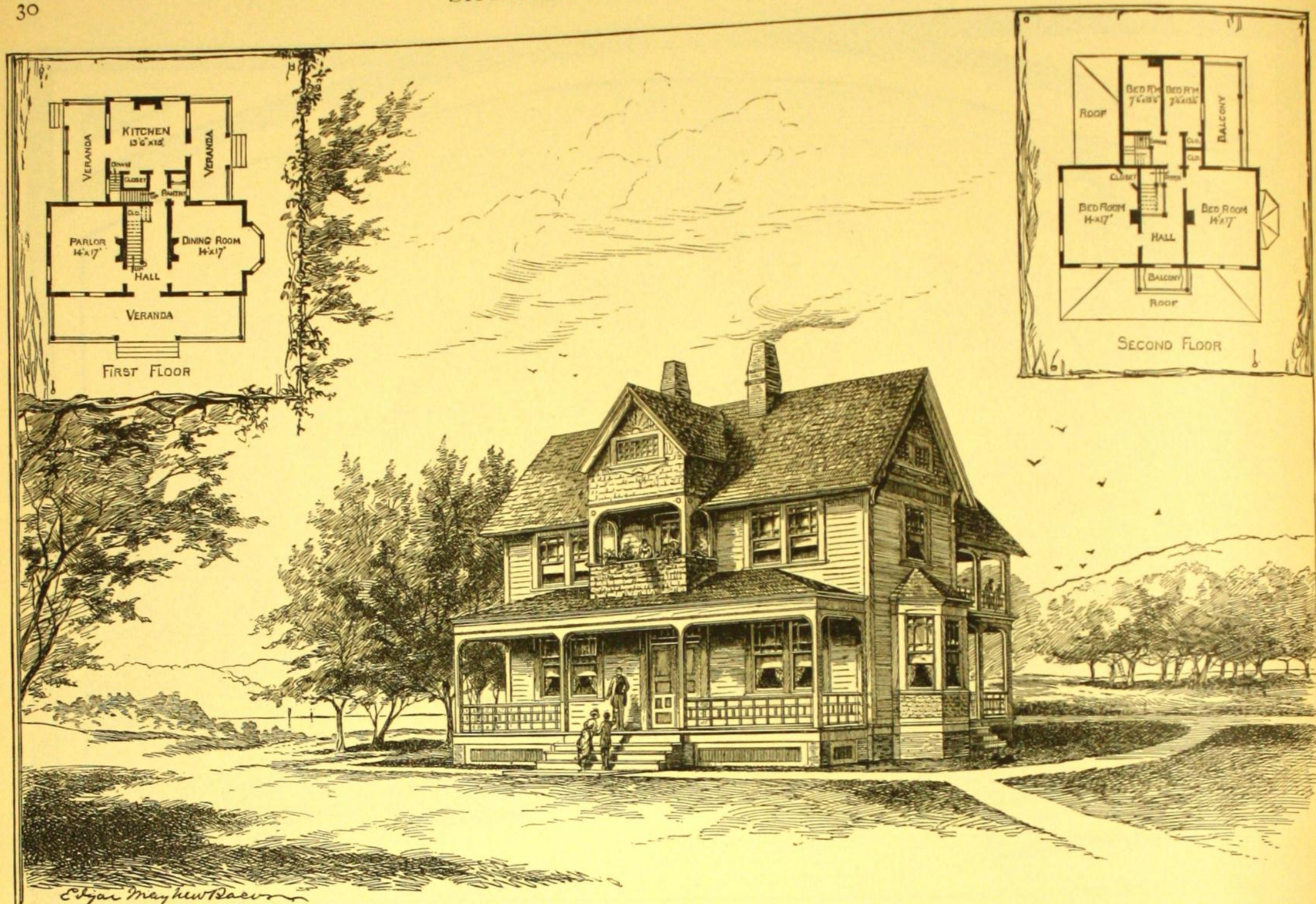
To enlarge the accommodations of this house, a one-story kitchen extension can be built in the rear, at small expense; then, by removing the closet and pantry and the partition forming the present small rear hall, a fine sitting-room or library is obtained, which should be connected with the dining-room by a wide opening or double doors.



FIRST FLOOR, NO. 203



SECOND FLOOR, NO. 203



DESIGN No. 204. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 204

SIZE OF STRUCTURE: Front, 38 ft. Side, 46 ft., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, open attic.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$3,000, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

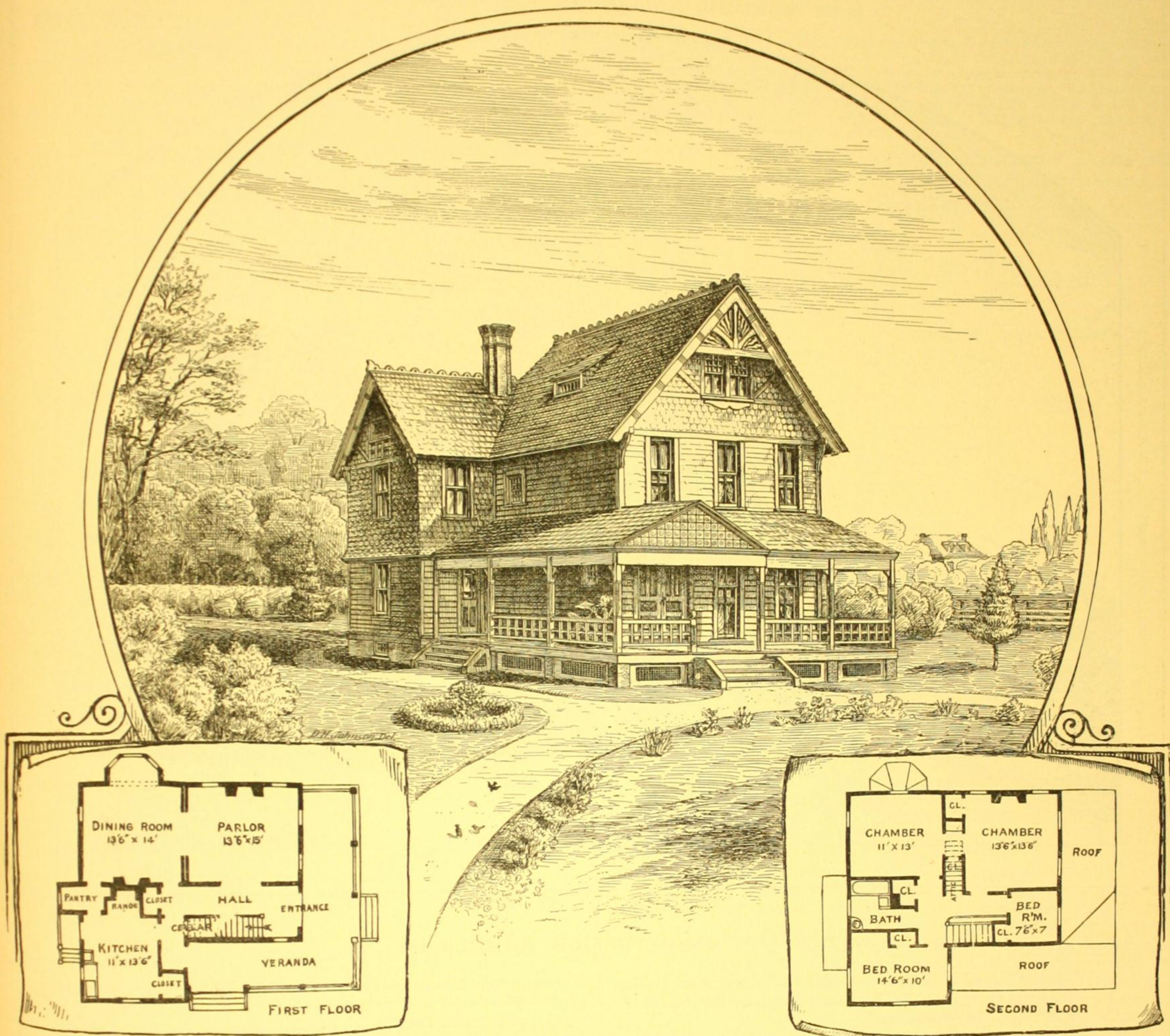
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A good Southern house. Hall through the centre, well ventilated and with plenty of verandas and covered balconies. Open fireplaces, wood mantels and a cellar under the kitchen.

One of the side verandas enclosed makes a good conservatory. To reduce cost use posts set in concrete, or brick piers for foundations. It is a great mistake to suppose that posts do not make good, firm and enduring foundations. They have stood the test of supporting some of the largest factories, filled with heavy machinery, for years. The only danger is in rotting at the ground surface. Wood that is wholly and continuously under ground or under water never rots. It is not the wetting but the drying that causes the decay. Setting the posts in concrete, as we specify, thoroughly protects them from any possibility of dampness or wetting and, therefore, makes them perfectly safe. The concrete hardens and becomes like stone, so that the building actually rests on stone piers.

In the South the kitchen is usually placed in a detached building, but there is no good reason why it may not be connected with the main house, if it is well separated by pantries, closets, storerooms, and a passage of some length.

The artistic use of colors in the decoration of buildings has become a subject of great interest. Cultivated people will endure no longer the "white house and green shutter style" for exteriors, and "graining" for interiors. It costs no more, or but little more, to decorate the house according to correct principles, and make it really pleasing and delightful to the eye. By the right use of colors architectural defects are made less striking; low buildings are given the appearance of height; narrow buildings are given breadth and small buildings are made to appear larger. The commonest houses are often made beautiful by the proper study and application of paints and stains.



DESIGN No. 205. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 205

SIZE OF STRUCTURE: Front, including veranda, 29 ft.; extreme width, including bay-window, 34 ft., 4 in.; Side, 39 ft., 9 in., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, open attic.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$2,500, complete, except grates and range.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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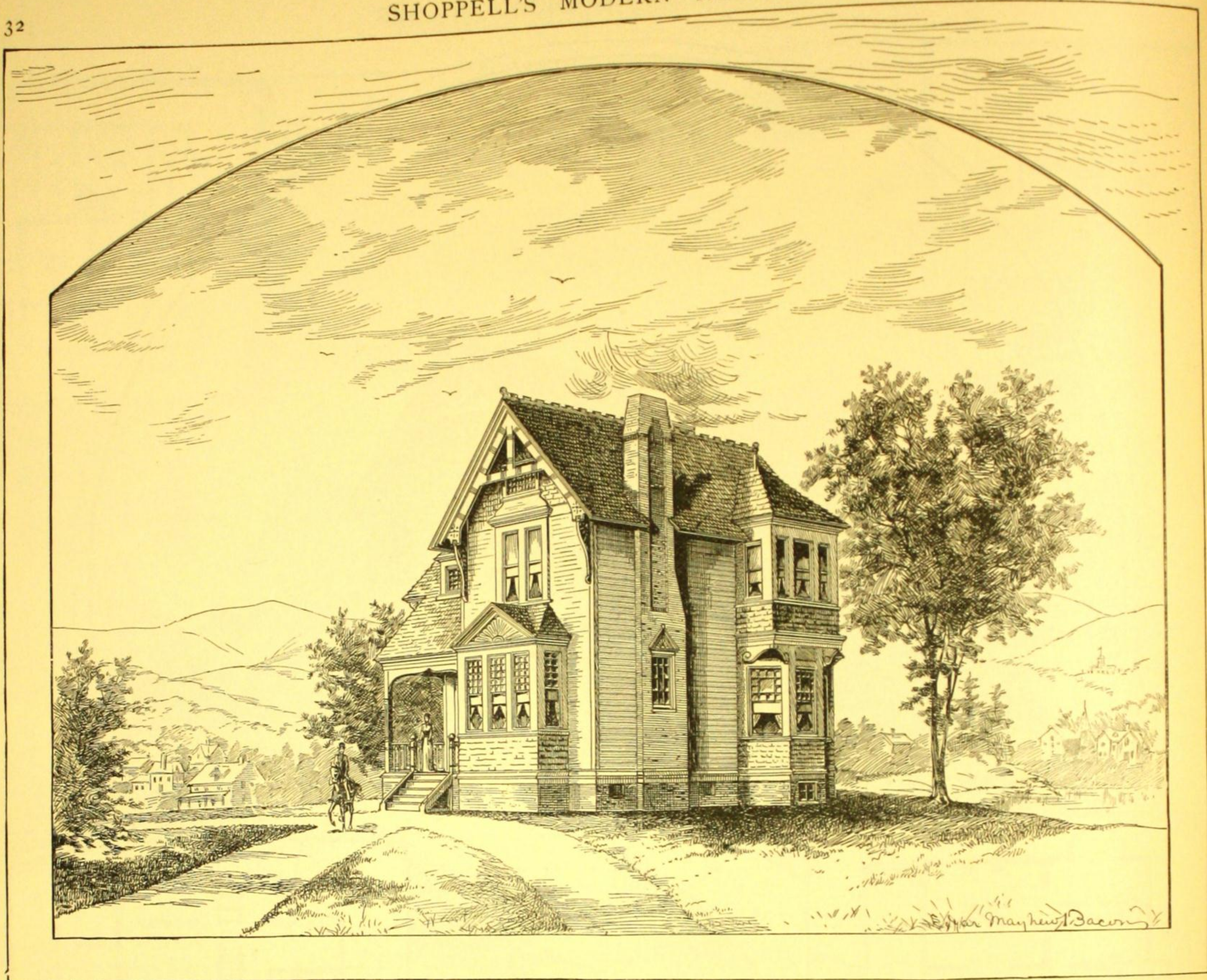
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing

beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications. This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A good cellar under the whole house.

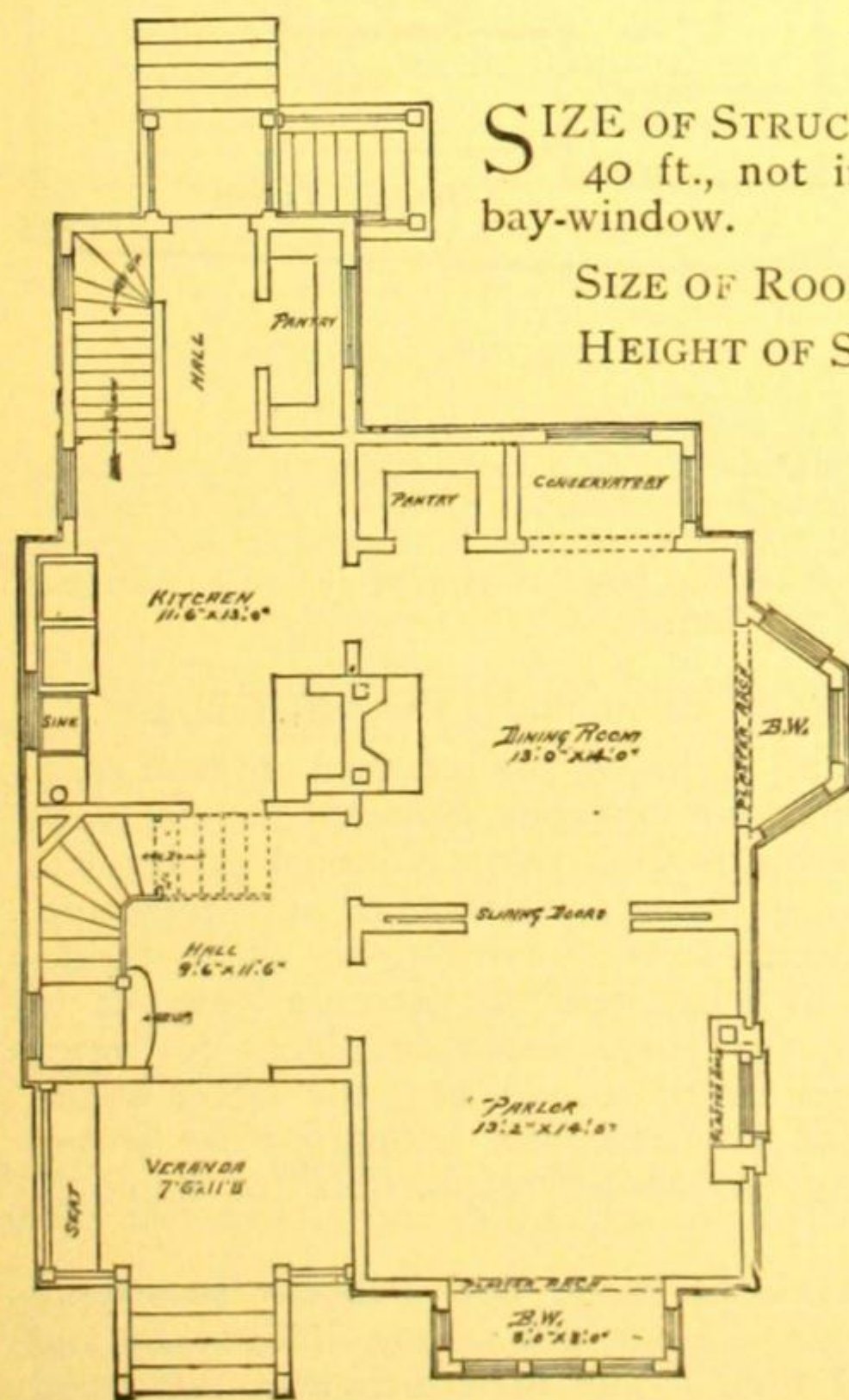
On the ground floor, to the right of the hall and entered separately from it, are parlor and dining-room connected with each other by sliding doors. Double folding doors connect parlor and hall. With these large openings a fine circulation of air is obtained. A back hall gives a side entrance from the veranda. The dining-room is materially enlarged by a bay-window, giving a view out to the street. This room and the parlor have fireplaces for open fires or where fireplace heaters can be set. Using the latter would heat the upper floor also. In any case the ordinary close stoves should be avoided, as they are, no doubt, responsible for much ill health.

The kitchen has a pantry, closet, range and a boiler to supply hot water through the house. Four bed-rooms, bath-room and good closets on the second floor. The attic provides two good rooms if required, and a stairway to the same is provided.



DESIGN No. 206. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 206



FIRST FLOOR, NO. 206

SIZE OF STRUCTURE: Front, 27 ft. Side, 40 ft., not including the projection of bay-window.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 4 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboarded; Second Story, clapboarded; Gables, shingled; Roof, shingled.

COST: \$2,900, all complete, except grates or fire-place heaters and range.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City,

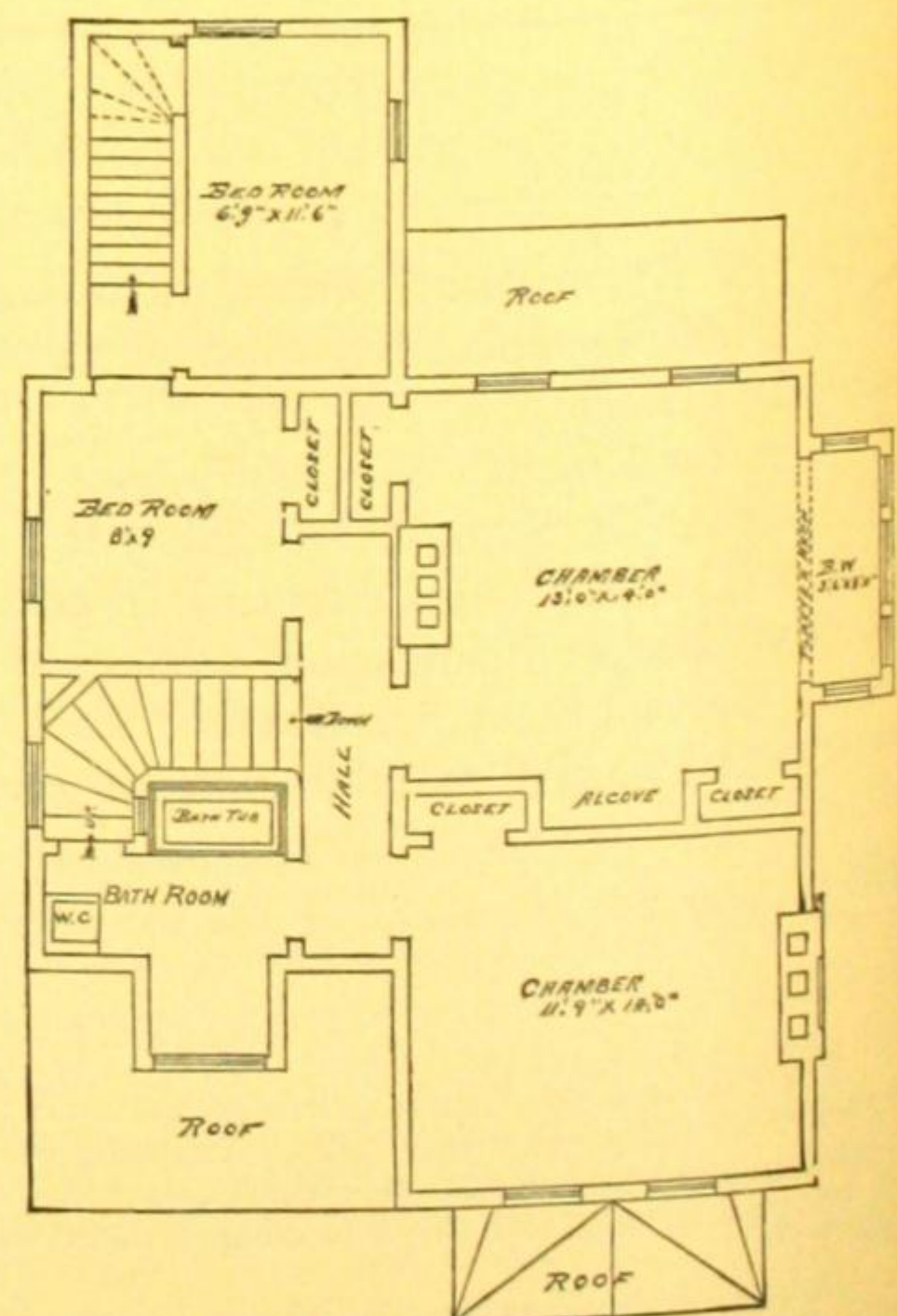
October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost.

A cellar under the kitchen and dining-room, and an outside and inside stairway to it. Stationary wash tubs. The attic is unfinished, but it has space for two small rooms, and a stairway to it is provided.

There is an abundance of closets, the bay-windows are large, the conservatory can be used as an alcove to the dining-room, or as a reading recess, if preferred.

Hardwood mantels, newel and balusters of ash, trim of soft wood, either painted or stained.

A novel feature that is very attractive in execution (it has been built a number of times), is the outside chimney pierced by a small stained glass window over the mantel.



SECOND FLOOR, NO. 206

DESCRIPTION OF DESIGN NUMBER 207

SIZE OF STRUCTURE: Front, 27 ft. Side, 43 ft., 2 in., not including bay-windows.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft. 6 in.; First Story, 10 ft., 6 in.; Second Story, 9 ft.; Third Story, open attic.

MATERIALS: Foundation, brick and stone; First Story, clapboarded; Second Story, clapboarded; Roof, shingled.

COST: \$2,800, complete, except heaters or range.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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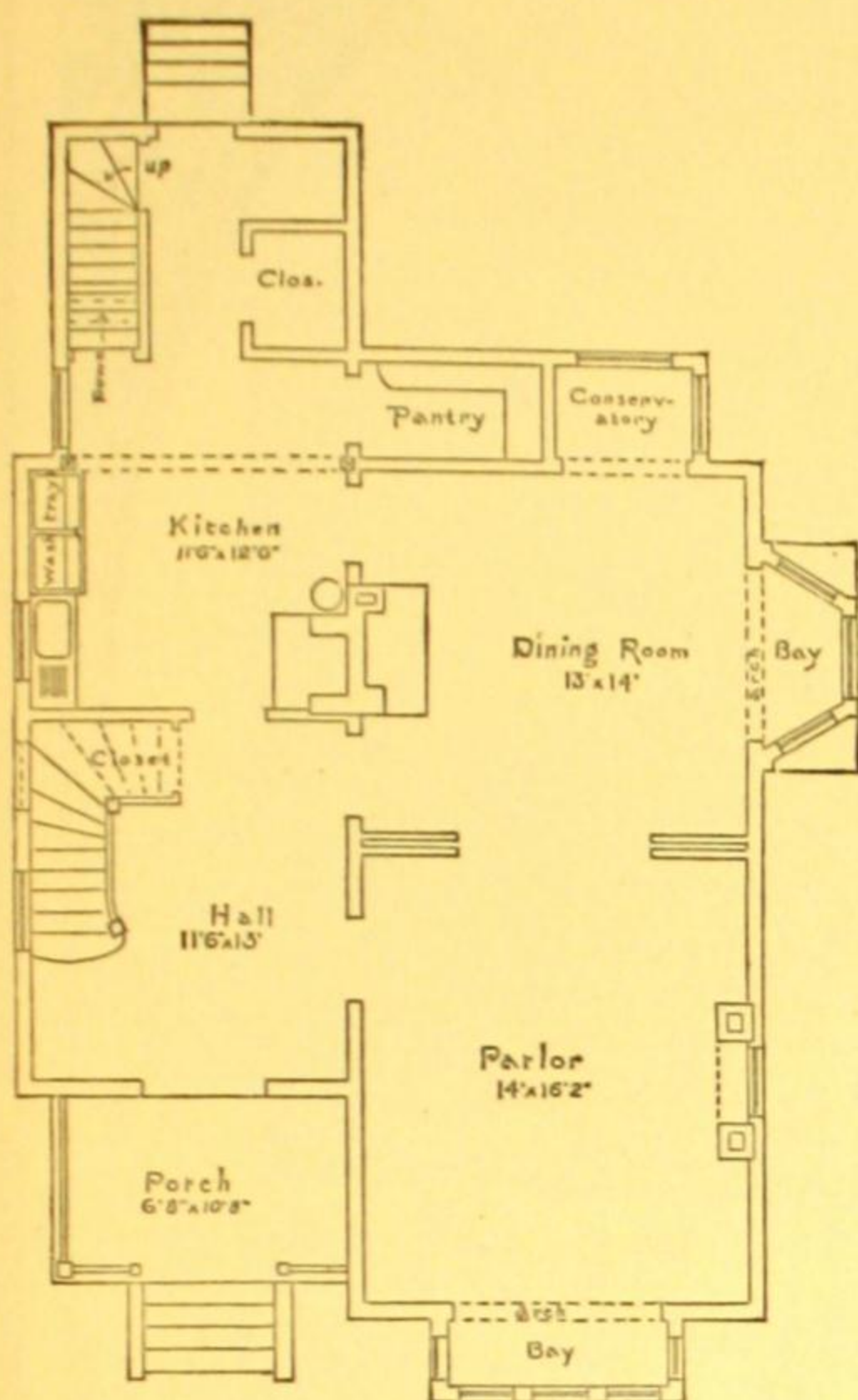
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior appearance is very much the same as Number 206. This house is three feet deeper, but the plumbing is less expensive, which with some other minor economies of construction, described in the specifications, reduce the cost below that of the preceding design

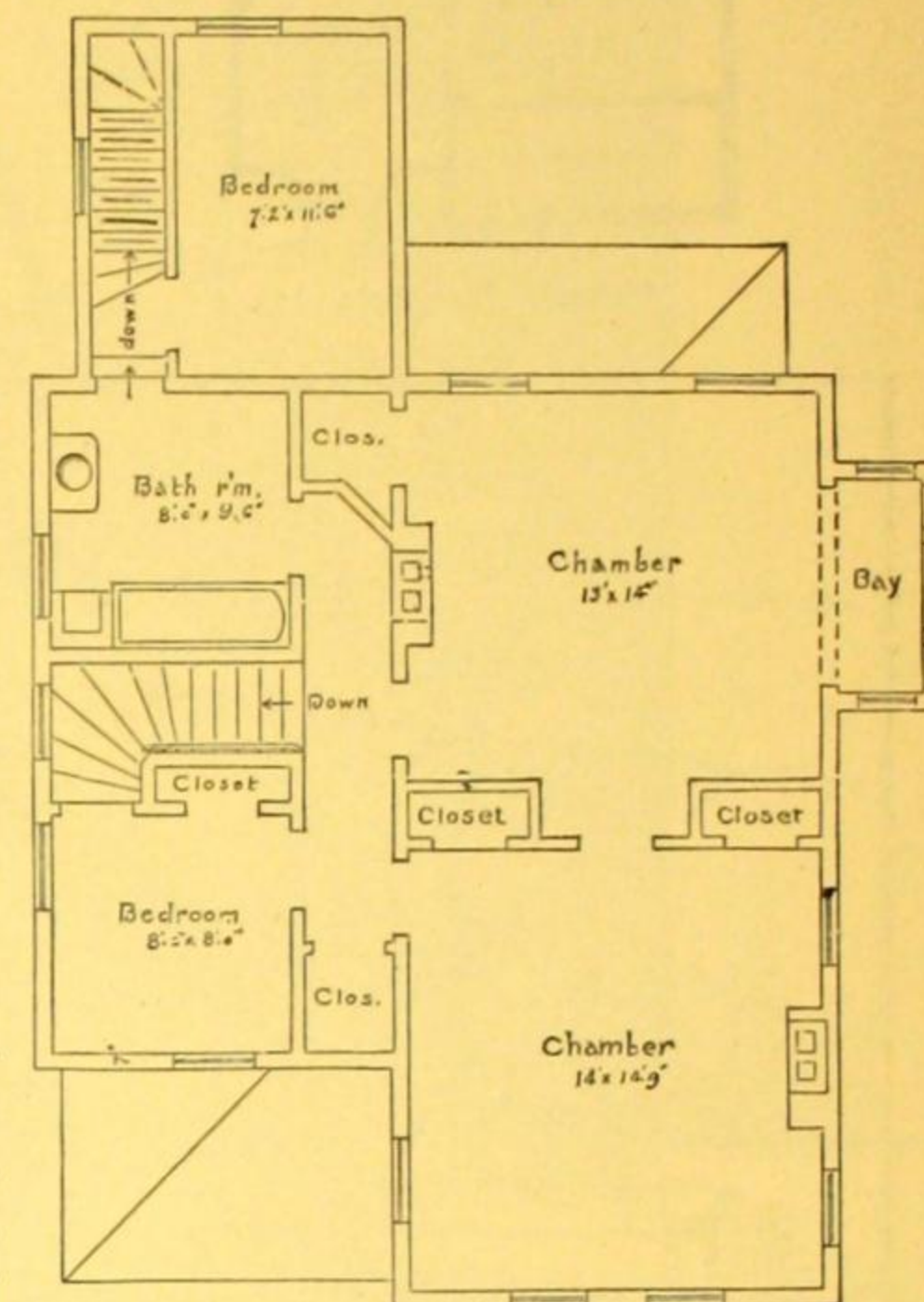
Cellar under the whole house.

The bath-room, instead of being in the front of house, as in Number 206, is over the kitchen, is large and well lighted, and has every convenience.

The closets are plentiful and large. The servants' bed-room over the kitchen is reached by the back stairway, and can be shut off from the rest of the house.



FIRST FLOOR. NO. 207



SECOND FLOOR. NO. 207

DESCRIPTION OF DESIGN NUMBER 208

SIZE OF STRUCTURE: Front, 38 ft., 8 in. Side, 39 ft., 9 in., not including bay-windows.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 4 in.; Second Story, 8 ft., 6 in.; Third Story, open attic.

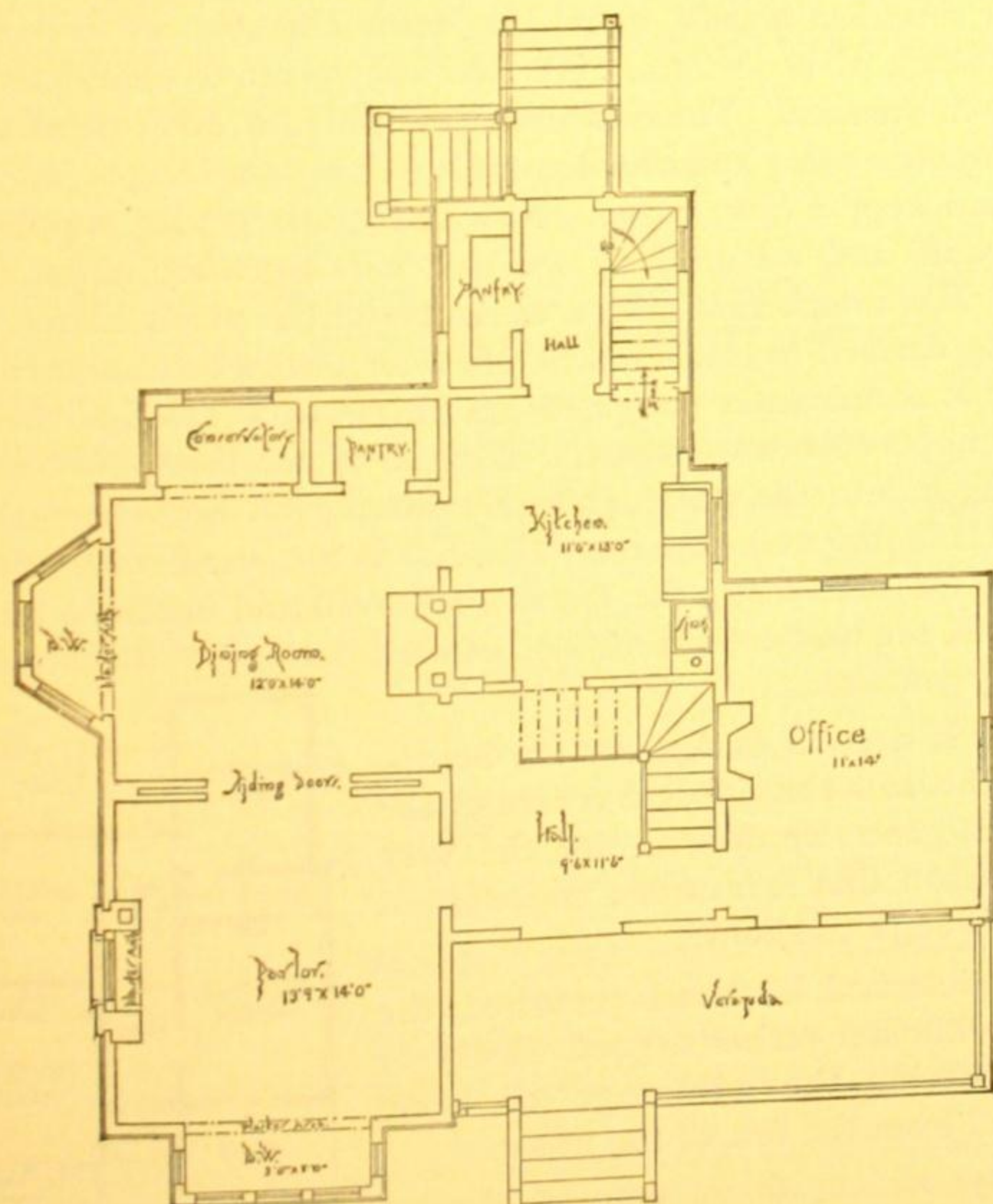
MATERIALS: Foundation, brick and stone; First Story, clapboarded; Second Story, clapboarded; Gables, shingled; Roof, shingled.

COST: \$3,400, all complete, except grates or fireplace heaters or range.

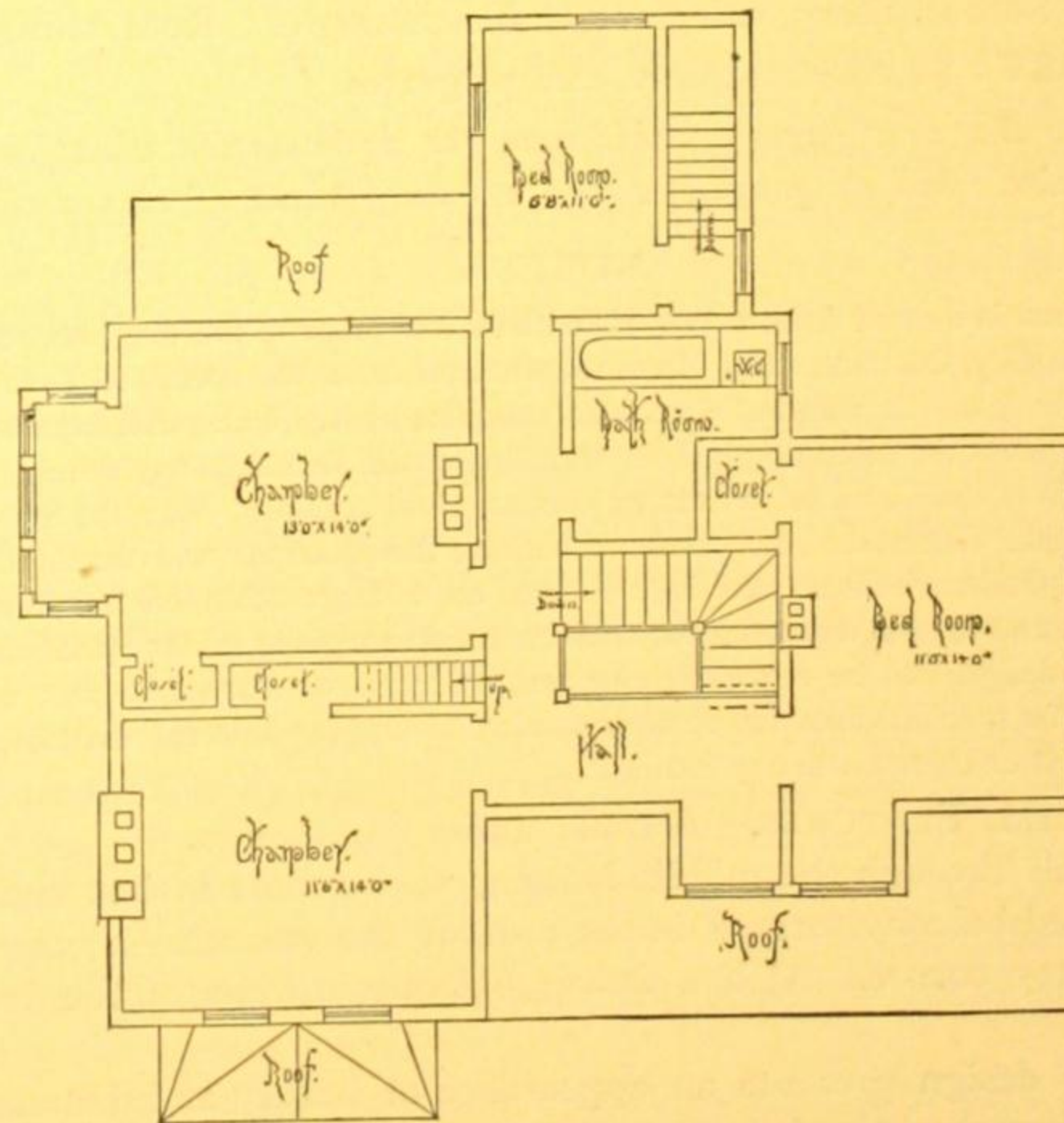
[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—These plans and the exterior are similar to Number 206; they are reversed, and a wing is added to adapt them for use by a Doctor of Medicine or other professional gentleman. Or the wing makes a capital billiard and smoking-room, a well-lighted studio for a painter, a secluded study for a minister, but best of all, a restful sitting-room for the lady of the house herself.

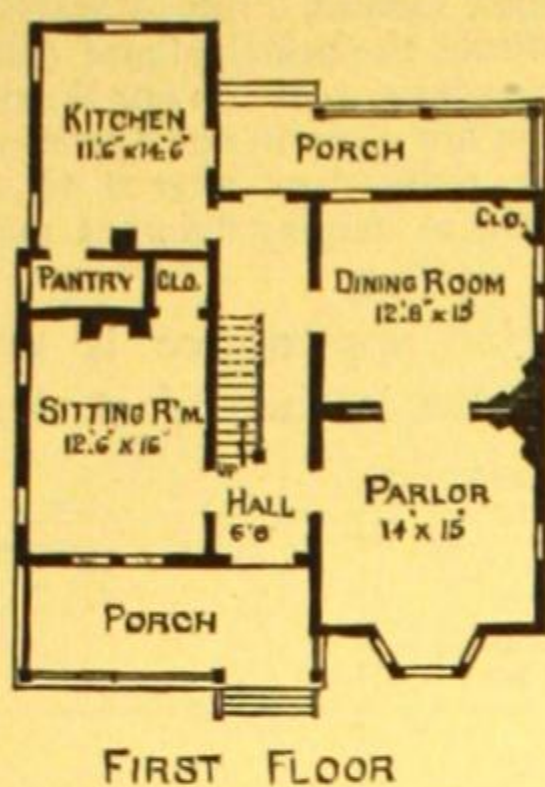
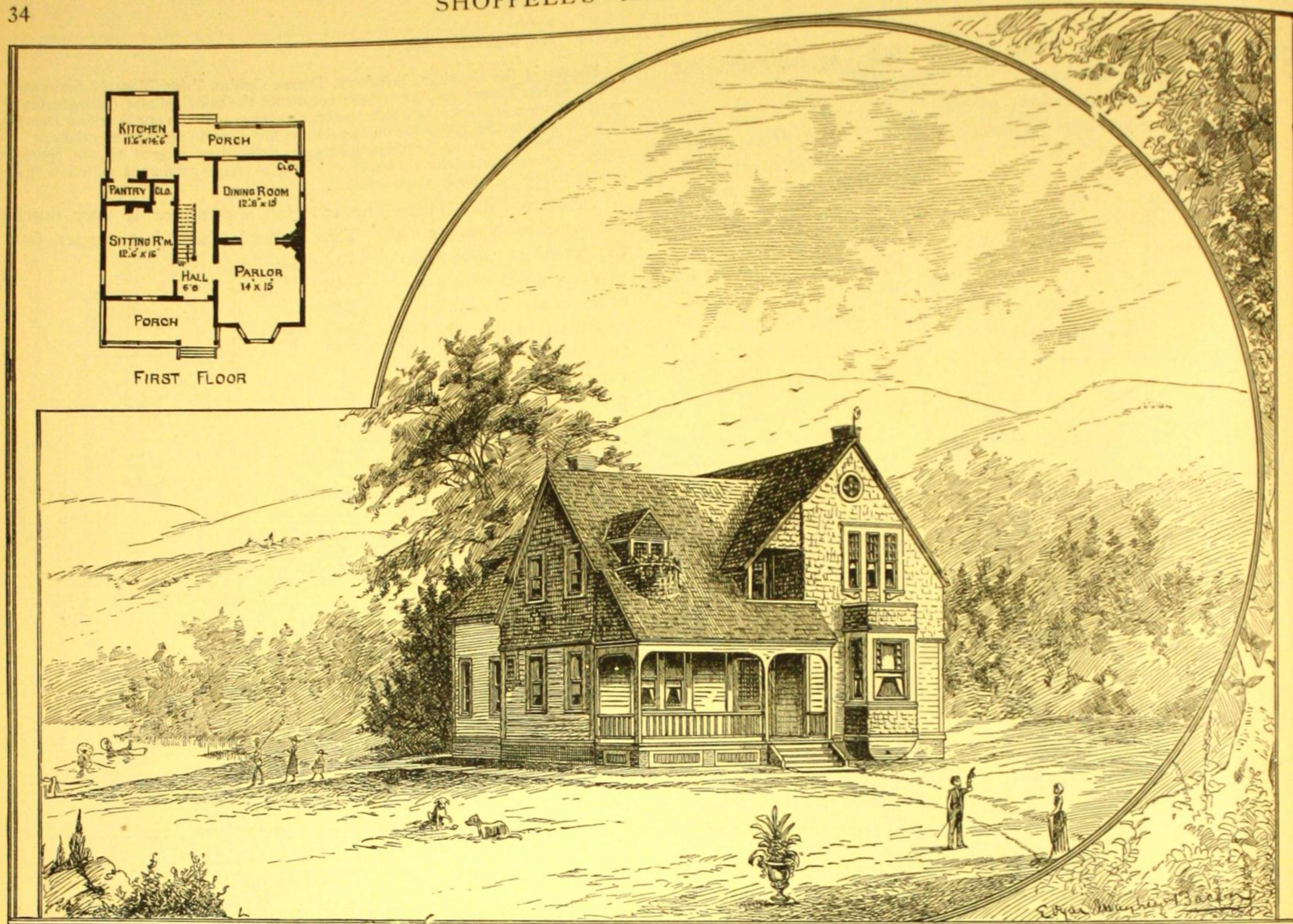
By locking the kitchen door and the door leading to the rear bed-room, on the second floor (servants' room), the domestics can be excluded from the rest of the house—a feature that some people like.



FIRST FLOOR. NO. 208



SECOND FLOOR. NO. 208



FIRST FLOOR

DESIGN No. 209. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 209

SIZE OF STRUCTURE: Front, 35 ft., 6 in. Side, 44 ft., 6 in., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft., 3 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,200, complete, except grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A cellar under the kitchen.

A hall through the middle insuring cool rooms in hot weather. A covered balcony formed in the roof of the veranda—a very cosy and pretty corner. Also a flower balcony in front of the dormer window.

This design presents an appearance of beauty and domesticity that is characteristic of the Colonial style—the only style of domestic

architecture in this country that we have any reasons to be proud of.

For suburban houses, in mild or warm climates, we recommend small cellars or no cellars. We find the result is eminently satisfactory in practice. The conditions of life now differ greatly from the time when every householder cultivated a "garden patch," raised fruit, and kept a cow or two. Now the green grocer supplies our daily wants, and we need an ice box or refrigerator rather than a cellar. More important still, a cellar under the whole house, if imperfectly drained or cemented, is often an unsuspected source of ill health; it accumulates dampness and miasmas, which find their way to the upper floors. Servants dispose of all sorts of trash by throwing it into the cellar, and very sharp-eyed housekeepers may not see it in the dark corners. If cellar is not used, with effective draining (if necessary), the top soil removed and replaced by sand or gravel, the best conditions are secured for under the houses, in ordinary practice.

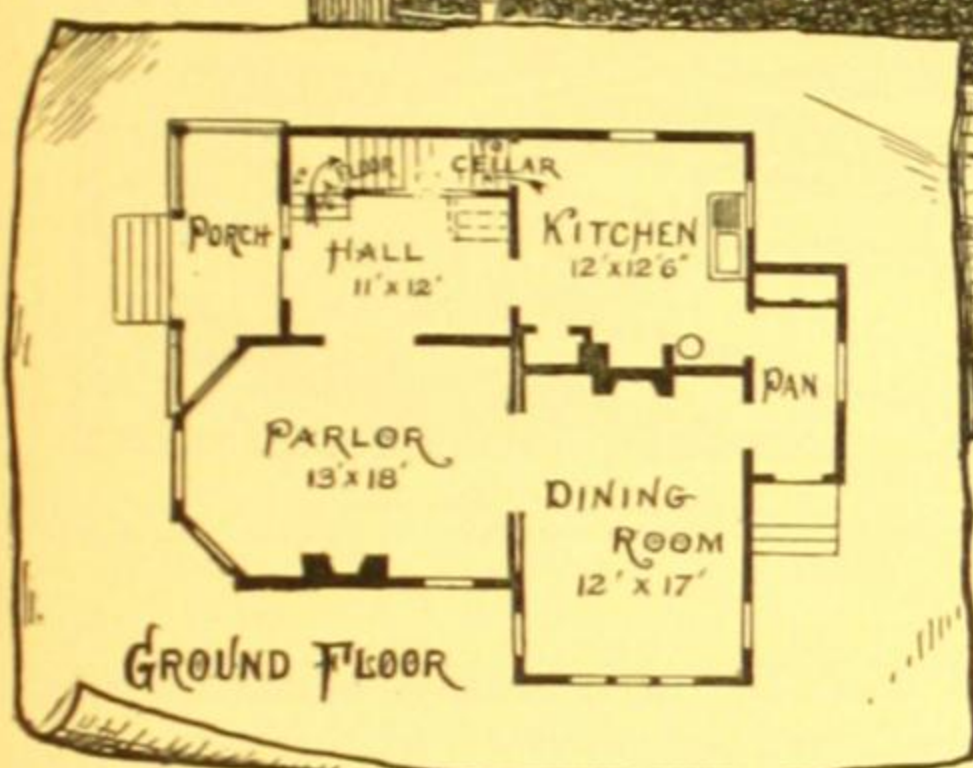
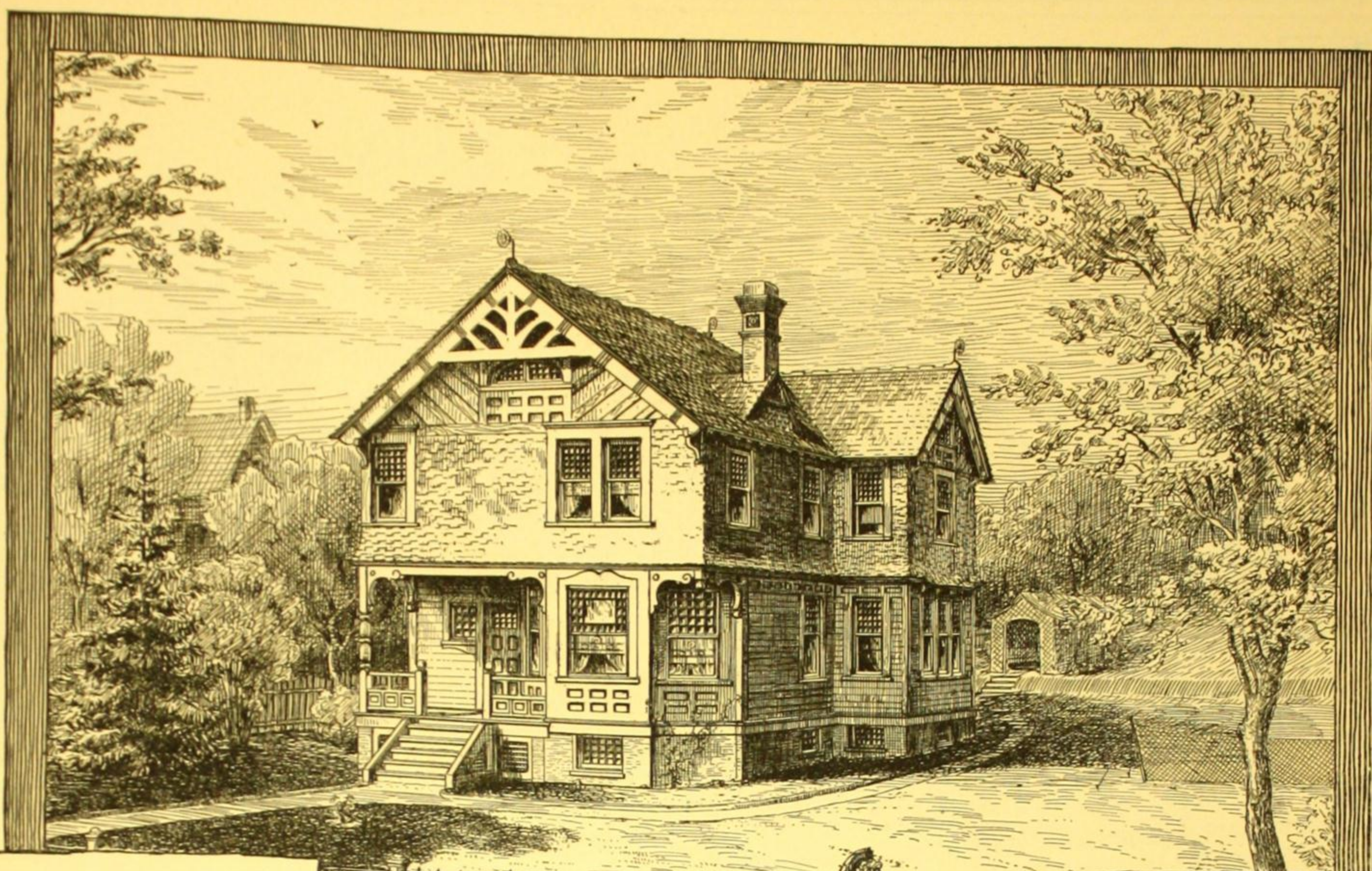
This is a good design for the South, where the hall through the centre of the house is generally desired, for the very good reason that it insures a cool current of air through the house.

If a detached kitchen is preferred, the present kitchen makes a good library or study, having the advantage of being secluded from the rest of the house.

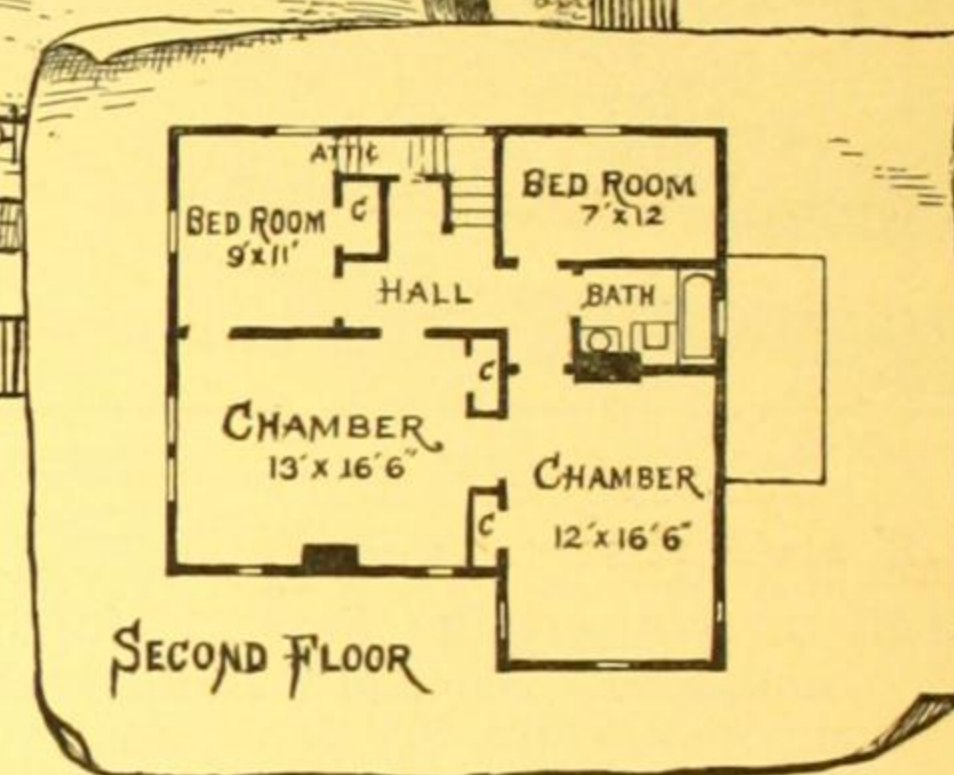
Large sliding doors connect dining-room and parlor.



SECOND FLOOR. NO. 209



DESIGN No. 210. PERSPECTIVE VIEW



DESCRIPTION OF DESIGN NUMBER 210

SIZE OF STRUCTURE: Front, 25 ft., 8 in.; width through dining-room and kitchen, 31 ft.; Side, 32 ft.; Extreme depth, 37 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Third Story, open attic.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, timbered; Roof, shingled.

COST: \$2,800, all complete, except grates or heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—There is a cellar extending under the whole house.

Large sliding doors connect dining-room and parlor.

The omission of the bath-room and the accompanying plumbing would reduce cost \$150.

The water pipes to the bath-room ascend alongside the chimney, so there can be no freezing and bursting of pipes. This arrangement is carried out in all of our plans wherever practicable.

This house can be heated by either furnace, grates or stoves.

The large bay, with three broad windows, extending clear across the front of the parlor is a beautiful feature.

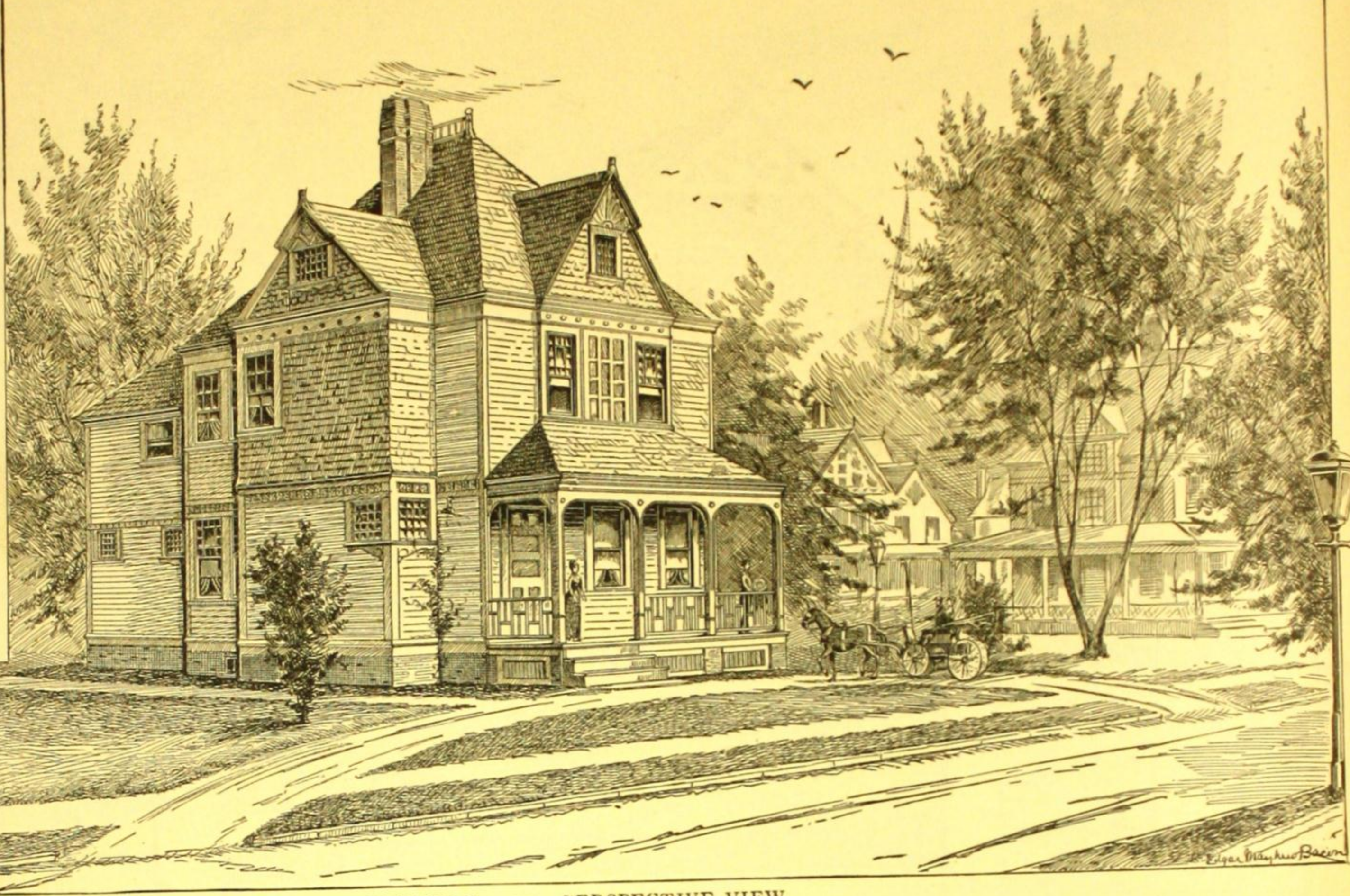
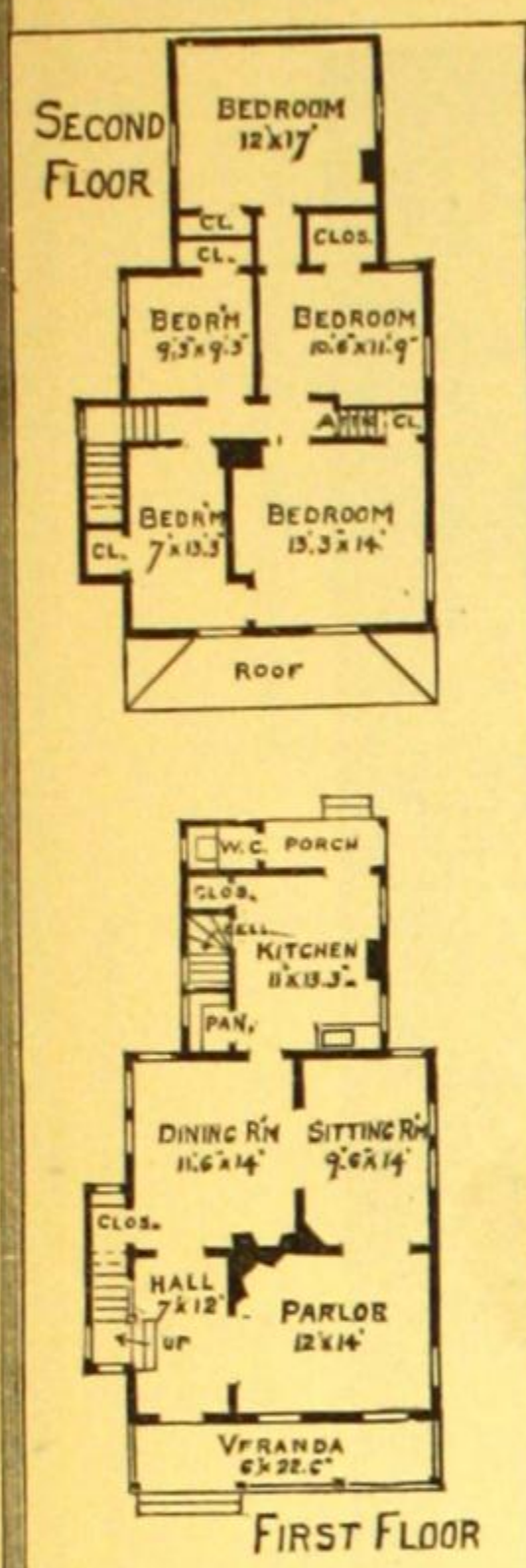
The principal rooms are large, well lighted and connected. Altogether this is a notably handsome and convenient house.

There is plenty of room in the attic for two low bed-rooms or for storage, and a stairway is provided for access to it.

Shingles, as a covering for exterior walls of frame houses, have come into general favor and use within a few years. Besides forming a good and lasting covering they have great value artistically, giving relief to the monotonous plainness of the lap siding so generally used. Cut to many different shapes and laid in a variety of ways, they are capable of producing many beautiful effects.

In color also they afford a ground for artistic treatment, and may be stained, painted, oiled, or left untreated to take on the beautiful gray and silver tints that nature bestows in time by the action of the elements.

Shingles will continue in use, no doubt, because of their beauty, durability, economy and value in producing artistic effect.



DESIGN No. 211. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 211

SIZE OF STRUCTURE: Front, 22 ft., 6 in.; with staircase extension, 26 ft. Side, 44 ft., 6 in.; with veranda, 50 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 10 in.; Third Story, 7 ft., 6 in.

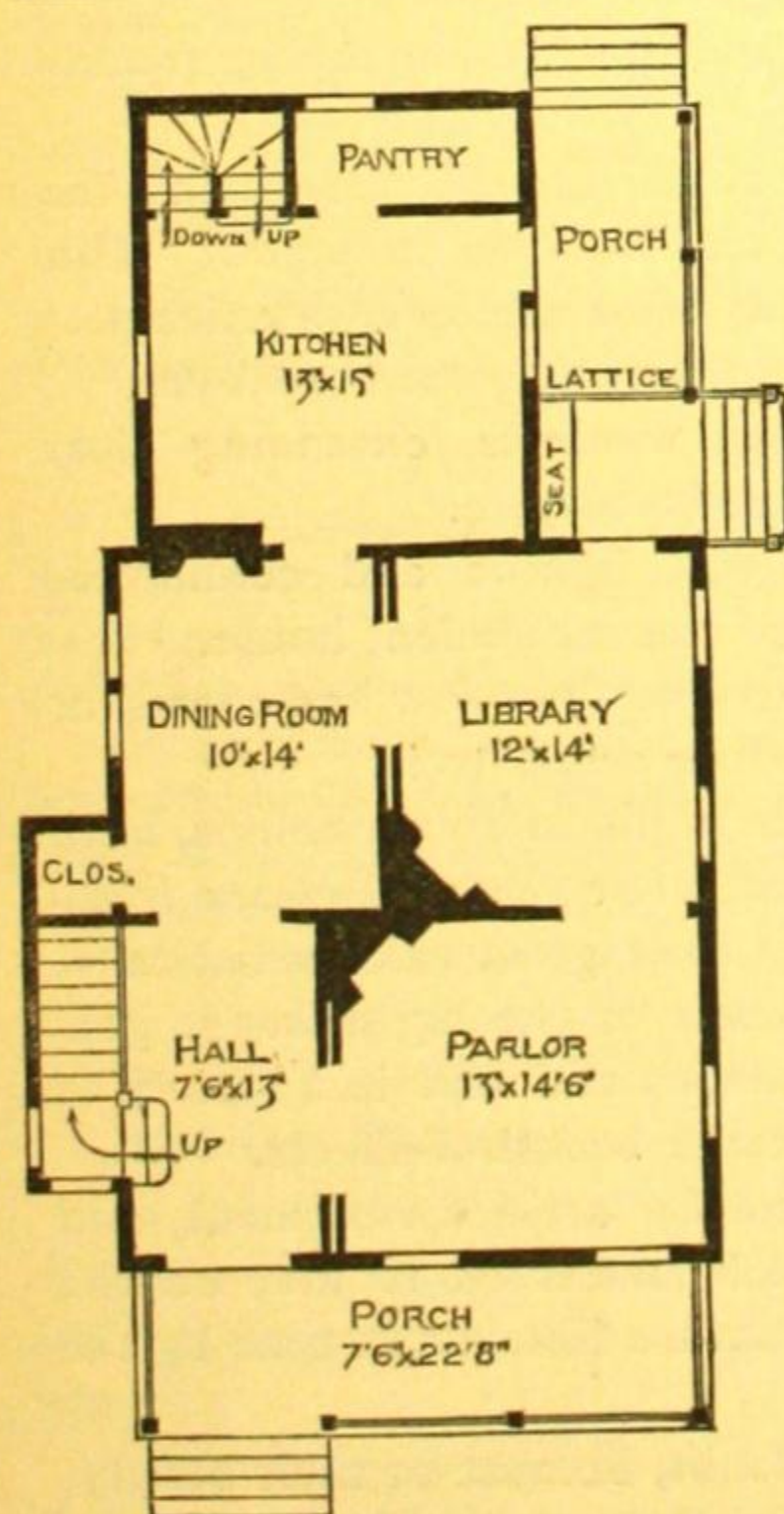
MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$2,600, complete, except heater and grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Cellar under half of the house, with stairway from the kitchen. Two bed-rooms in the attic.

These plans present still another modification of that universally popular design Number 192. The exterior also is much the same, the principal change consisting in carrying up the stairway projection and in hipping the roof.



FIRST FLOOR. NO. 212

DESCRIPTION OF DESIGN NUMBER 212

SIZE OF STRUCTURE: Front, 23 ft., 8 in.; with stairway 27 ft., 2 in. Side, 46 ft., 2 in.

SIZE OF ROOMS: see floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft., 2 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards; Gables, half timbers; Roof, shingles.

COST: \$3,700, complete, except heater and grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

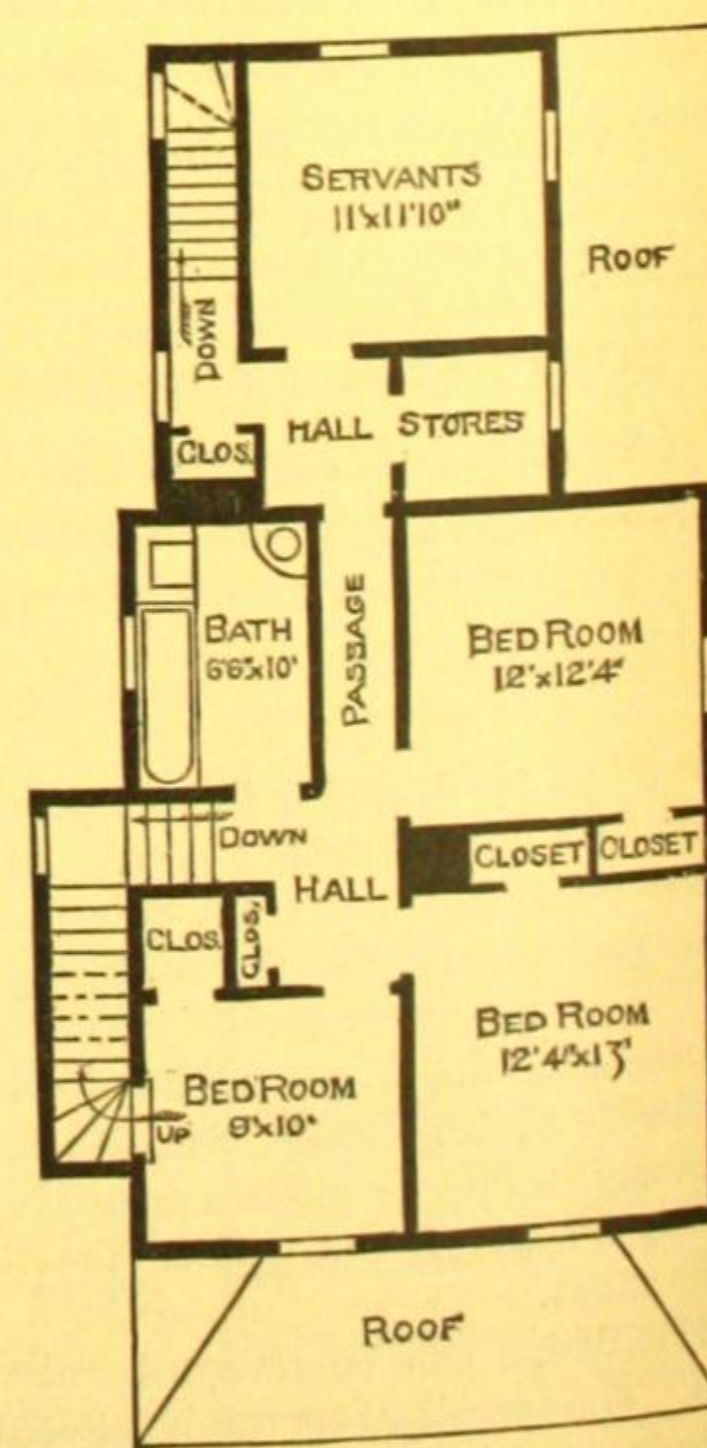
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

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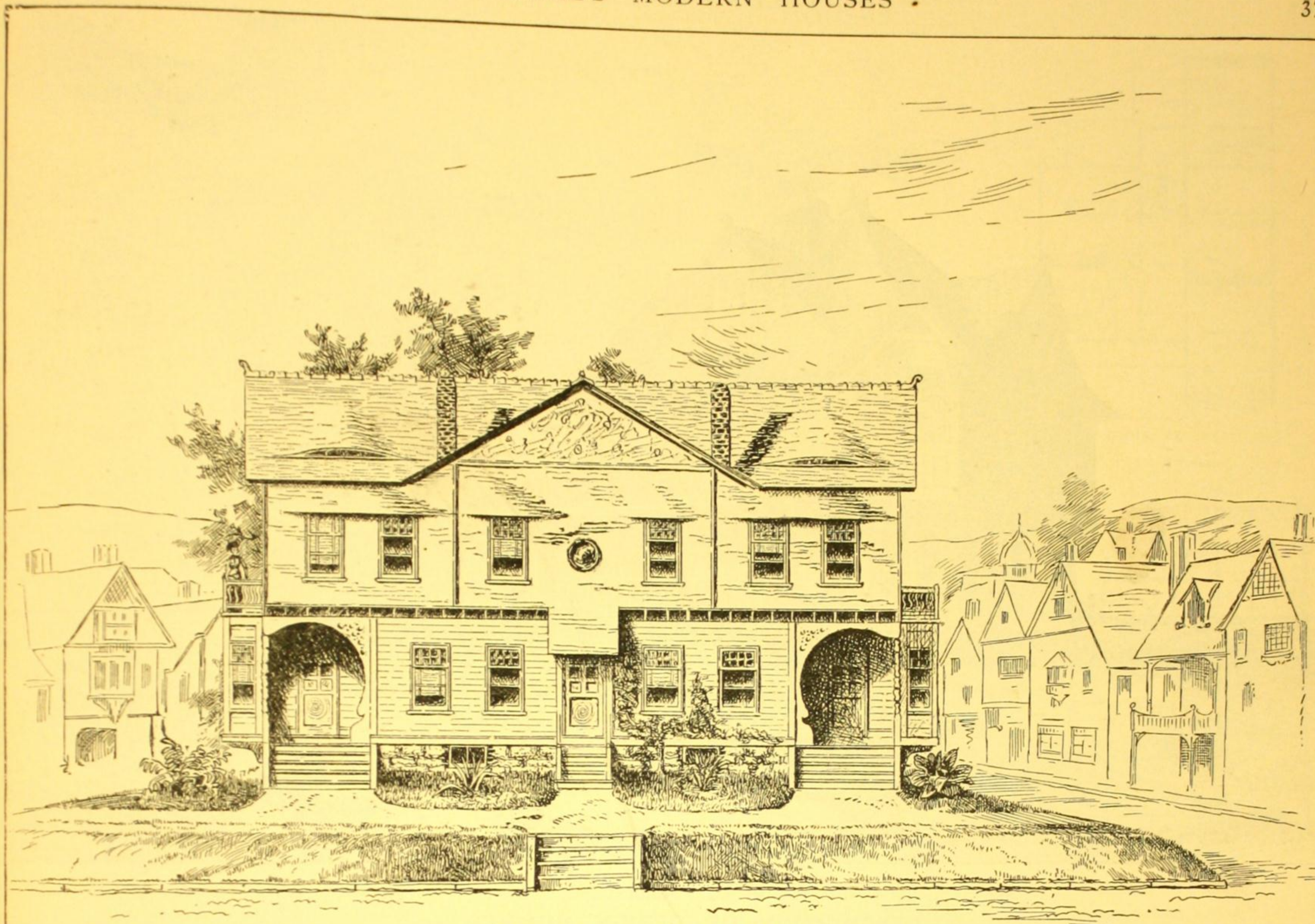
SPECIAL FEATURES.—The outside appearance is very much the same as shown by the perspective above. The floors are enlarged and contain bath-room, back stairs, back porch and an extra fireplace.

Cellar under the whole house. Cellar under part of the house only would reduce cost materially.

Two large bed-rooms and open garret in the attic. The bath-room pipes are carried up alongside the kitchen chimney, thus making sure that Jack Frost will not tamper with them. They are incased and can be examined at any time.



SECOND FLOOR. NO. 212



DESIGN No. 213. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 213

SIZE OF STRUCTURE: Front, 45 ft., 3 in. Side, 38 ft., 3 in.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft. 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles on front; Gables, cement (or shingle); Roof, shingles and tin.

COST: \$3,475, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

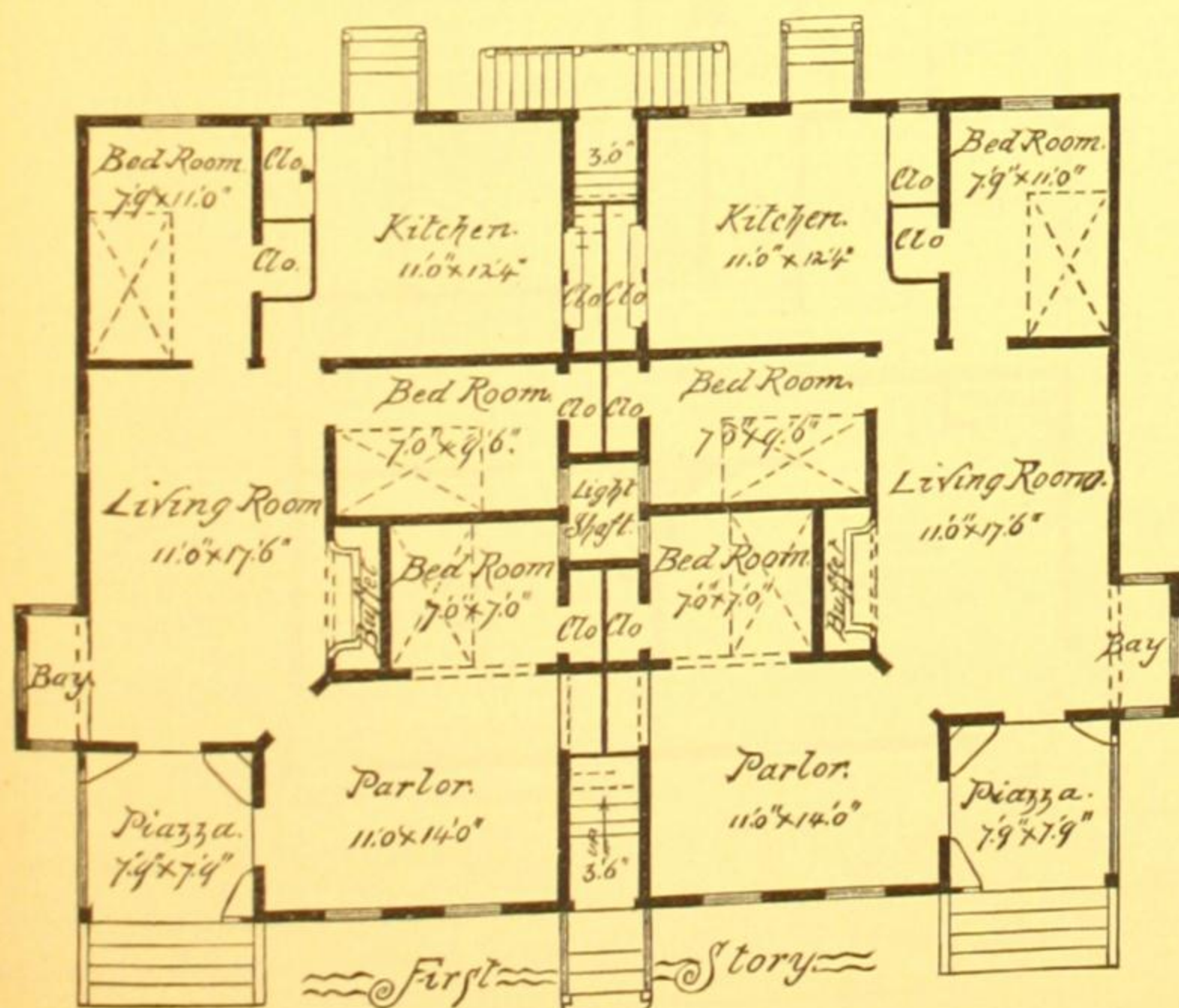
SPECIAL FEATURES.—This design is for a village tenement house, to accommodate four families, each "flat" or suite of apartments having six rooms of ample size.

Each first story "flat" has a separate entrance from a covered piazza to parlor or living room.

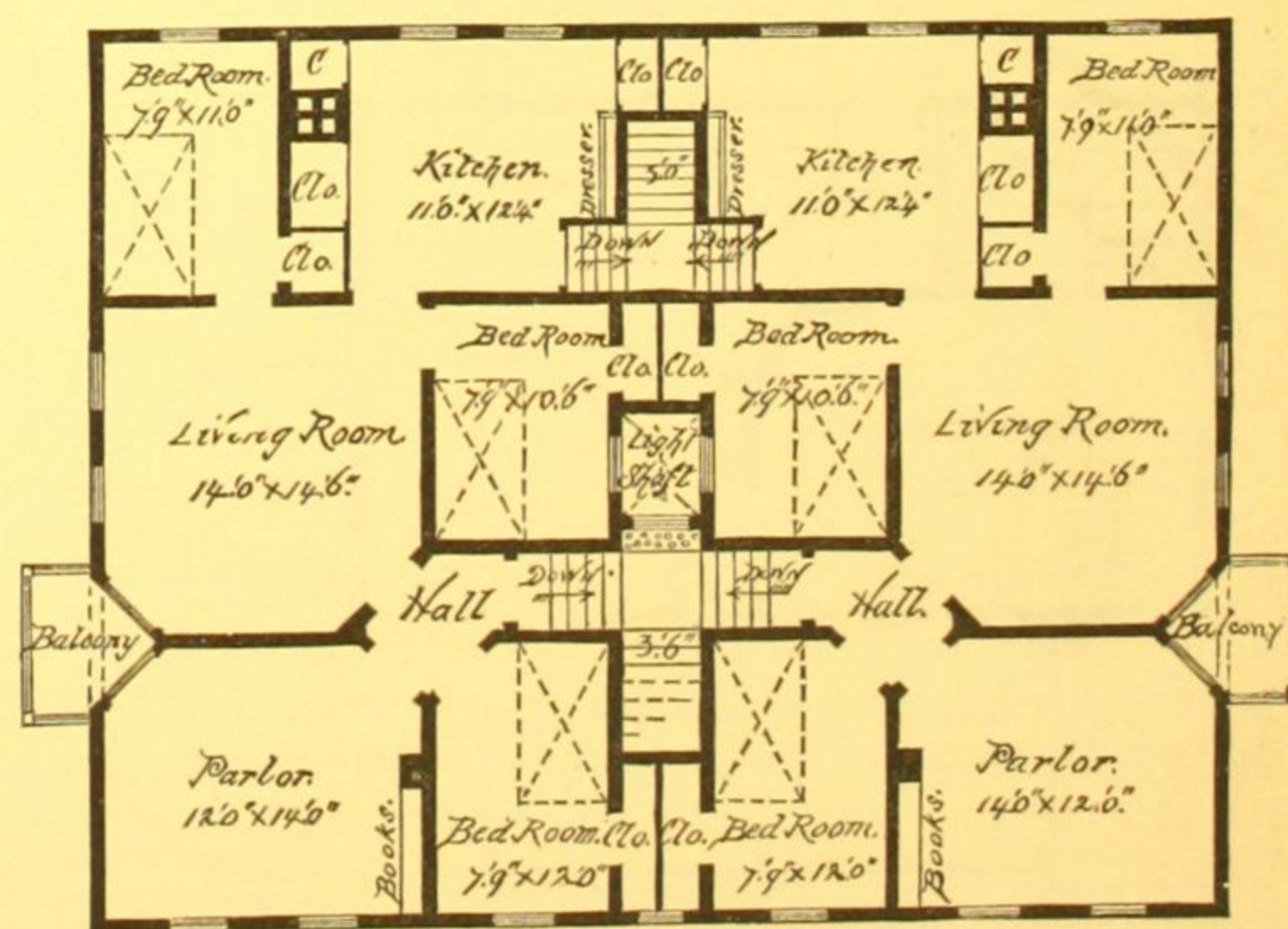
Each second story "flat" is entered by the front central stairway and has accommodations and conveniences quite equal to those on the first floor.

We commend this design to the attention of capitalists. Many families like flats and will rent them in preference to detached houses. By omitting the bay-window this house can be built on a 50-ft. lot and have a passage each side.

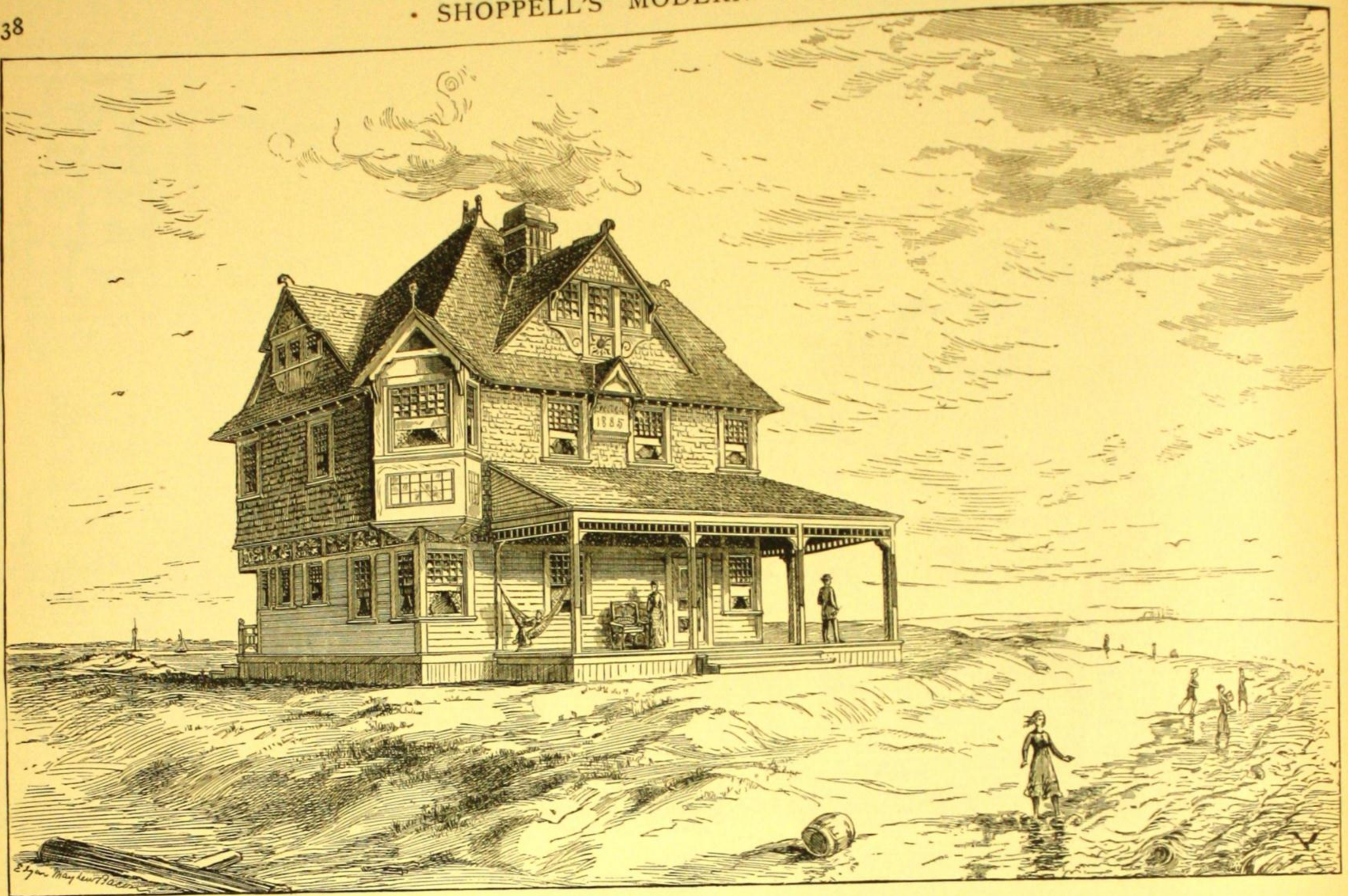
The house contains many little conveniences that are not ordinarily found in tenements.



FIRST FLOOR. NO. 213



SECOND FLOOR. NO. 213



DESIGN No. 214. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 214

SIZE OF STRUCTURE: Front, 33 ft., 6 in.; including veranda, 43 ft., 6 in. Side, 33 ft.; including veranda, 43 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Third Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

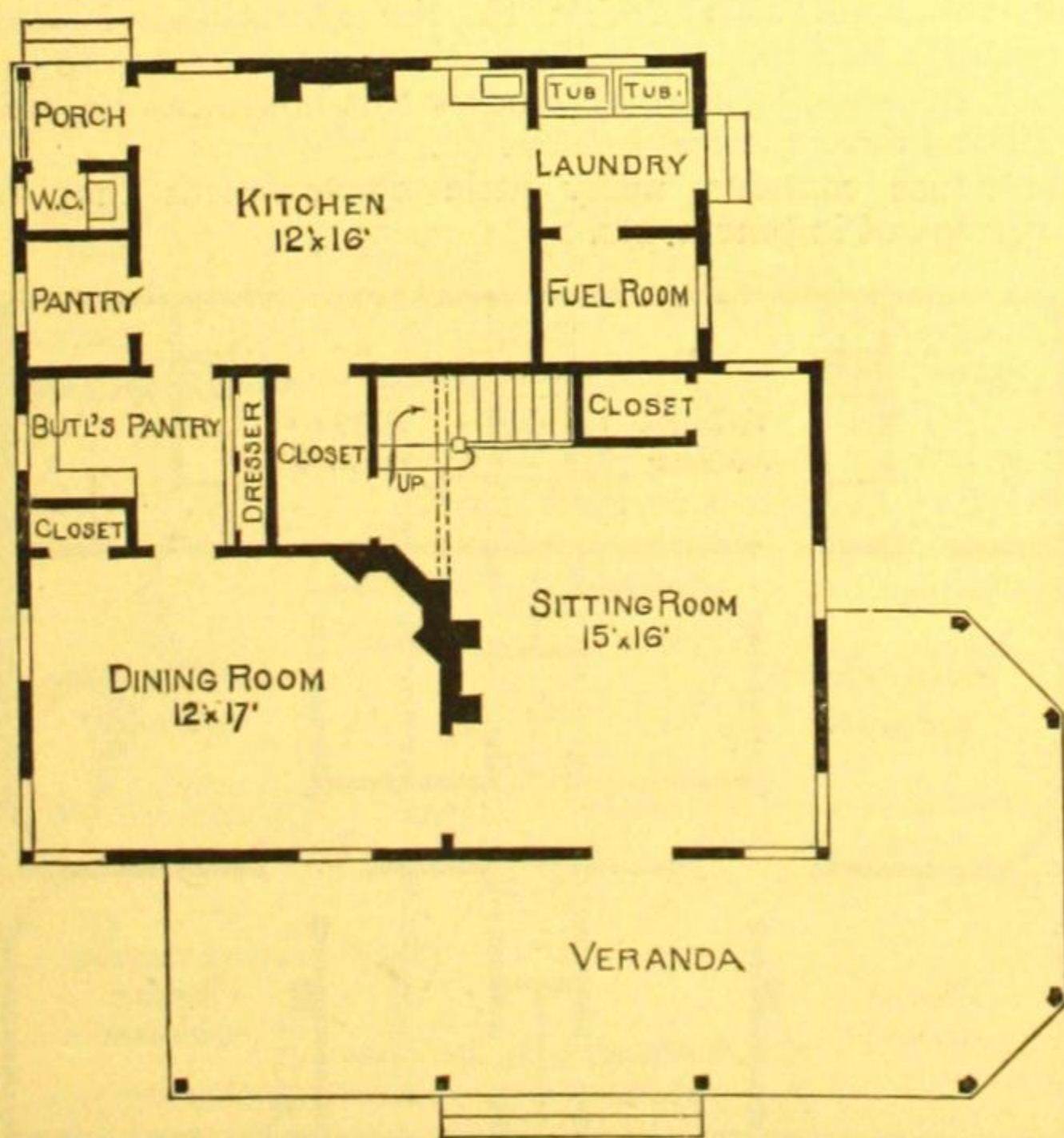
COST: \$3,500, complete, except grates.

SPECIAL FEATURES—This design was built at the seaside, but is quite as well adapted for other localities. The principal rooms

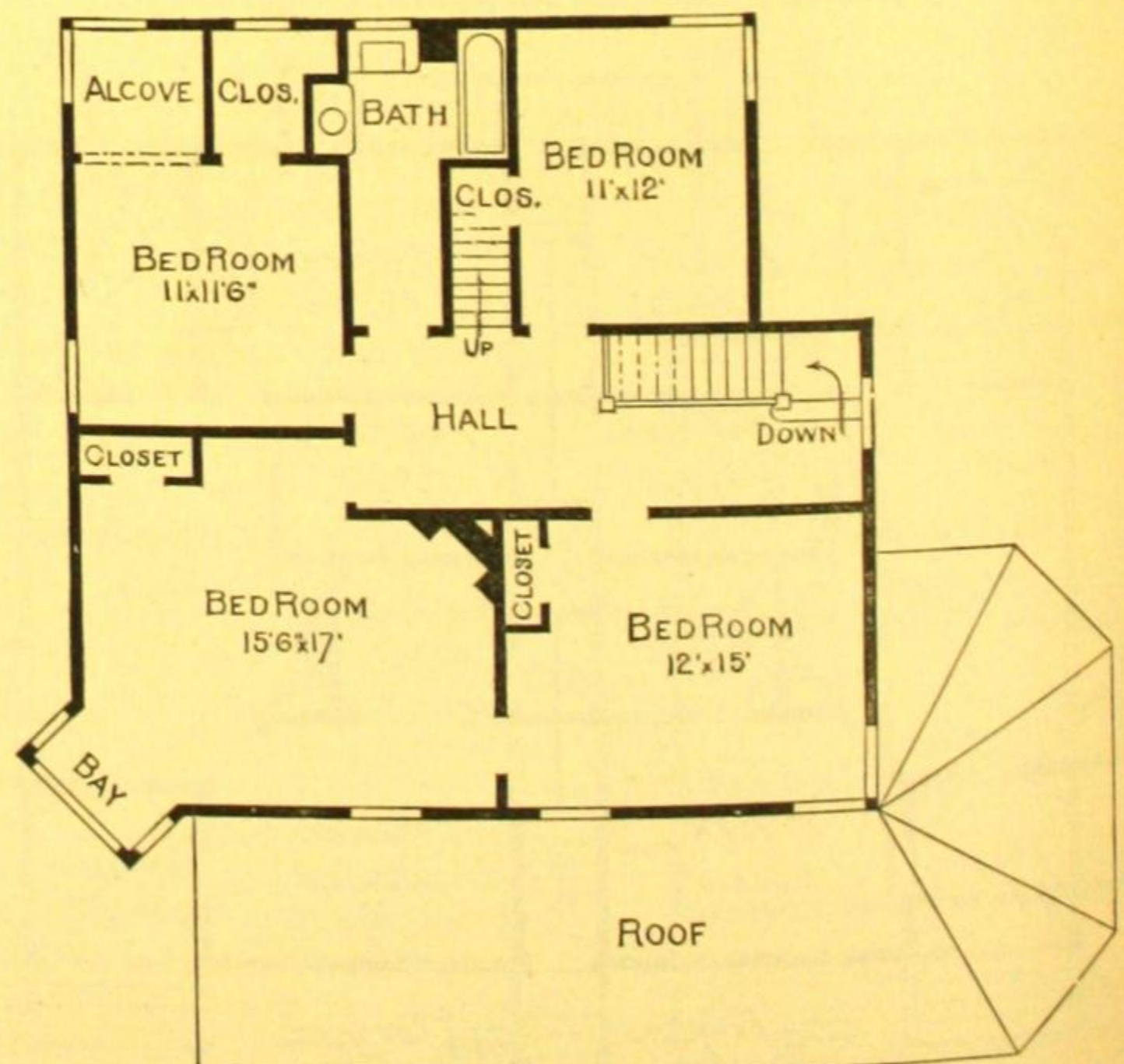
are large. There is a separate laundry, ample pantries, dressers and closets everywhere. The stair landing is so placed that servants can use it without obtruding in the front rooms. This does away with the necessity of back stairs.

There is a beautiful hanging bay in the second story. On five corners double windows are built (one on each side close up to the corner posts), and we find them delightful features. They afford a wide range of vision, just like a bay, leave better wall space for furniture, and give the exterior an appearance that may be called quite Queen Anne. In the attic there are three large bed-rooms.

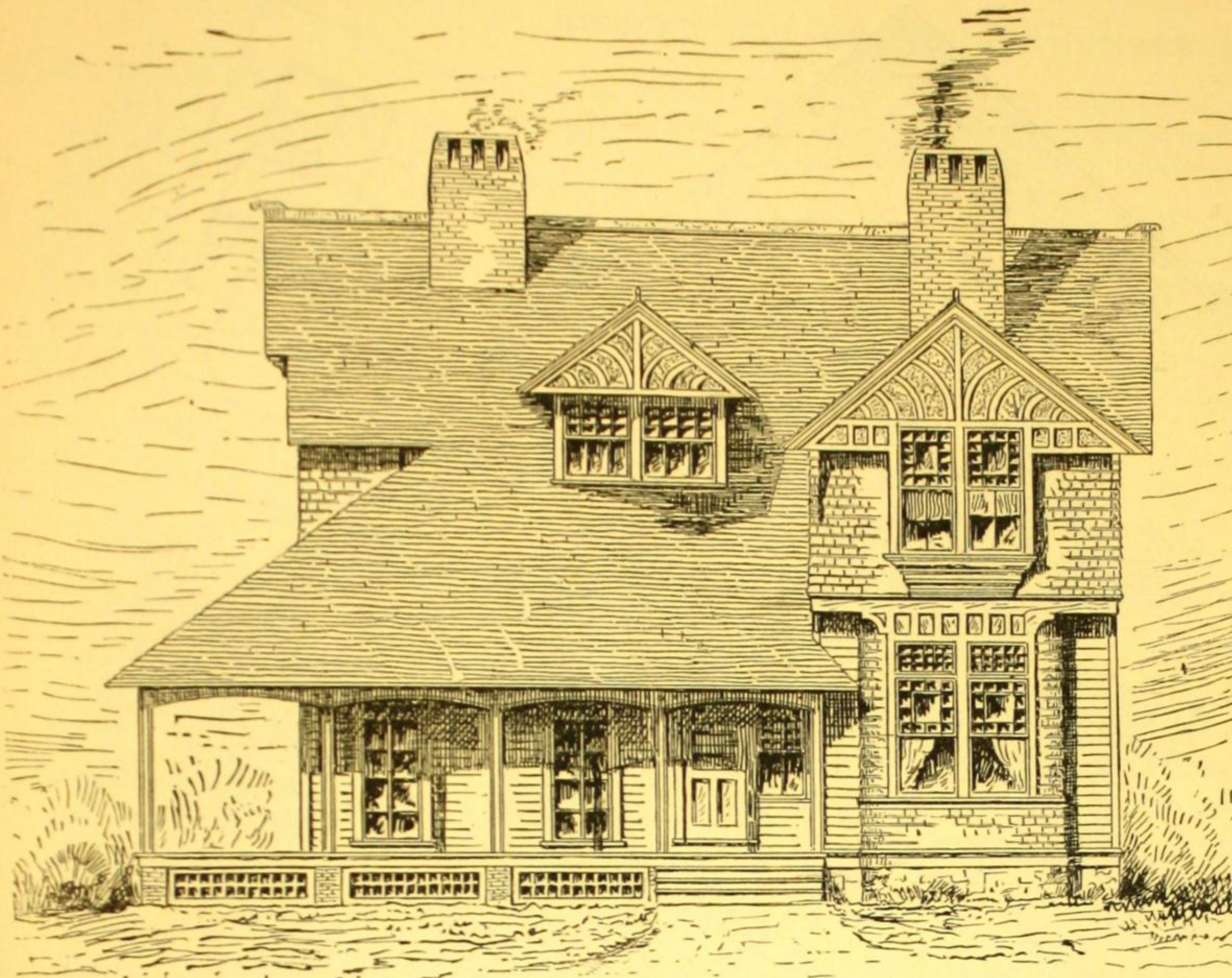
There are open fireplaces of pressed brick and hardwood mantels in dining-room, sitting-room and the principal bed-room.



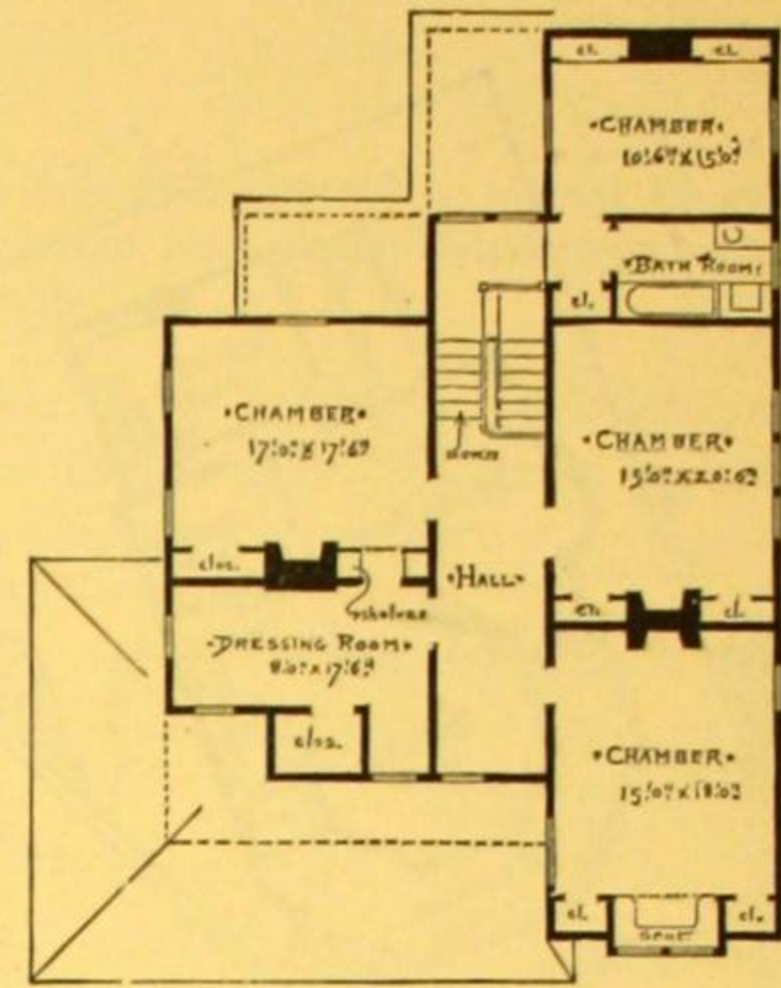
FIRST FLOOR, NO. 214



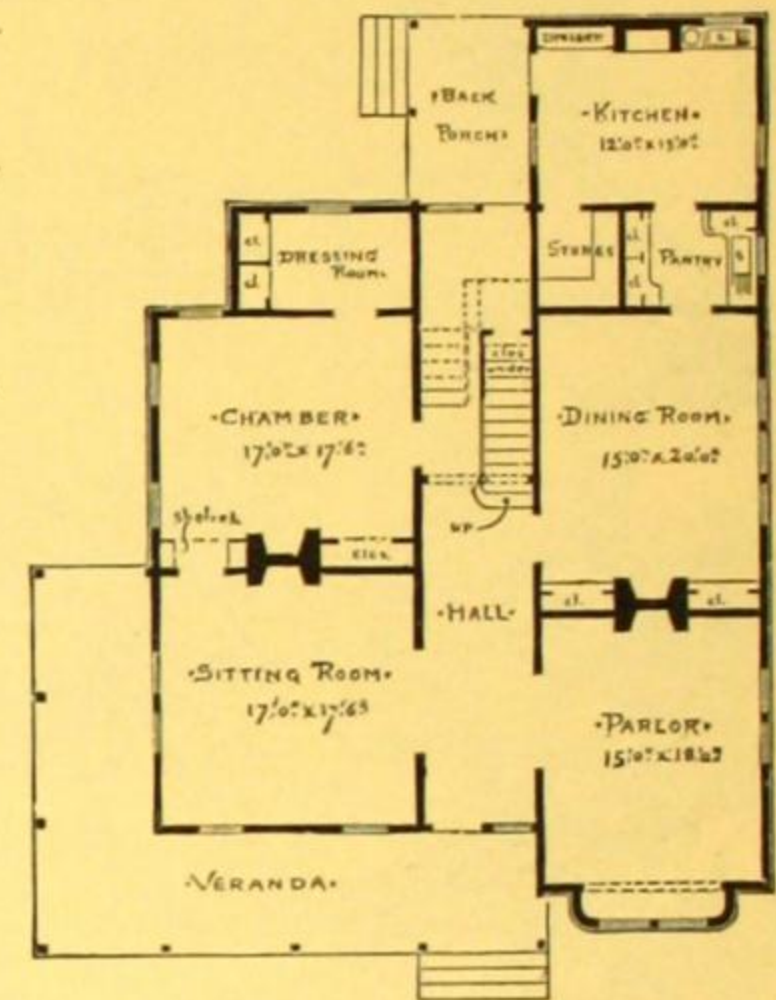
SECOND FLOOR, NO. 214



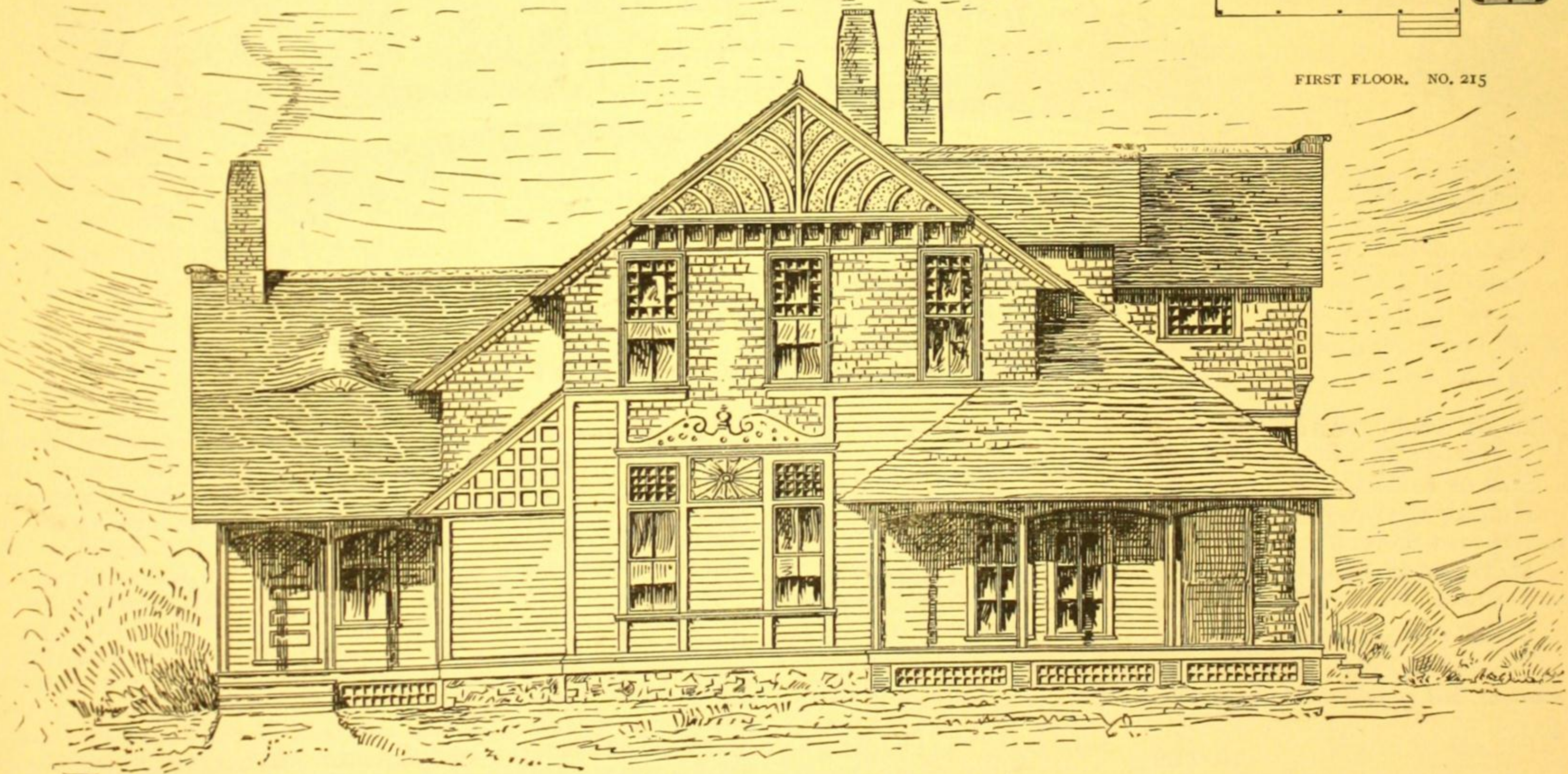
... FRONT ELEVATION ...



SECOND FLOOR, NO. 215



FIRST FLOOR, NO. 215



... SIDE ELEVATION ...

DESCRIPTION OF DESIGN NUMBER 215

SIZE OF STRUCTURE: Front, 49 ft., 6 in., including veranda.
Side, 62 ft., including veranda.

SIZE OF ROOMS: see floor plans.

HEIGHT OF STORIES: First Story, 13 ft.; Second Story, 10 ft.

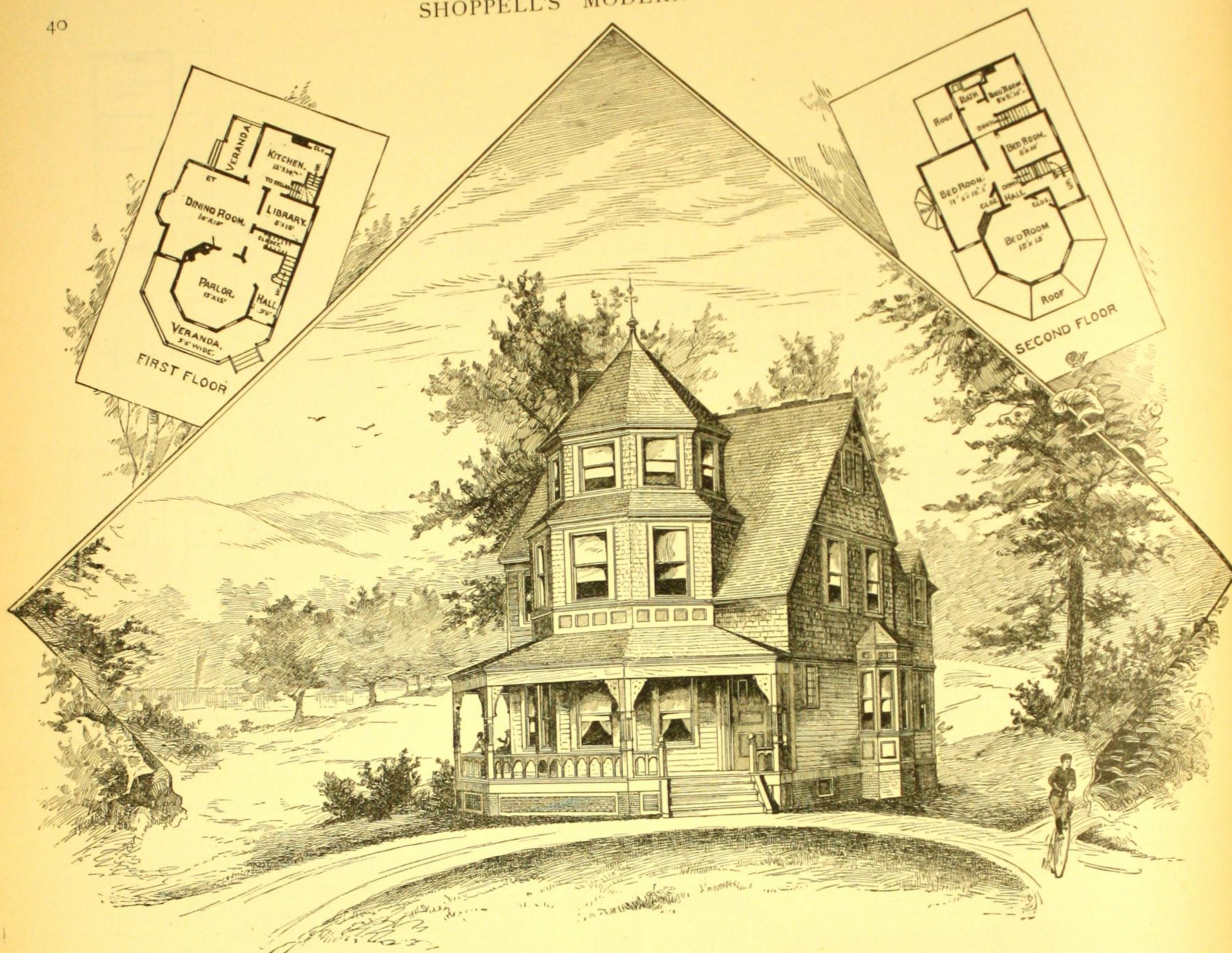
MATERIALS: Foundation, stone and brick piers; First Story, clapboards; Second Story, shingles; Gables, cement and timber; Roof, shingles.

COST: \$3,600, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed for a Southern climate—large rooms and windows, high ceilings, open fireplaces, hall through the center, and a fine veranda.

The storage, pantry and closet room—in fact all of the accommodations are complete, and the exterior is considered one of the most artistic designs.



DESIGN No. 216. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 216

SIZE OF STRUCTURE: Front, 27 ft., 8 in.; Bay projects, 3 ft. Side, 43 ft., 2 in. Veranda projects, 5 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 3 in.; Second Story, 8 ft., 9 in.; Third Story, 8 ft.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingled; Gables, shingled; Roof, shingles.

COST: \$2,550, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under rear part of the house. Fine large rooms. A notably handsome veranda and porch. Stairways and hall well lighted. Good closet room. Bath and back stairway.

In the attic story there is one small bed-room and one fine large room; the latter, by the way, is large enough for a small billiard table, and is a good place of banishment for the gentlemen who smoke. The fragrance of the weed is thus confined to the top of the house or escapes to the open air through the windows. When delicate ladies assure us that they "like the fragrance of a good cigar," it is well to credit them with this mental reservation: they do *not* like the dead odor to "hang around" for days, in curtains, carpets and upholstery. A secluded room like this is desirable for many purposes. It makes a fine study for student or minister; a good studio for an artist; a play-room for children; a sewing-room or a "growlery" where the man of the house can look over the bills and figure up the expenses without disturbing the other inmates with his ejaculations.

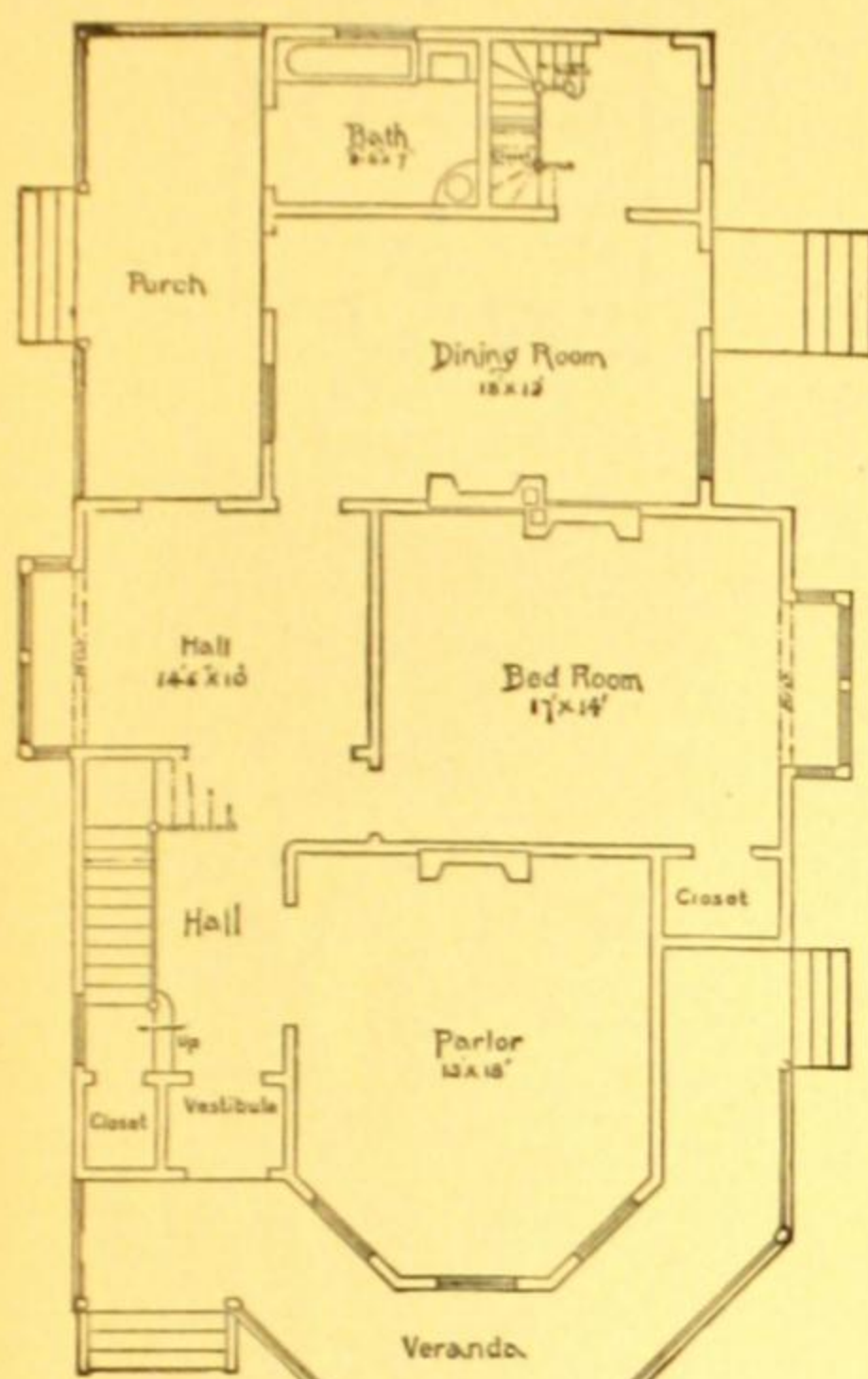
A veranda should be low and broad so that it will be shady, and thus answer the purpose for which it is designed. The posts should be spaced a good distance apart so that they will not obstruct the view.

Many verandas, because they are not designed according to the above principles, instead of appearing charming and seductive retreats, are wholly uninviting in appearance and actually uncomfortable as a place of resort.

The careful observer will note that provision for convenience and comfort are first considered in designing modern houses; beauty is an after consideration. It is a fact, however, generally speaking, that the design which provides the most comfort is the one also which presents the finest appearance.

DESCRIPTION OF DESIGN NUMBER 217

SIZE OF STRUCTURE: Front, 29 ft., 2 in., not including bay-window. Side, 53 ft., 8 in., not including veranda.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: First Story, 11 ft., 6 in.; Second Story, 11 ft.; Third Story, 8 ft.
MATERIALS: Foundation, brick piers.
COST: \$3,200, complete.



FIRST FLOOR, NO. 217

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is an enlarged modification of the preceding design, adapted for the South. There is no cellar and the kitchen is detached. The ceilings are high.

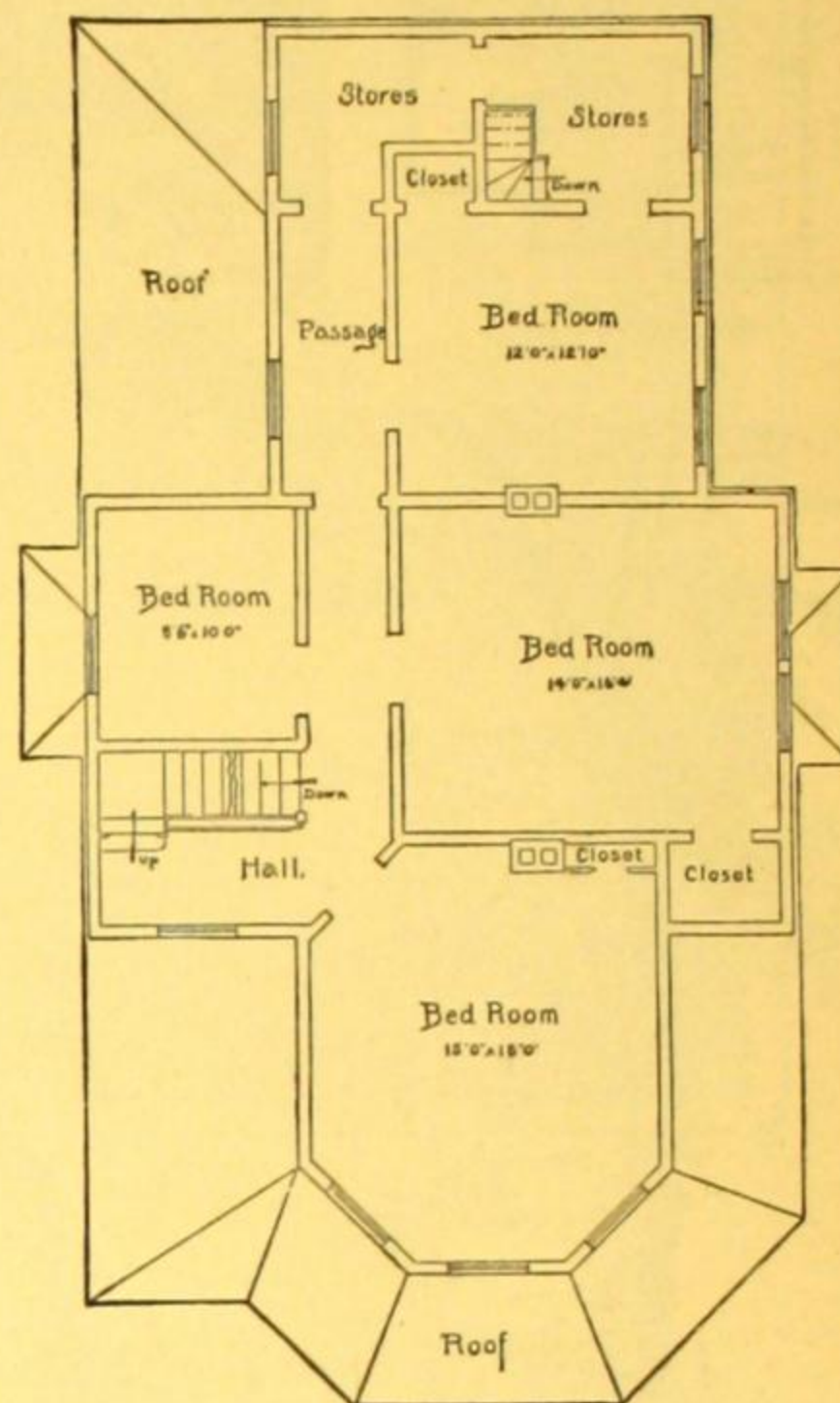
The room marked Hall (an old English designation), is a reception-room or sitting-room.

If desired, the present bed-room could be used as the dining-room and the dining-room as the kitchen; the bath-room would then be placed in the second story and the space thus vacated would make a fine pantry. The kitchen and dining-room would then be connected.

If this house is built on a lot that slopes toward the rear a basement kitchen can be made under the dining-room.

Open fireplaces throughout first story.

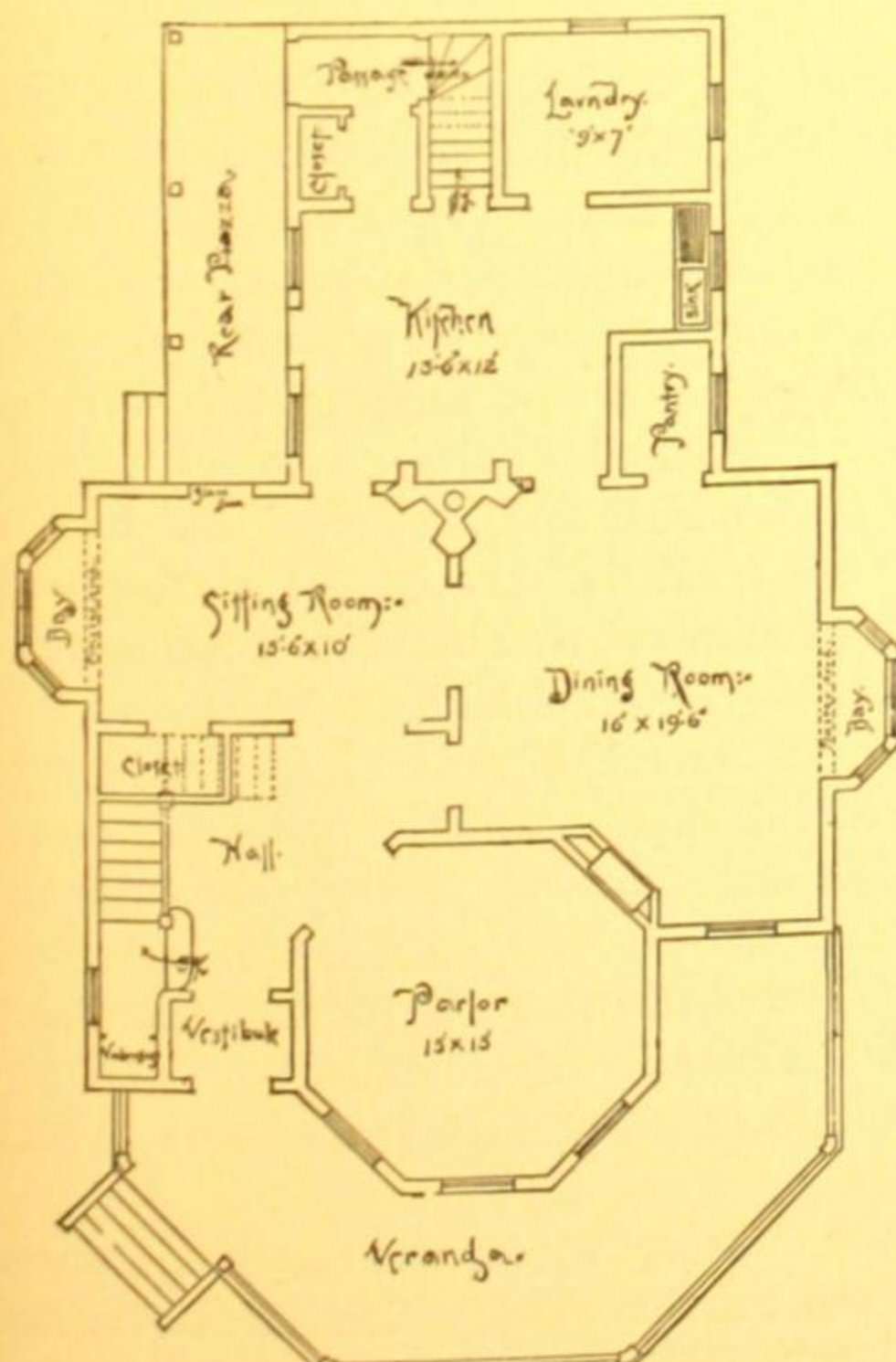
In Central Alabama, where this house was built, it cost only \$2,500.



SECOND FLOOR, NO. 217

DESCRIPTION OF DESIGN NUMBER 218

SIZE OF STRUCTURE: Front, 32 ft., 8 in.; Bays project, 3 ft. each. Side, 51 ft., 8 in.; Veranda projects, 7 ft., 10 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft. 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 9 in.; Third Story, 8 ft.
MATERIALS: Foundation, brick and stone.
COST: \$3,500, complete, except furnace.



FIRST FLOOR, NO. 218

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is a still larger modification of the popular design Number 216. The exterior is much the same.

Cellar under the whole house.

Open fireplaces in the sitting-room, dining-room and the bedroom over the dining-room. Large openings connect sitting-room, dining-room and hall.

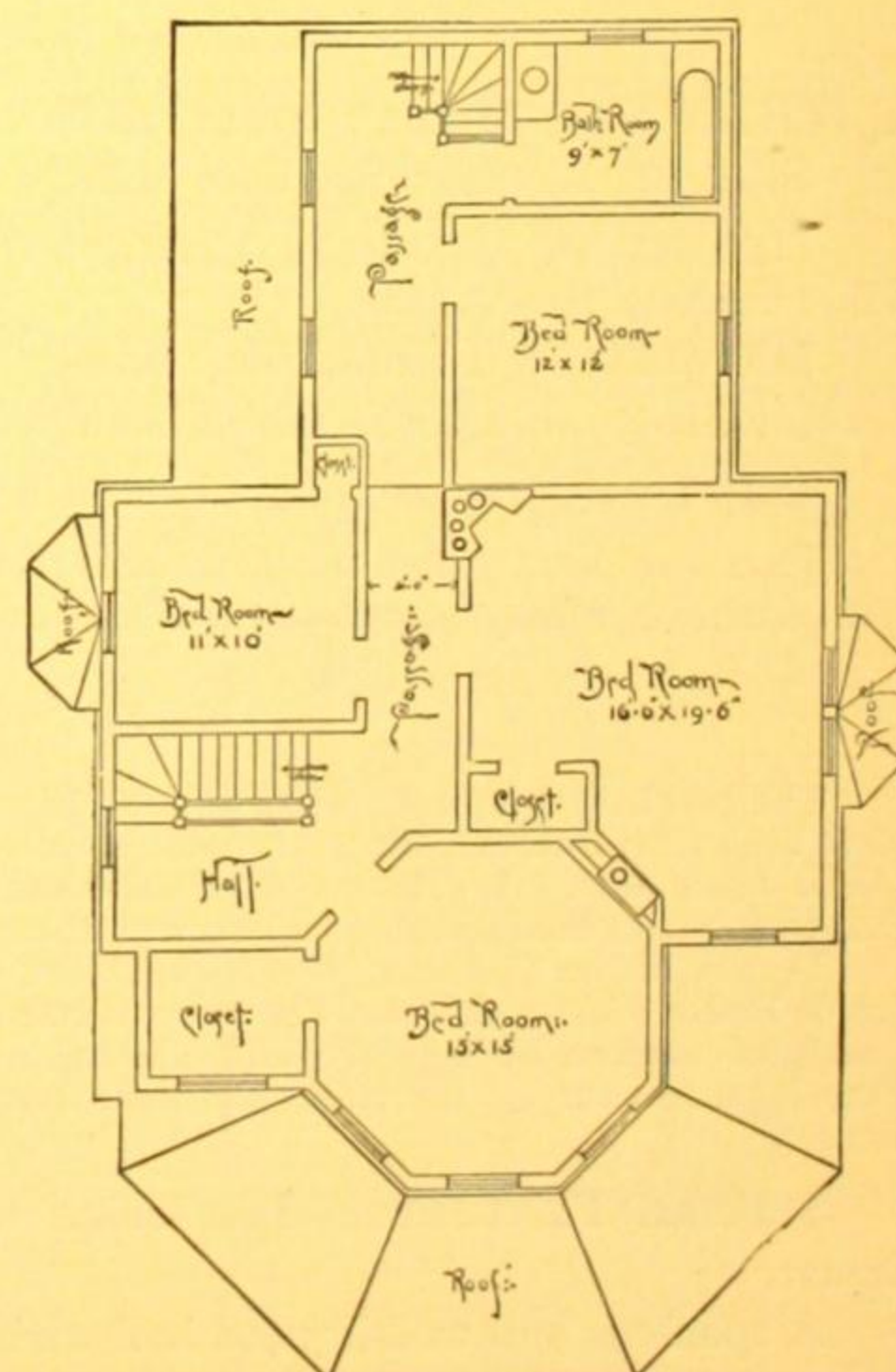
A glazed door opens from the sitting-room to the rear piazza.

A closet is obtained off the first stair platform for hats, cloaks, &c.

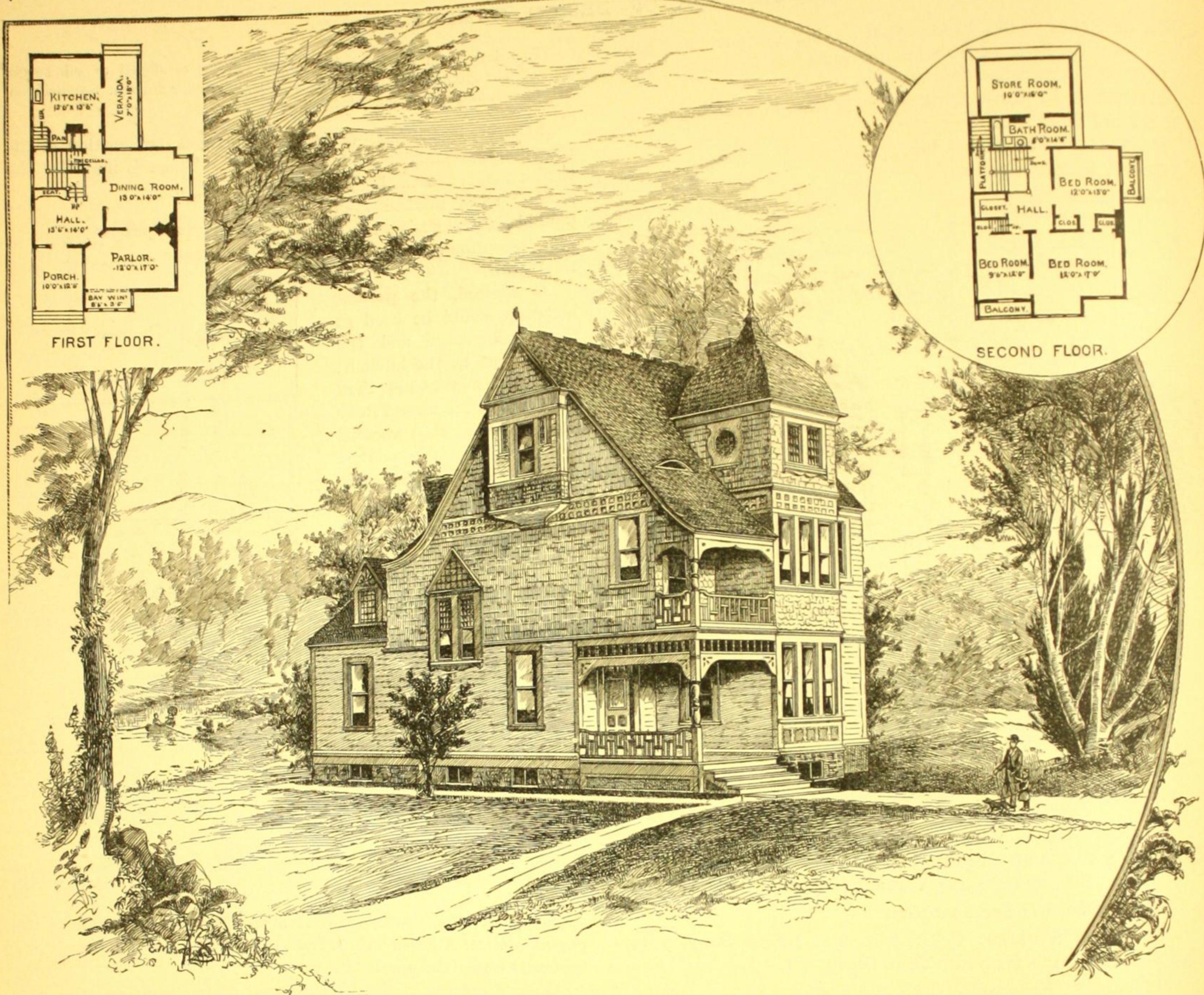
The parlor chimney has no fireplace, as it is intended to use a furnace for heating. Furnace is not included in estimate of cost, however.

The octagon tower is kept in both of the designs on this page, like Number 216. The way the veranda is arranged will give a shady nook at any time of the day.

The liberal supply of bay-windows is a feature that will be appreciated by everybody.



SECOND FLOOR, NO. 218



DESIGN No. 219. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 219

SIZE OF STRUCTURE: Front, 28 ft. Side, 49 ft.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,550, complete, except heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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SPECIAL FEATURES.—The cellar extends under the whole house.

A spacious and well-lighted hall with a handsome and easy staircase at the further end serves as a pleasant sitting-room.

The parlor and dining-room are connected by a wide opening for a curtain and each is materially enlarged by a rectangular bay-window. A wide opening is also provided between dining-room and hall so that the whole can be thrown open when desired.

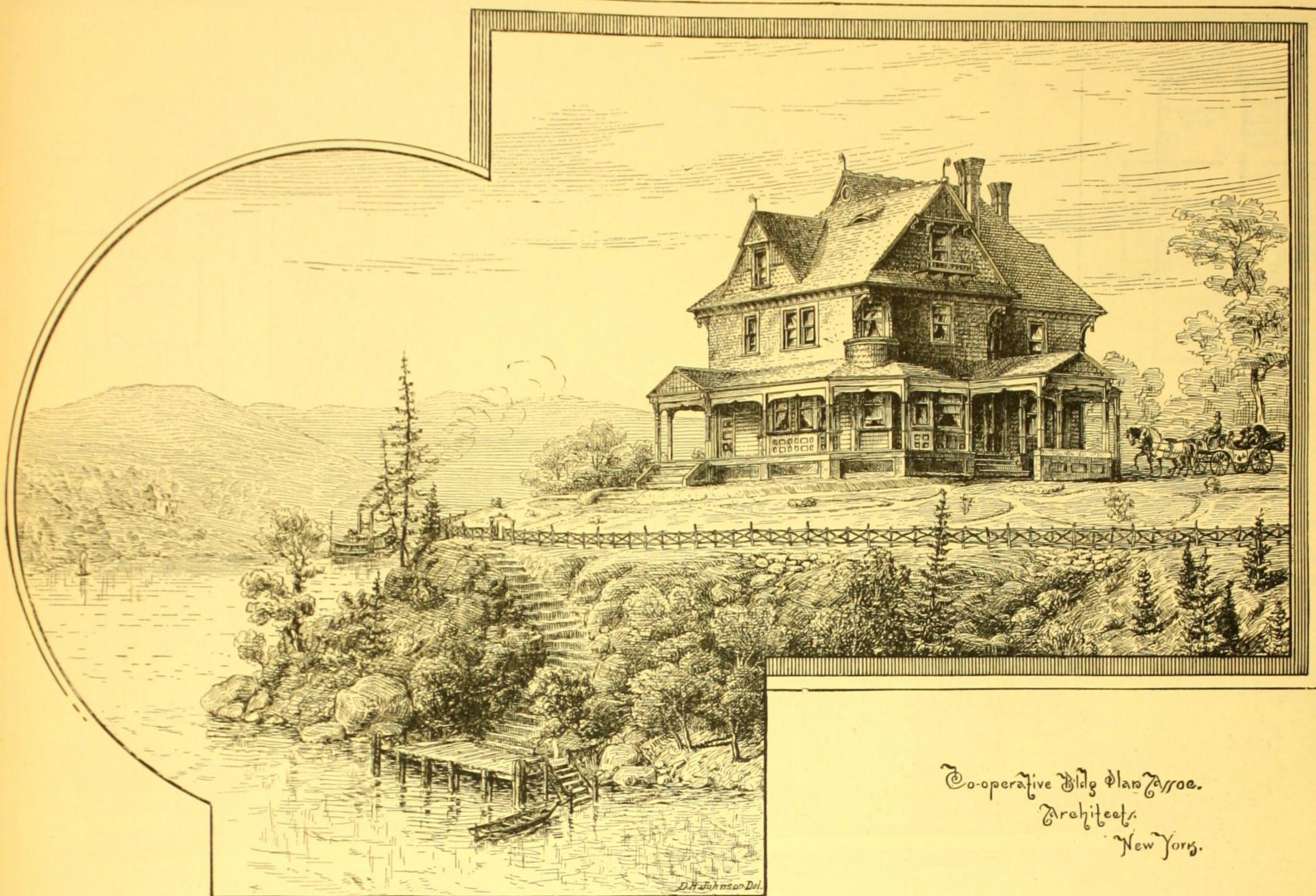
The staircase, of unique design in hardwood, beautifies the hall, and two stained glass windows placed at the landing, half way up, light the stairway and hall, both above and below, with soft tints.

The dining-room is connected with kitchen by a rear hall or butler's pantry shut off from the front hall though connecting with it. This rear hall is lighted and connects by a slide with the kitchen pantry. A low window extending to the floor enables one to step from dining-room to the rear veranda. From the kitchen a flight of steps leads to the landing of the main staircase, providing access to the second story from kitchen without passing through the front hall.

In the second story are three bed-rooms, large bath-room well fitted up, a store-room and liberal supply of closets.

Two good rooms can be finished in the attic if desired, to which a stairway is provided.

The house is arranged for heating by furnace, in conjunction with which the open fireplaces can be used, which furnish at the same time the best of ventilation. Wood mantels are provided.



Co-operative Bldg Plan Assoc.
Architects
New York.

DESIGN No. 220. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 220

SIZE OF STRUCTURE: Front, 34 ft., 10 in.; including veranda and porte-cochère, 57 ft. Side, 42 ft., 6 in.; including veranda, 47 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingled and paneled; Roof, shingles.

COST: \$3,900, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The cellar extends under the whole house. The laundry is in the cellar and is well lighted.

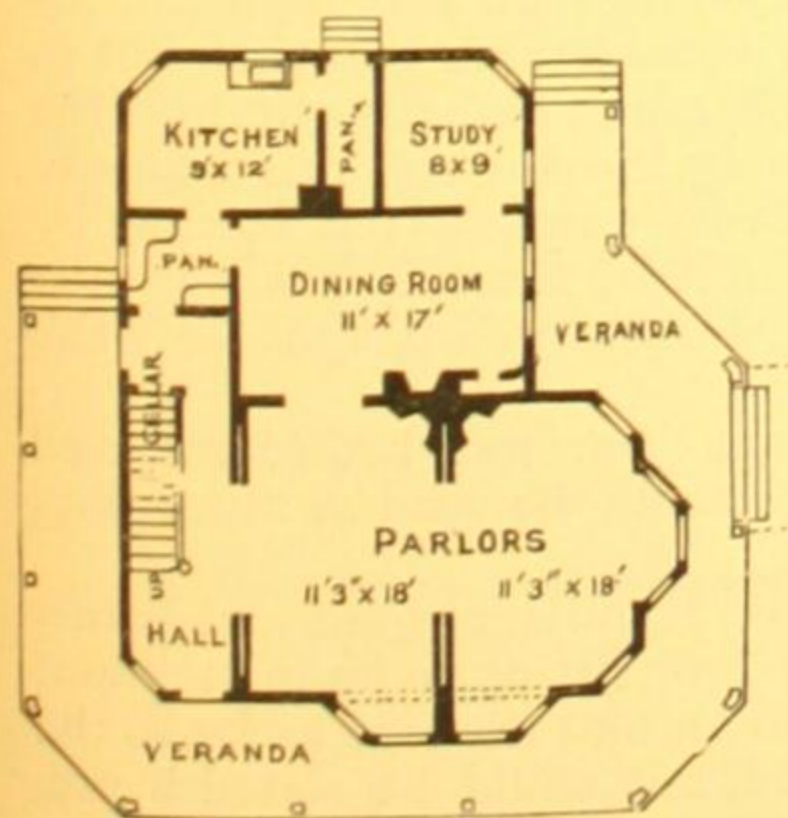
In the attic there are two bed-rooms and space for one more, still leaving abundant storage room.

The long veranda and the fine porte-cochère are handsome as well as convenient features.

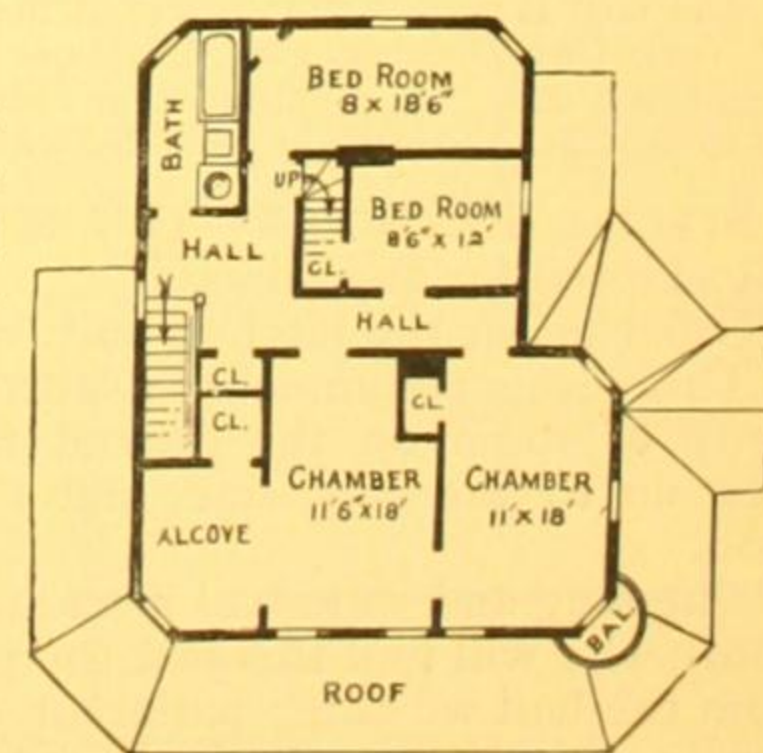
The arrangement of rooms is very complete and cannot be much improved. For a family in the country who wish to entertain a good deal this is a perfect design; it is so ample in all the accommodations that please guests. Its appearance is imposing; every one seeing it will be sure to remember it as a fine country seat.

The style is striking, yet quiet and in thorough good taste. This is a design that will be approved by the next generation, however much cultivation they may boast. The generous and large-minded man builds for posterity as much as for himself.

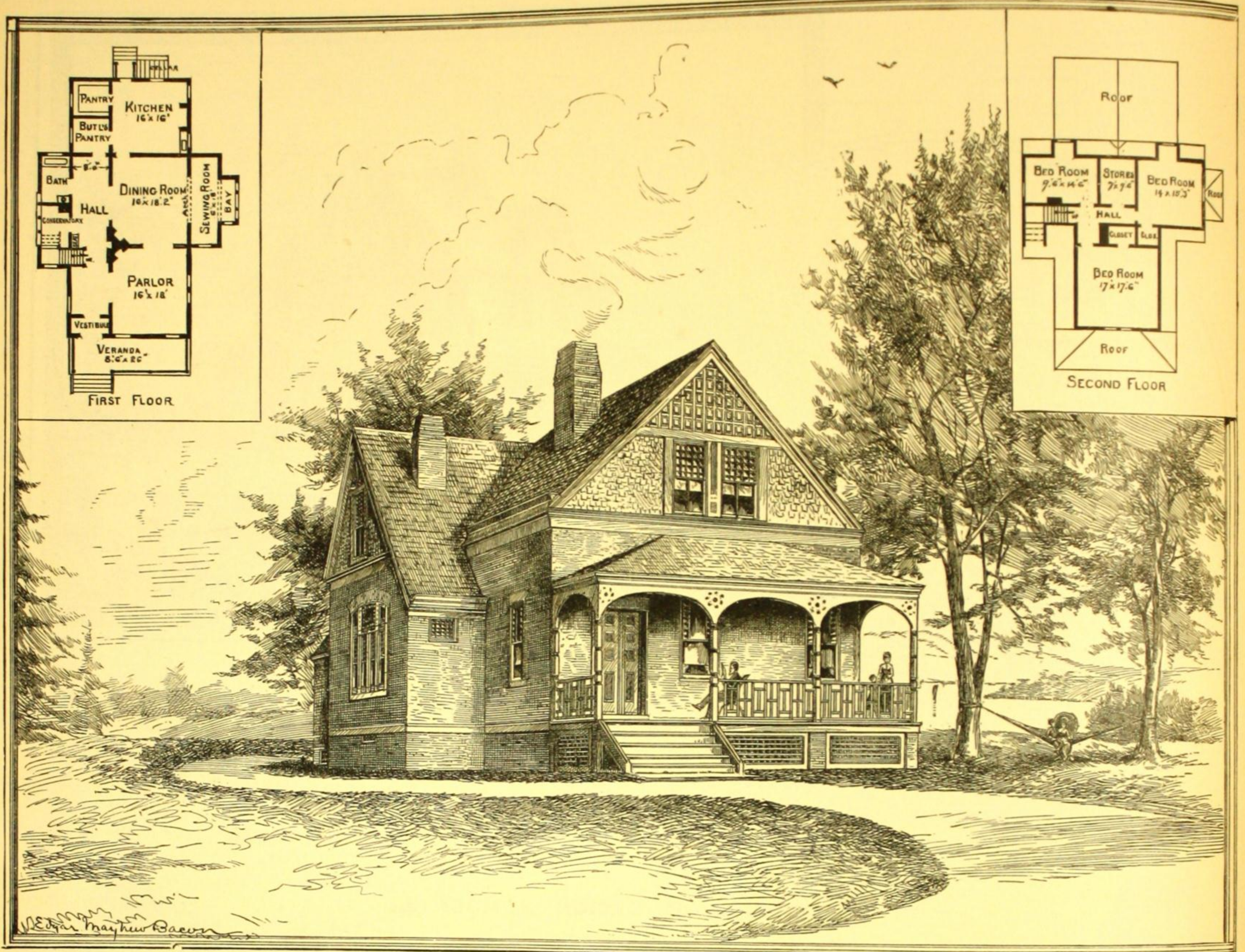
This house is best placed in a prominent and commanding location, because it affords fine outlooks in all directions.



FIRST FLOOR. NO. 220



SECOND FLOOR. NO. 220



DESIGN No. 221. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 221

SIZE OF STRUCTURE: Front, 26 ft., 6 in.; extreme width, including bay-window, 43 ft. Side, 63 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick, up to cornice; Gables, shingled and paneled; Roof, shingles.

COST: \$3,500, complete, except kitchen range.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—This is a good Southern house, but is well adapted for any climate.

Cellar under the kitchen only, and is entered from the outside.

This design recommends itself at the first glance to one who wants plenty of room on the ground floor. The main house is built of brick up to the roof line, and the kitchen extension is built of wood.

The long and wide hall is an attractive feature for our Southern clients, who will find this just the place to keep cool in hot weather. From the hall we enter parlor or dining-room through large openings, in which hang curtains or folding doors. The parlor is separated from the dining-room by large sliding doors. A curtained

archway, ten feet wide, makes the alcove, which we call sewing-room, with its great bay-window, a part of the dining-room or a separate apartment at will. A single chimney gives an open fire-place in parlor, dining-room and hall.

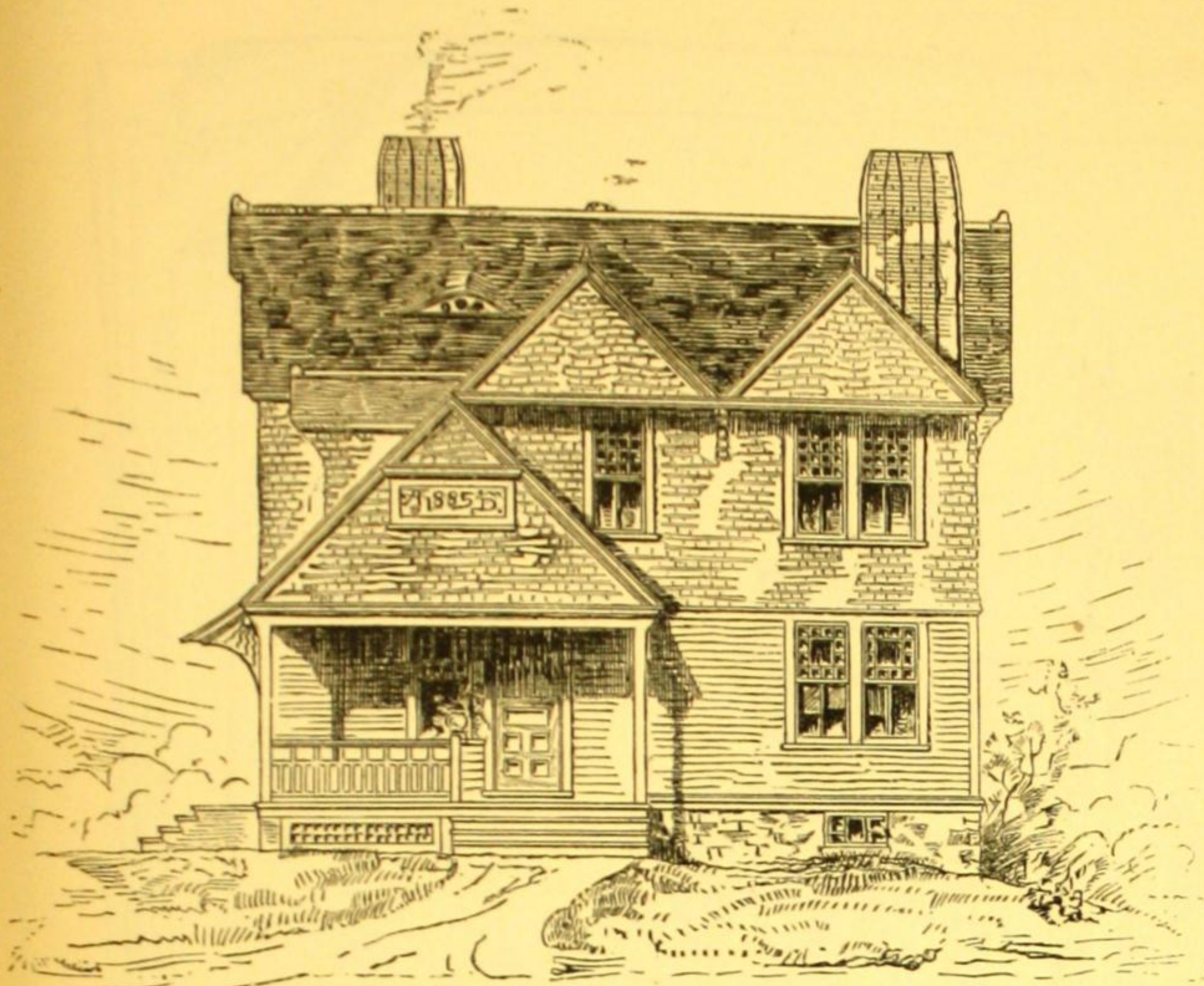
On the other side of the hall is the bath-room and conservatory, and in either or both of these rooms a small stove can be used in very cold weather. The conservatory is a charming place for winter gardening. The large arched window, shown in the view above, with the upper sashes glazed with stained glass, is one of the beautiful features.

The kitchen has its own chimney, is well lighted and ventilated, and has a very large and generous closet. There is access from it to the dining-room direct, or through the butler's pantry.

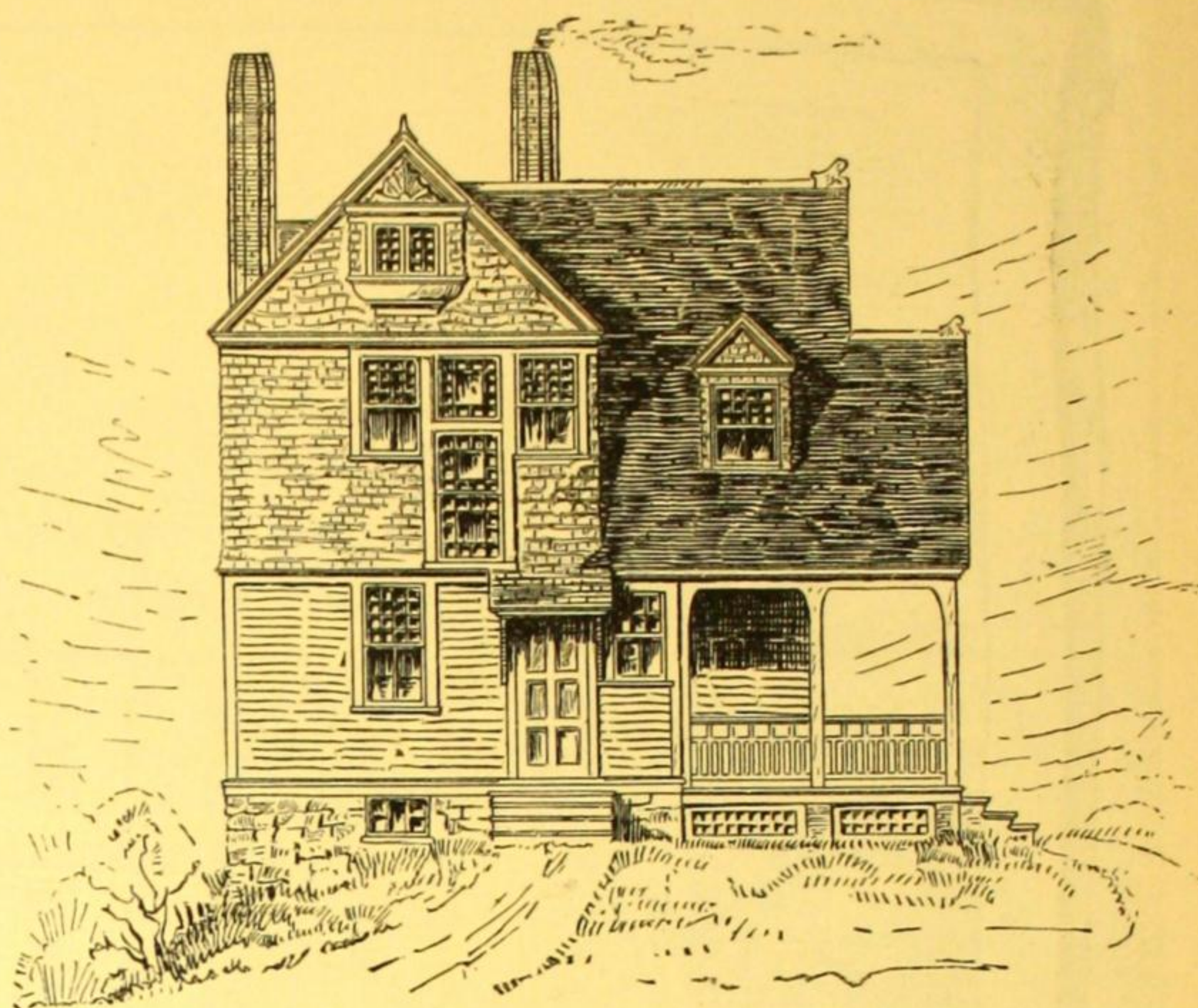
In a great many houses where the ceilings are very high, as they are in this, going "up stairs" involves considerable exertion, but in this design the case is different; beside going directly through the conservatory (it is not enclosed) among the flowers, this stairway has two platforms, making the ascent very easy. It is lighted by the large window shown on the side and by a small window over the first platform. The stained glass diffuses a soft light over the whole of this part of the house.

On the second or attic floor there are three fine bed-rooms, well lighted, and a large store-room, which could be used as a sleeping-room at a "pinch."

The outside appearance of the house is quiet, elegant and home-like, the wide veranda forming an out-door sitting-room in summer. If desired, the veranda could be carried around the side as far as the staircase wall. The roofs are shingled, but could be slated if preferred.



DESIGN No. 222. FRONT ELEVATION



DESIGN No. 222. SIDE ELEVATION

DESCRIPTION OF DESIGN NUMBER 222

SIZE OF STRUCTURE: Front, 35 ft. Side, 26 ft., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles in waved lines; Roof, shingles.

COST: \$2,750, complete, except grates or heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A good cellar under the whole house.

The attention bestowed upon the design and construction of staircases in our modern houses, make them easy of ascent and beautiful to the eye. In all well-arranged modern houses, as in this, are given a prominent and important place.

There is a side entrance and a back hall, giving access to the front door from the kitchen, without passing through another room.

The bath-room is sufficiently heated by the kitchen flue. The waterpipes, being carried up against the chimney, are insured against freezing even in the coldest weather.

There are two fireplaces, but if preferred, the chimneys can be built perfectly square, with flues only.

In the second story all the bed-rooms have good closets, the closet over the veranda being large enough for a trunk room. In the ceiling of the hall leading to the bath-room there is a scuttle, affording access to the attic, where there is ample storage room.

One bed-room appears irregular, but it has most convenient places for furniture.

The window over the staircase has stained glass, diffusing beautiful tints in the front part of the house.

These plans are characterized by simplicity and great convenience—every want being satisfied, that can be expected of a house of this size. The exterior is handsome and quite novel.

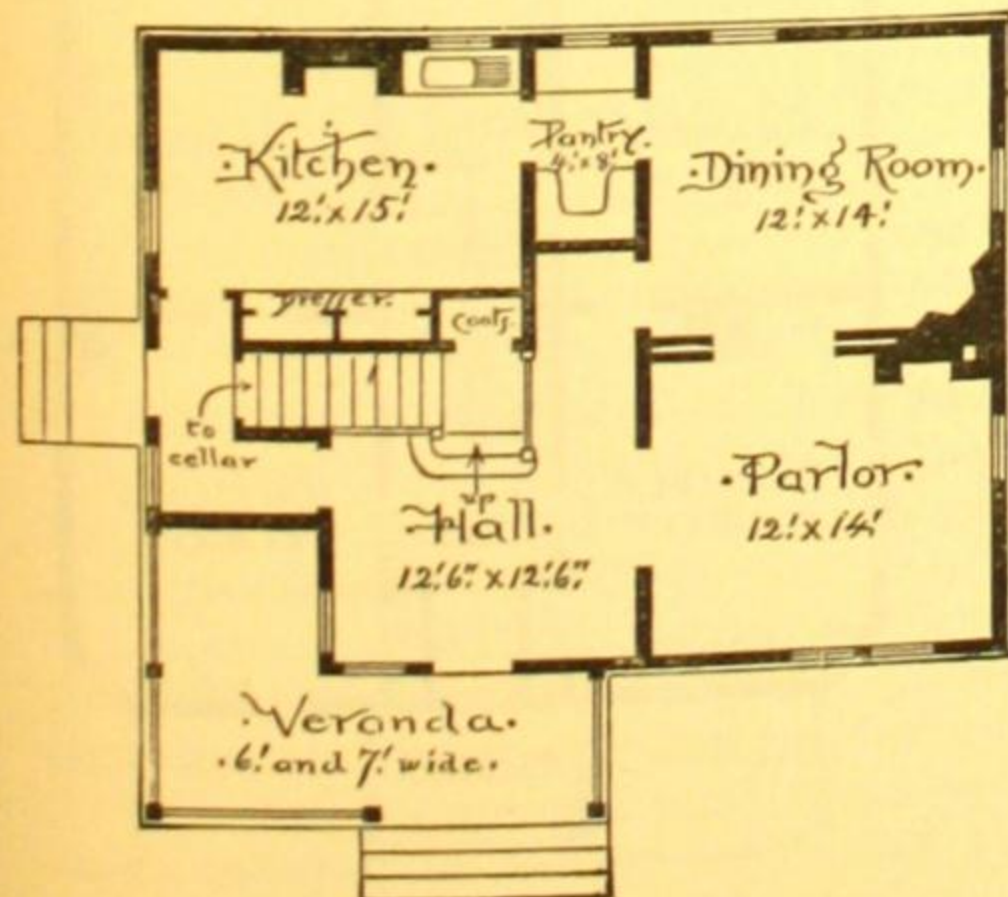
Stained glass is used quite extensively now even in cheap cottages; while it is beautiful when artistically used and in appropriate places, there is great danger of overdoing it, or of using it in unsuitable places and when unskilfully used it might better be omitted altogether.

In ordinary room windows it is generally out of place, as windows are made to look out of and to admit light, both of which uses it interferes with. A little of it used in the border lights of a dining-room, or library sash, is permissible however.

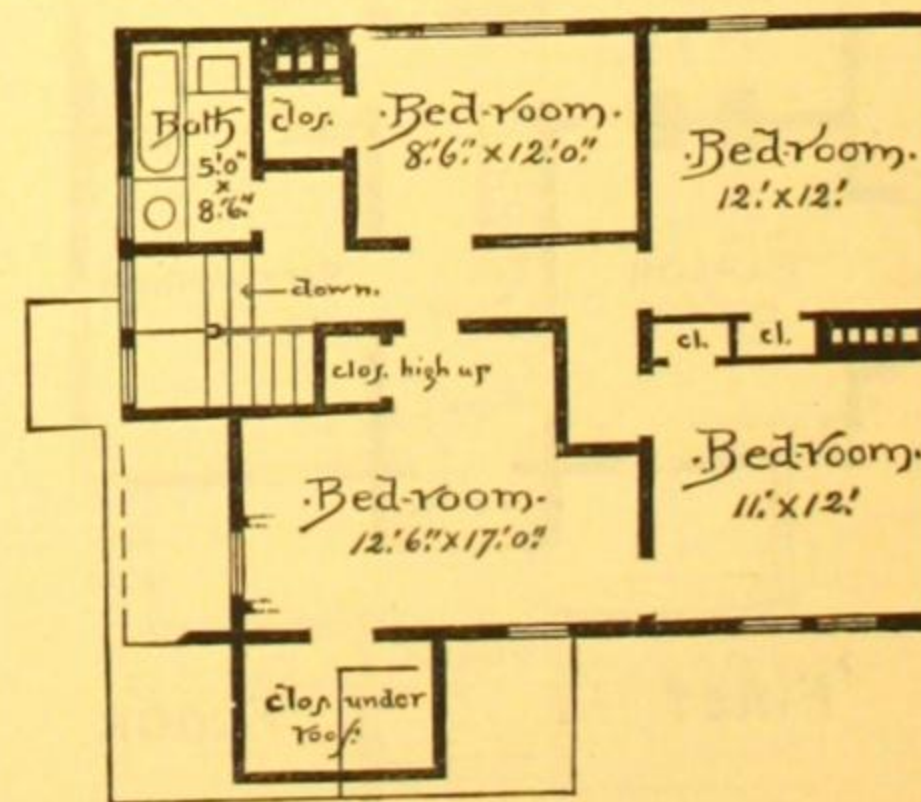
To light a hall or staircase it is appropriate, though even there it is often used to excess.

The tints should be soft and blend into one another. Glaring colors should be avoided. The service of an architect or a person of artistic taste should always be obtained in the selection of the colors.

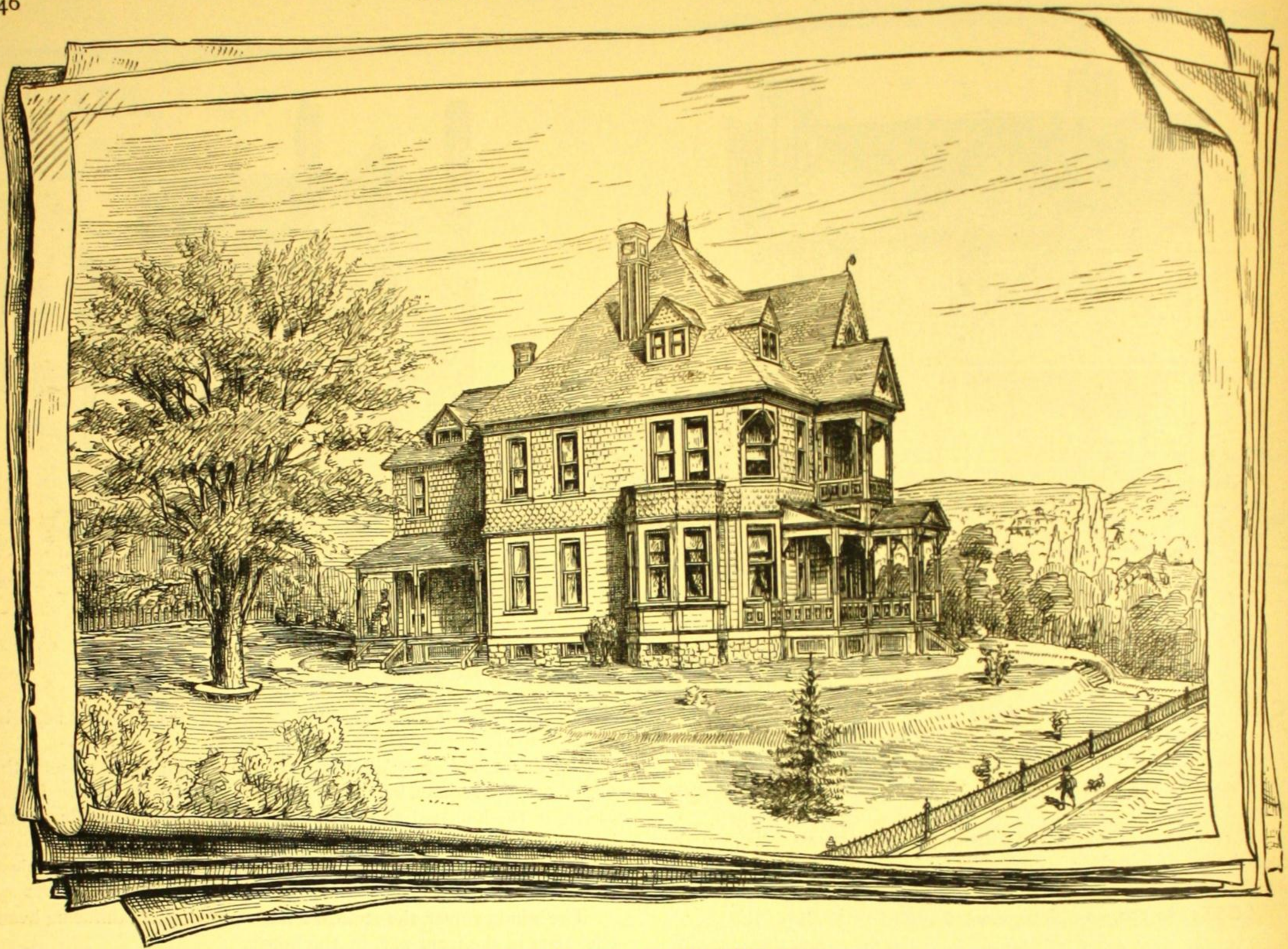
Properly used it is capable of most beautiful effects, and at small expense can be made to serve in beautifying the humble cottage as well as the most luxurious mansion. Improperly used, however, it becomes an absurdity, as does any misapplied decoration, and had better be omitted altogether.



FIRST FLOOR. NO. 222



SECOND FLOOR. NO. 222



DESIGN No. 223. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 223

SIZE OF STRUCTURE: Front, 37 ft. Side, 54 ft., 4 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingled; Roof, slate.

COST: \$5,200, complete, except grates or heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute

the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

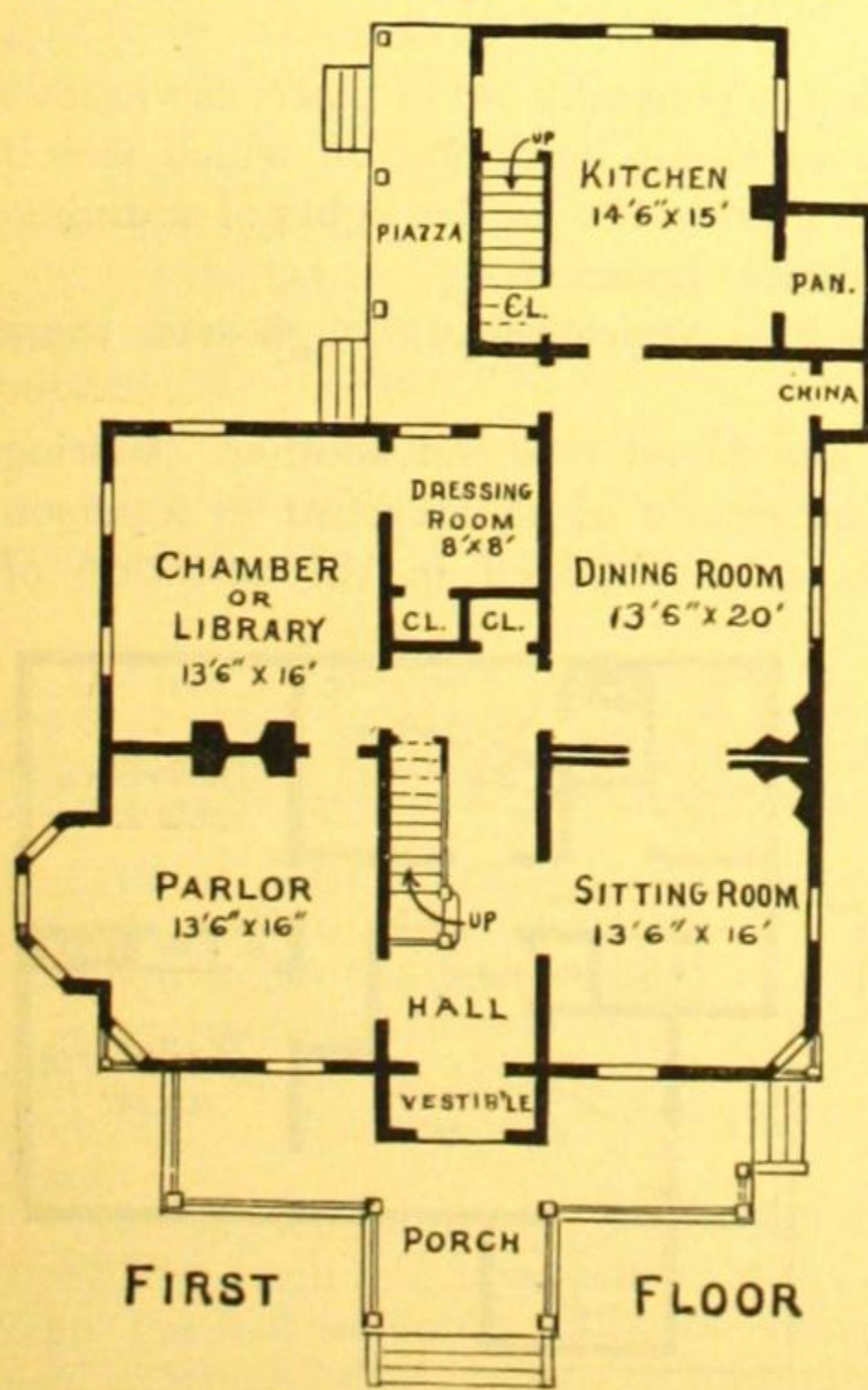
SPECIAL FEATURES.—Cellar under the whole house. Open fireplaces throughout first story, and hardwood mantels. The vestibule door lighting the hall is glazed with heavy plate glass.

Three rooms are finished in the attic story and there is open space for storage.

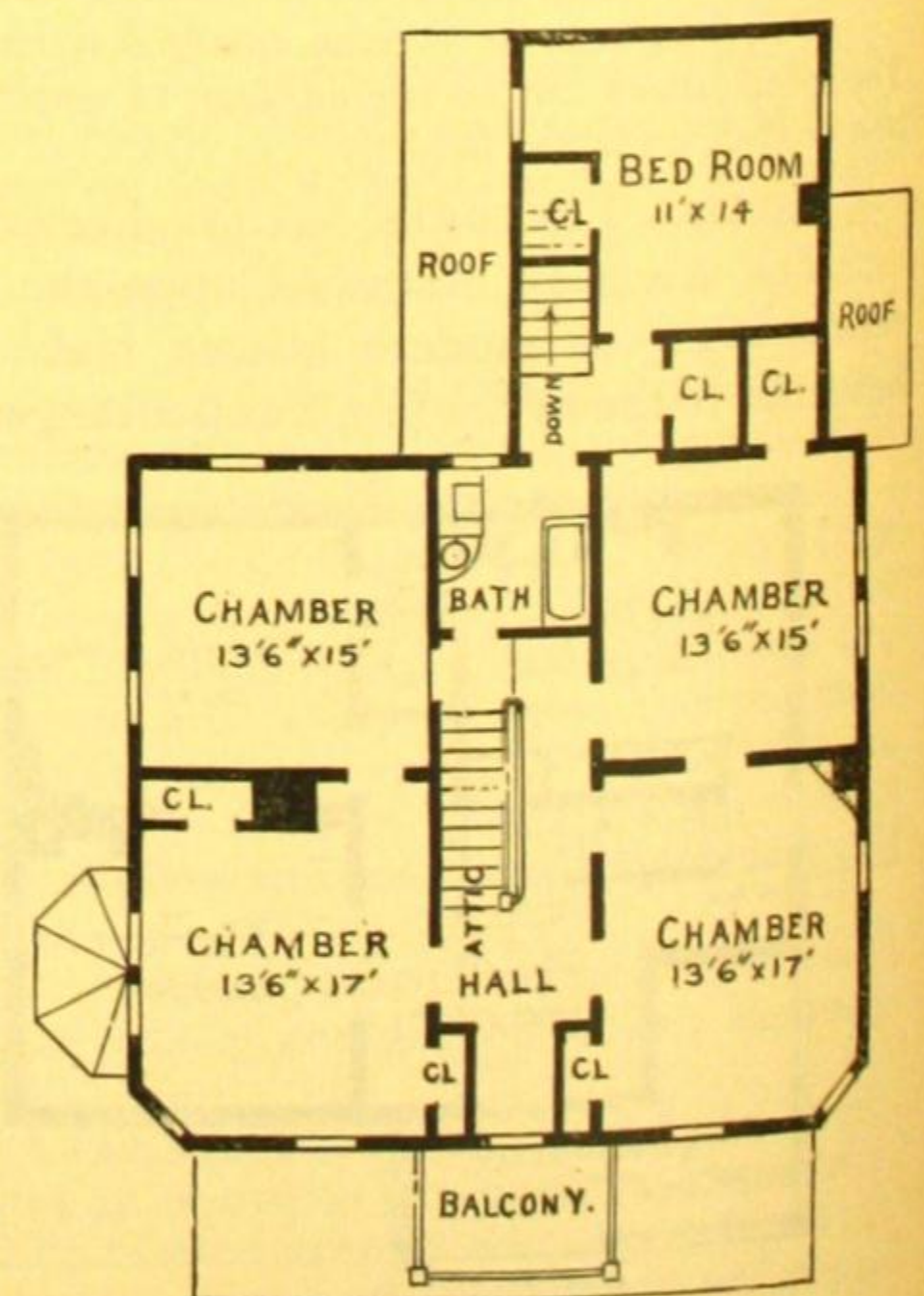
There is a fine covered balcony over the entrance porch. The whole design is picturesque in outline, and for that reason will look best when built on an eminence.

This house was recently built in Central Pennsylvania, a locality favored with cheap labor and material, at a total cost of \$3,200, including gas fixtures and heater, all ready to occupy. This is a good example of the difference in cost by reason of locality.

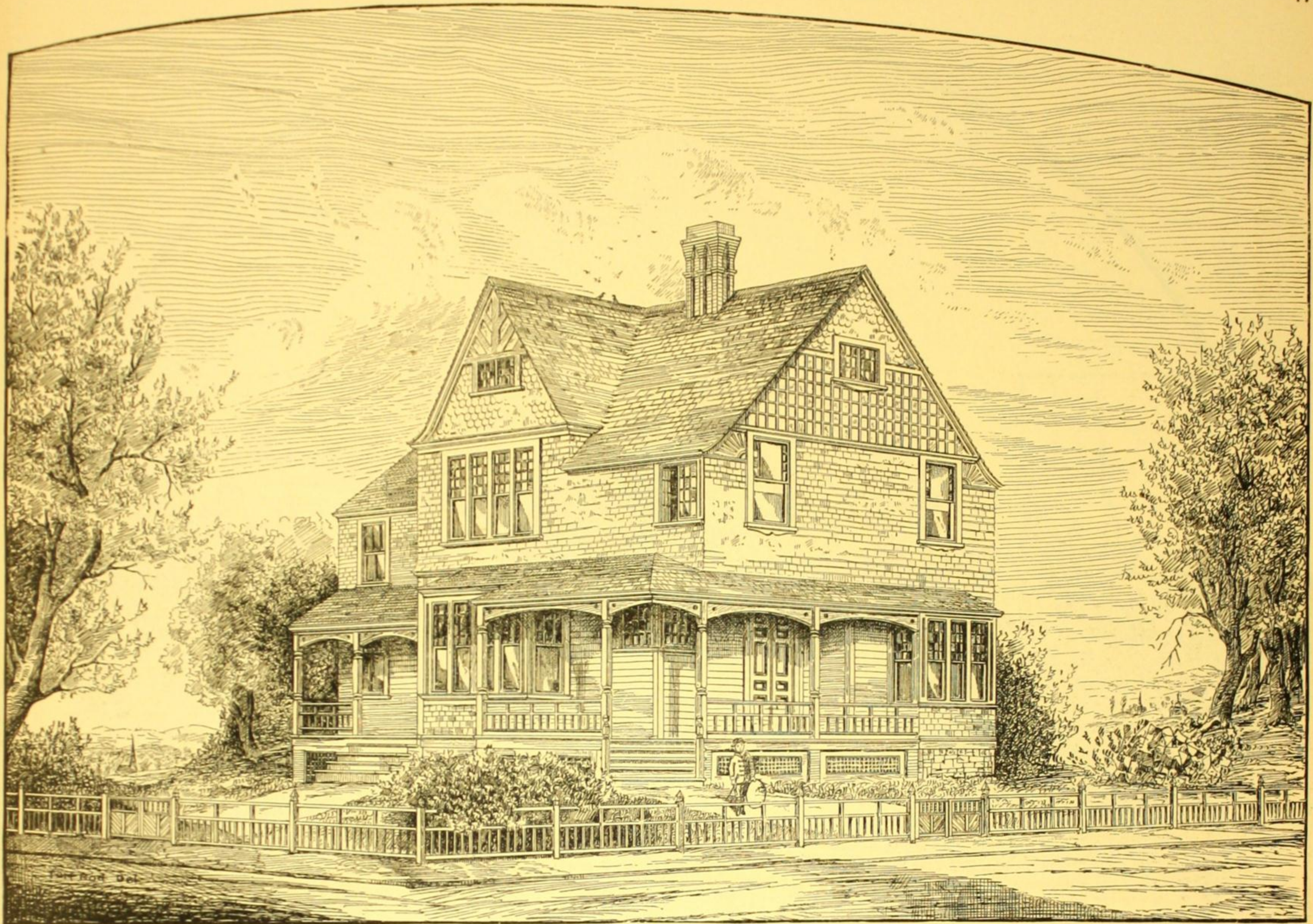
The intending builder should always consider this, and not be misled by the cost in the neighborhood of New York City.



FIRST FLOOR, NO. 223



SECOND FLOOR, NO. 223



DESIGN No. 224. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 224

SIZE OF STRUCTURE: Front, 36 ft., including veranda. Side, 50 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,400, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

If the library is used as a sitting-room, and never as a bed-room, it is well to connect it with the dining-room by a wide opening. Large closets throughout the house.

NOTES

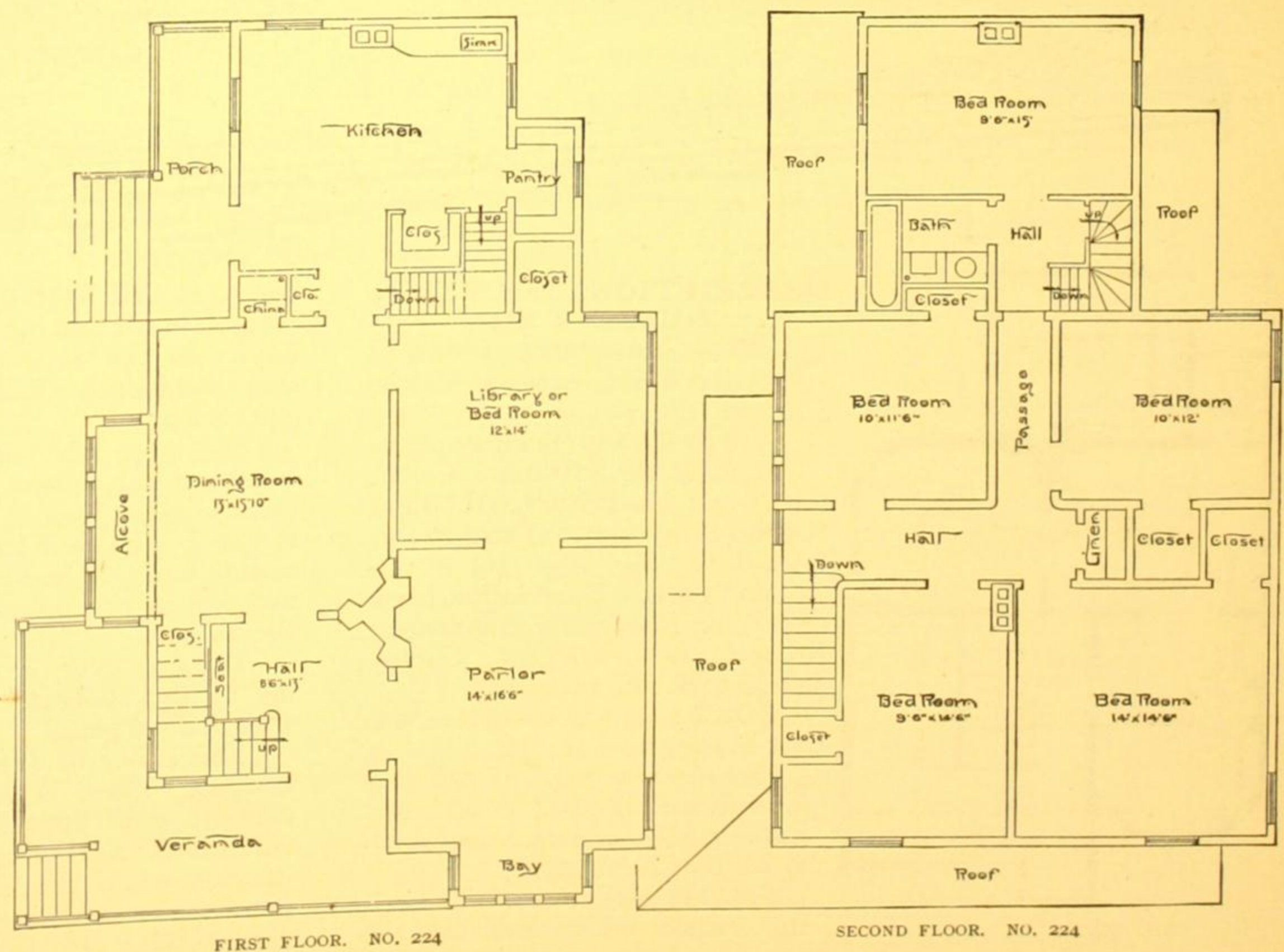
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house. Two good bed-rooms can be finished in the attic, still leaving ample storage room.

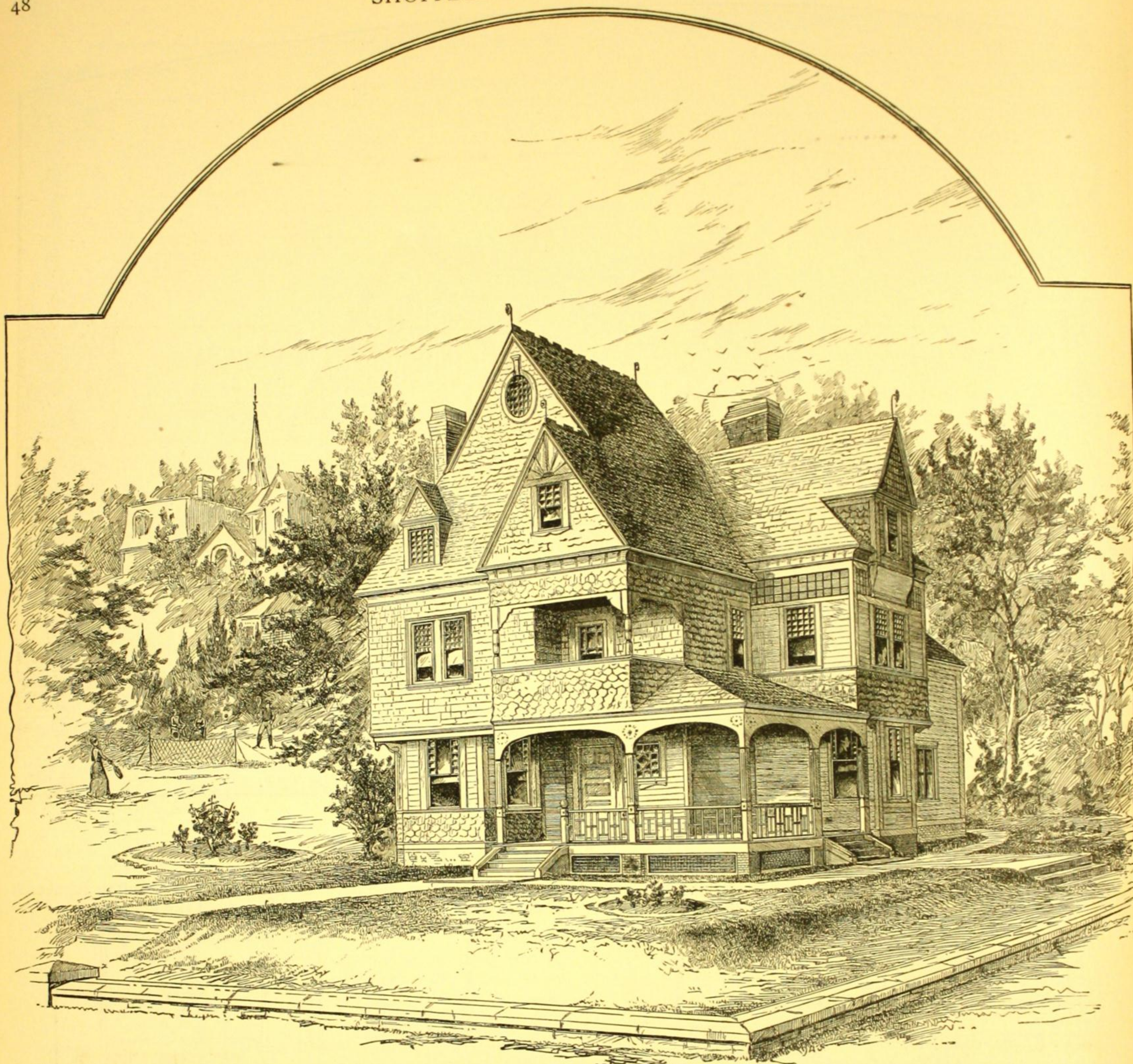
A fine hall with a hardwood seat and a fireplace, connected with the parlor and dining-room by wide openings for curtains.

A beautiful dining-room, the alcove windows making it a very light and cheerful room. A bay-window in the parlor.



FIRST FLOOR. NO. 224

SECOND FLOOR. NO. 224



DESIGN No. 225. PERSPECTIVE VIEW

**DESCRIPTION OF DESIGN
NUMBER 225**

SIZE OF STRUCTURE: Front, 36 ft., 6 in., extreme width. Side, 51 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$4,200 complete, except heating and grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

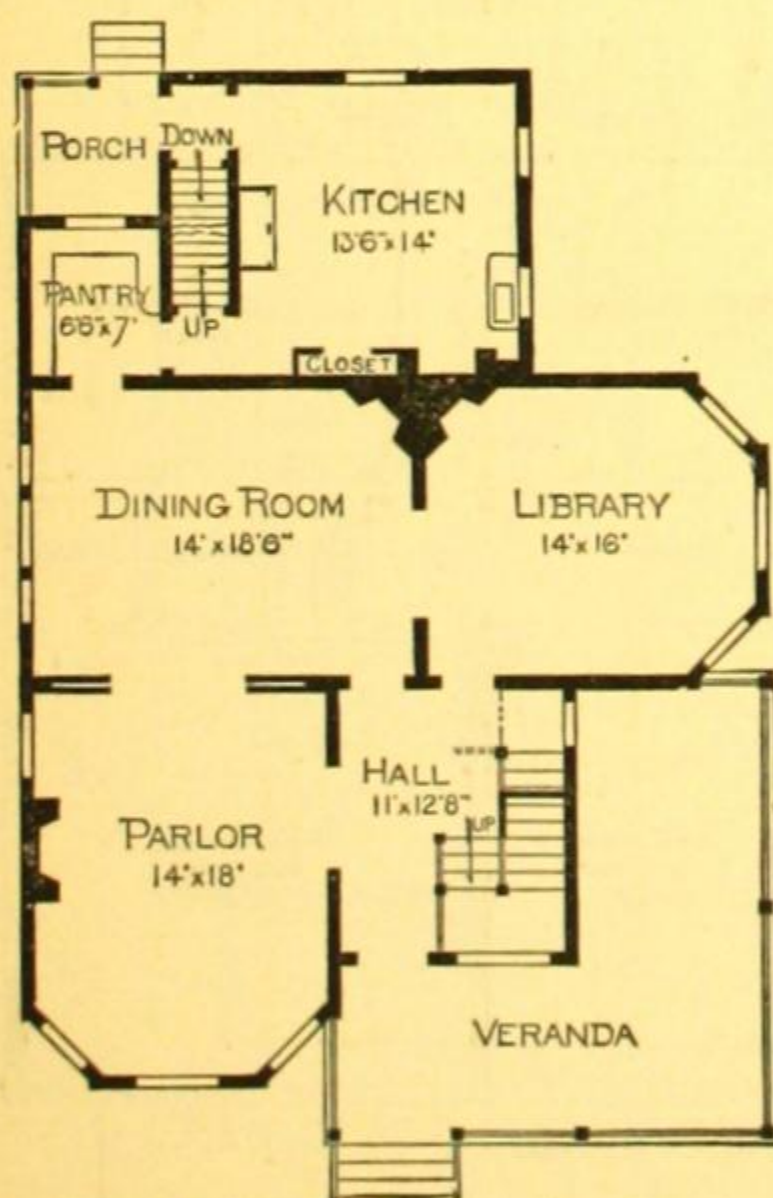
SPECIAL FEATURES.—The cellar extends under half of the

house, is well lighted and has both an inside and outside stairway. In the attic there are three bed-rooms, a hall and storage room.

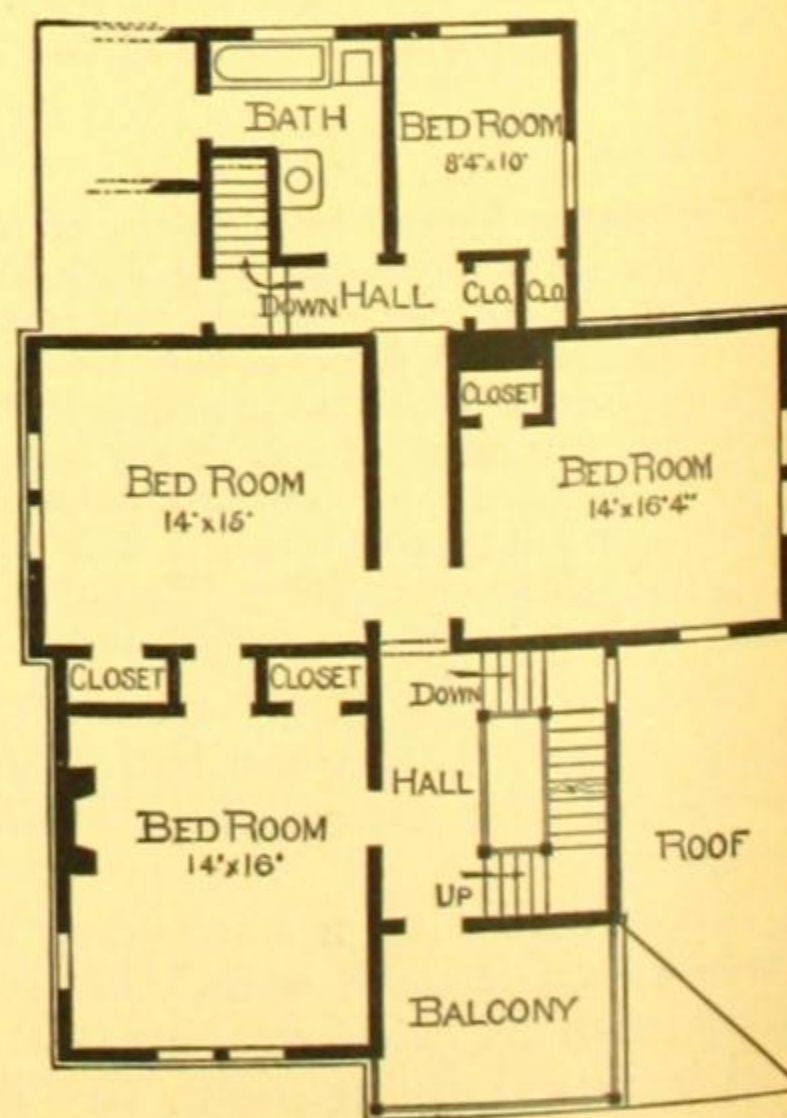
The large covered balcony is a beautiful feature affording great comfort, but if preferred it can be enclosed to use as a sewing-room or bed-room, and not injure the appearance of the house.

The sash over the first landing of the staircase is glazed with stained glass.

This is one of our premium designs. There is the utmost comfort and convenience secured in the arrangement of the interior, while the exterior is picturesque and in thorough good taste.



FIRST FLOOR. NO. 225



SECOND FLOOR. NO. 225

SHOPPELL'S MODERN HOUSES

DESCRIPTION OF DESIGN NUMBER 226

49

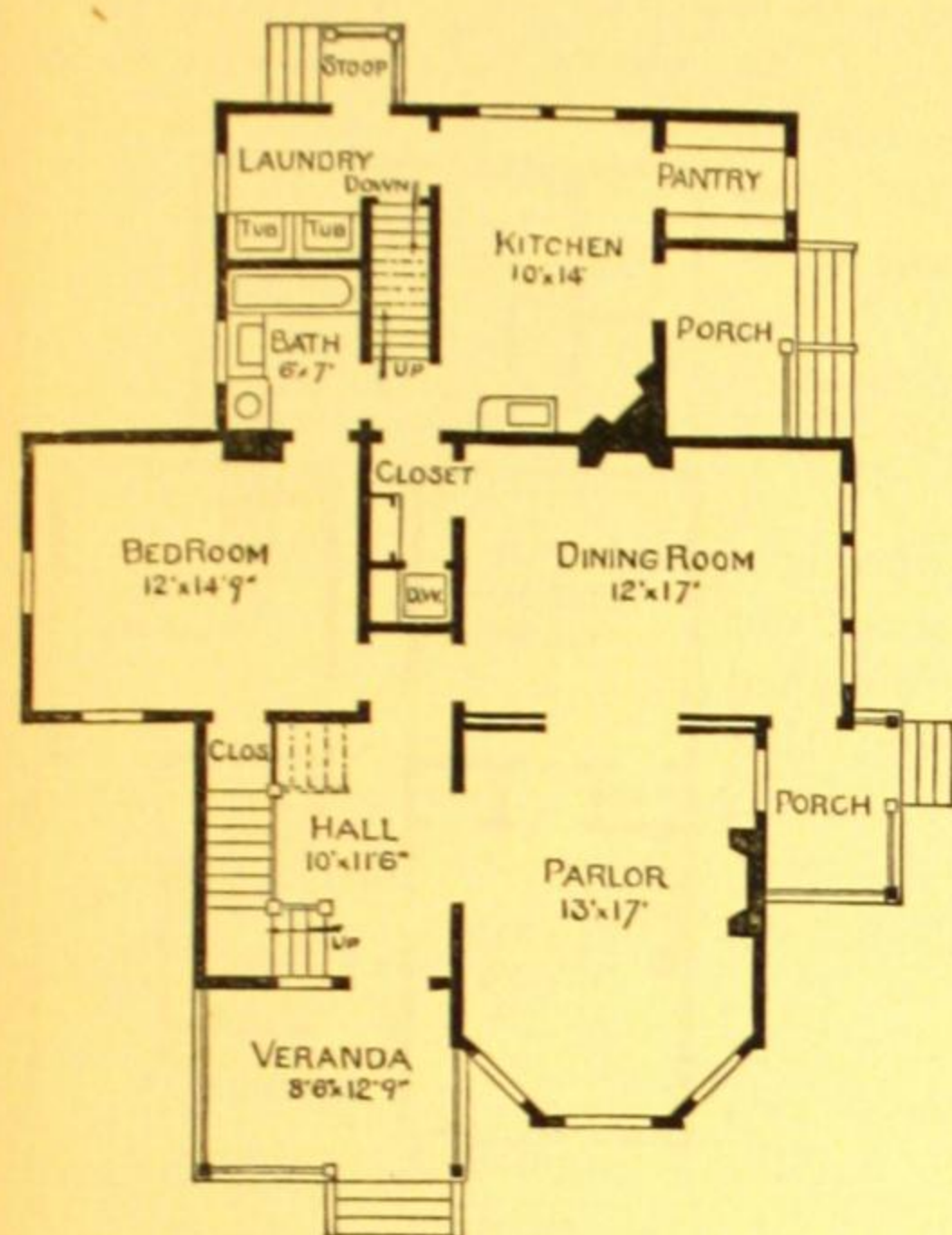
SIZE OF STRUCTURE: Front, 39 ft., 6 in., extreme width. Side, 46 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$4,300, complete, except grates, kitchen range and furnace.



FIRST FLOOR. NO. 226

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c.

(these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The elevations of this house are in the same style as Number 225, but reversed.

The cellar extends under the whole house; building it half the size would reduce cost considerably. It is a useless expense to excavate and wall up four times as much cellar room as is ever required; and it is not necessary on account of health and warmth as many suppose.

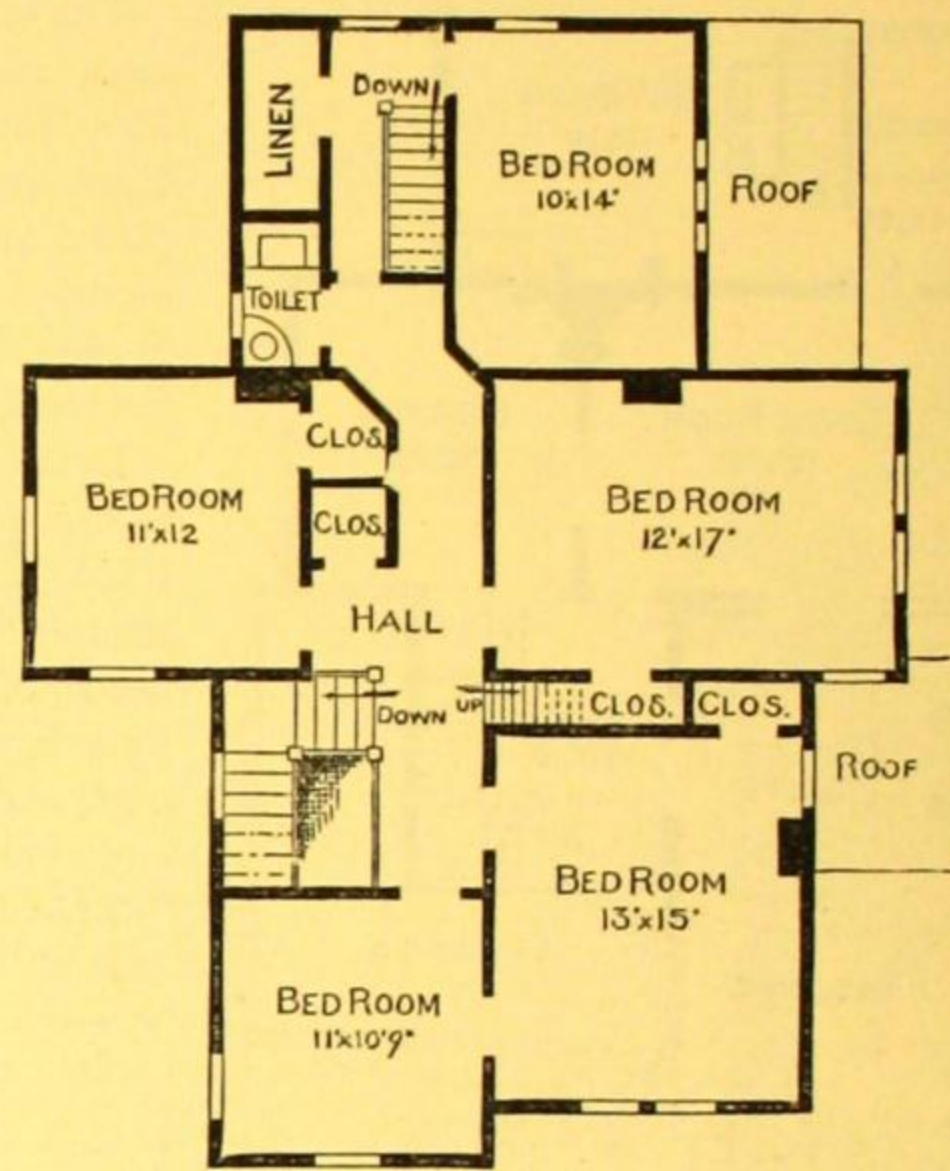
Three large rooms and storage room in the attic.

The plumbing is all perpendicular and kept well together, the pipes running down by the chimney.

The bath-room can be placed in the second story if preferred.

The dumb-waiter from the cellar carries up fuel, etc., without much labor.

All of the interior arrangements are complete; the client building from this design has a commodious, perfect and beautiful house.



SECOND FLOOR. NO. 226

DESCRIPTION OF DESIGN NUMBER 227

SIZE OF STRUCTURE: Front, 29 ft. Side, 50 ft., 6 in.; with summer kitchen, 60 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 4 in.

MATERIALS: Foundation, brick; First Story, brick; Second Story, shingles—the wings are brick; Gables, shingles; Roof, slate.

COST: \$4,400, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants.

The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

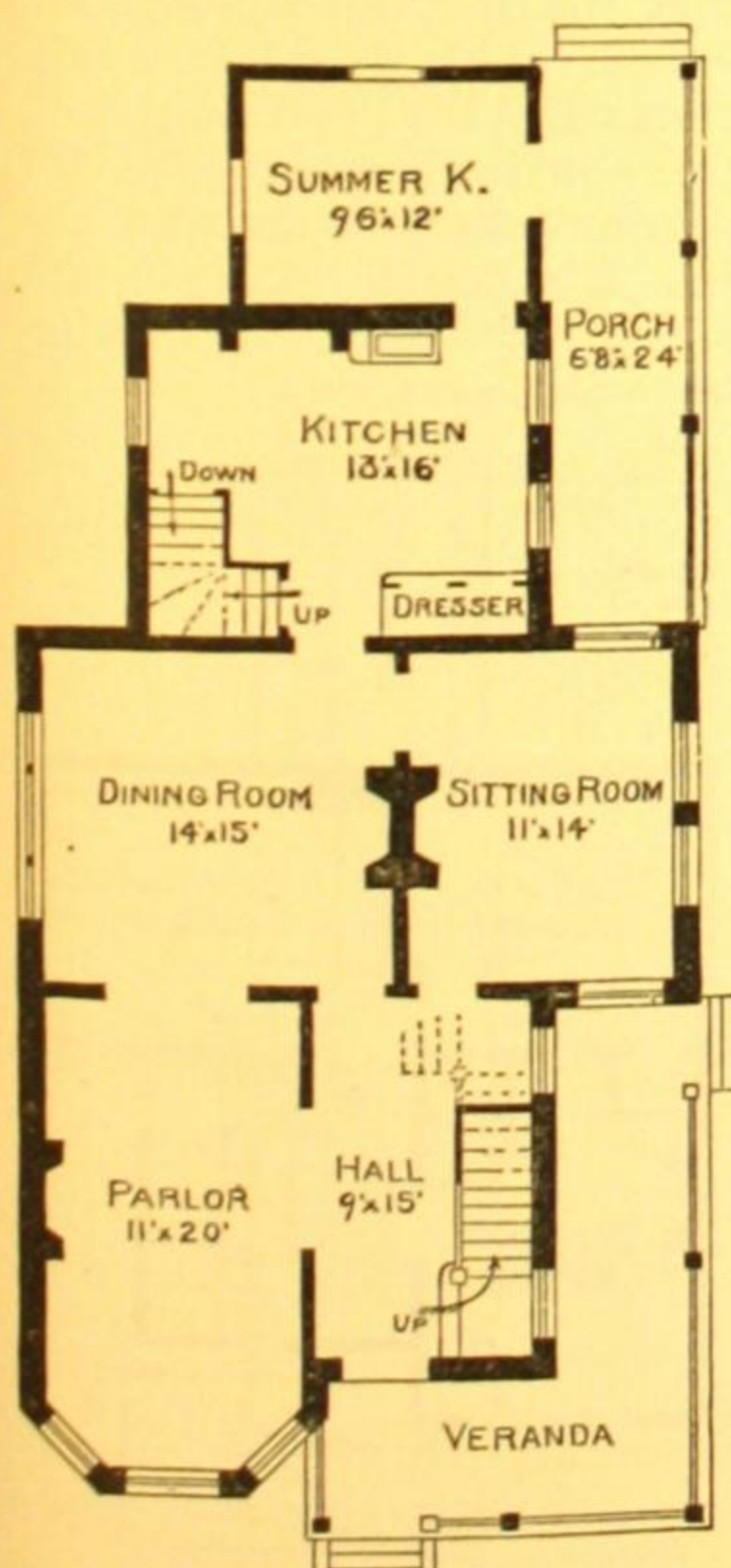
SPECIAL FEATURES.—The exterior of this design also is similar to that of Number 225.

Cellar under the kitchen and rear half of main house. The summer kitchen is frame and only one story high. The back stairway runs from the cellar to the second story. In front there is a stairway to the attic where there is space for four fine bedrooms.

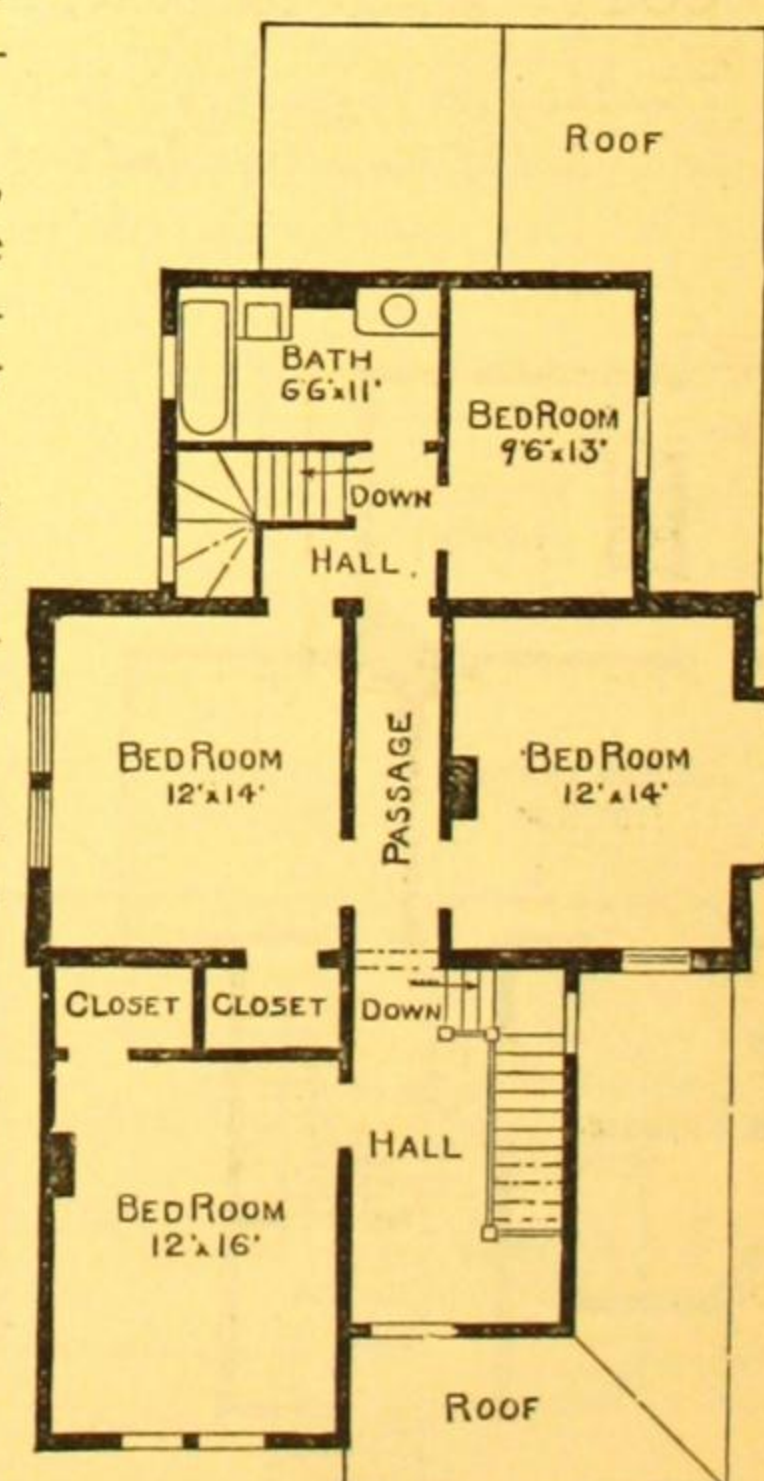
In the front of second story, where roof is shown (by mistake of the engraver), there is a balcony the same as in Number 225.

Only the second story of the main house is frame, the brick walls of the dining-room and sitting-room wings being carried up to the cornice line.

The pretty, bowed oriel window in the right hand bed-room makes the principal variation from the outlines of Number 225. For the capitalist who desires to build houses that will rent well and sell well, it is a valuable point to know that Number 225, and this series of modifications are universally popular. The error of building houses that people do not like is often made.



FIRST FLOOR. NO. 227



SECOND FLOOR. NO. 227

DESCRIPTION OF DESIGN NUMBER 228

SIZE OF STRUCTURE: Front, 31 ft. Side, 46 ft.

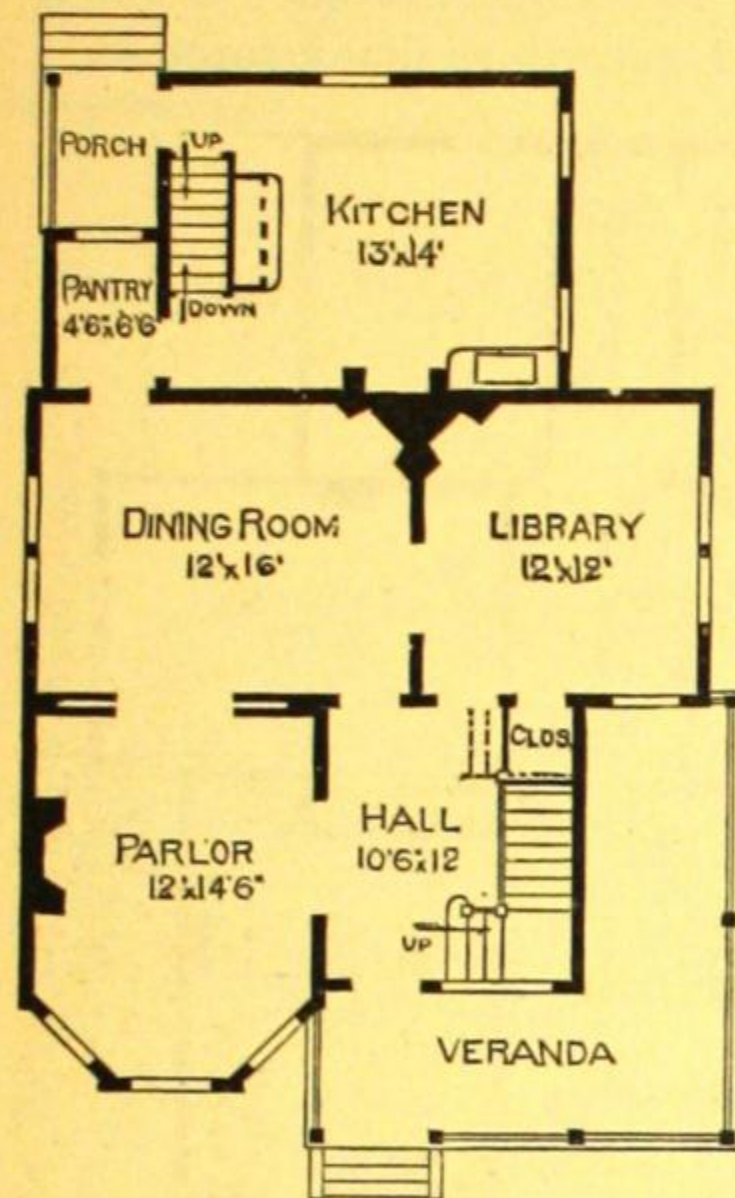
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,700, complete, except grates and heating.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 228

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

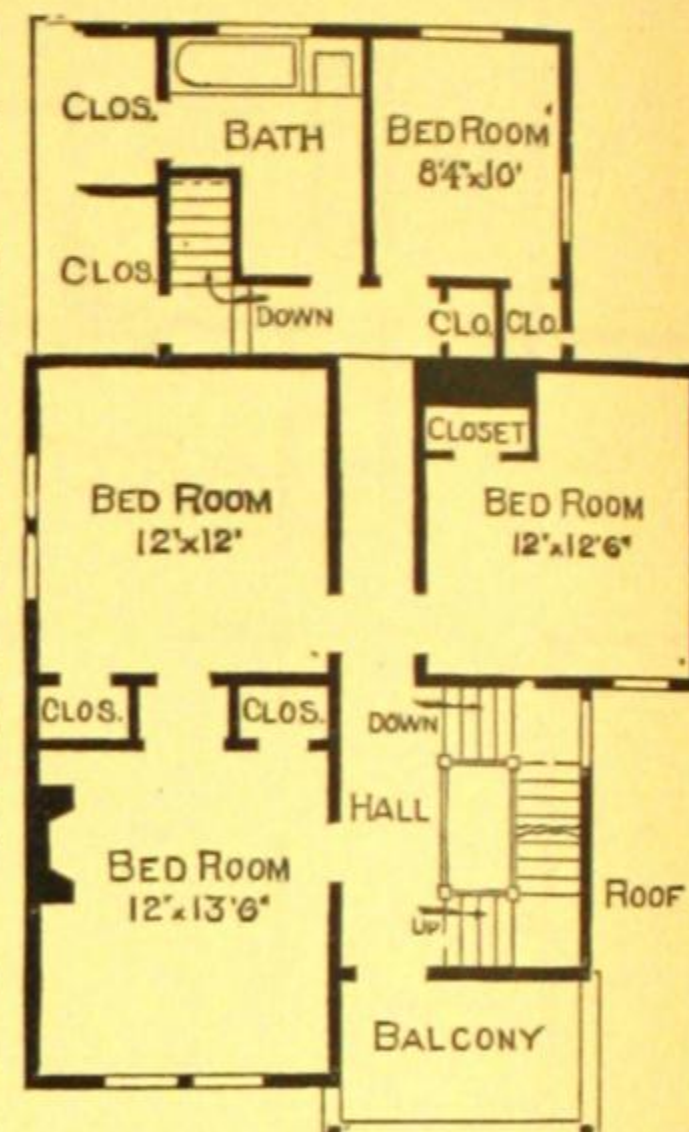
SPECIAL FEATURES.—This design preserves the principal features of both the exterior and the arrangement of rooms of Number 225, but is reduced in size. The height of roof, also, is reduced a little in order to keep the same proportions. There are three rooms in the attic story and plenty of storage space. Cellar under the kitchen. There are open fireplaces, with pretty hardwood mantels, provided in the parlor, dining-room, library, and bed-room over library. In addition to heating, they supply the best system of ventilation ever invented.

The pantry is large and well fitted up with drawers, shelves, hooks, &c., and is well lighted. The bath-room has a large closet formed under the sloping roof of the extension, and a similar closet is obtained at the top landing of the servants' stairs.

The wide openings between rooms still keep this a large house, practically.

An observing friend, who is a great traveler, says that he sees "our houses"—that is, houses designed by us—all over the country; that they are the handsomest houses in every neighborhood, in his opinion, and that this design appears very often.

While we advise all clients to adopt a plan to suit their own special needs, it is wise to build a house that will sell well.



SECOND FLOOR. NO. 228

DESCRIPTION OF DESIGN NUMBER 229

SIZE OF STRUCTURE: Front, 29 ft. Side, 44 ft., 6 in.

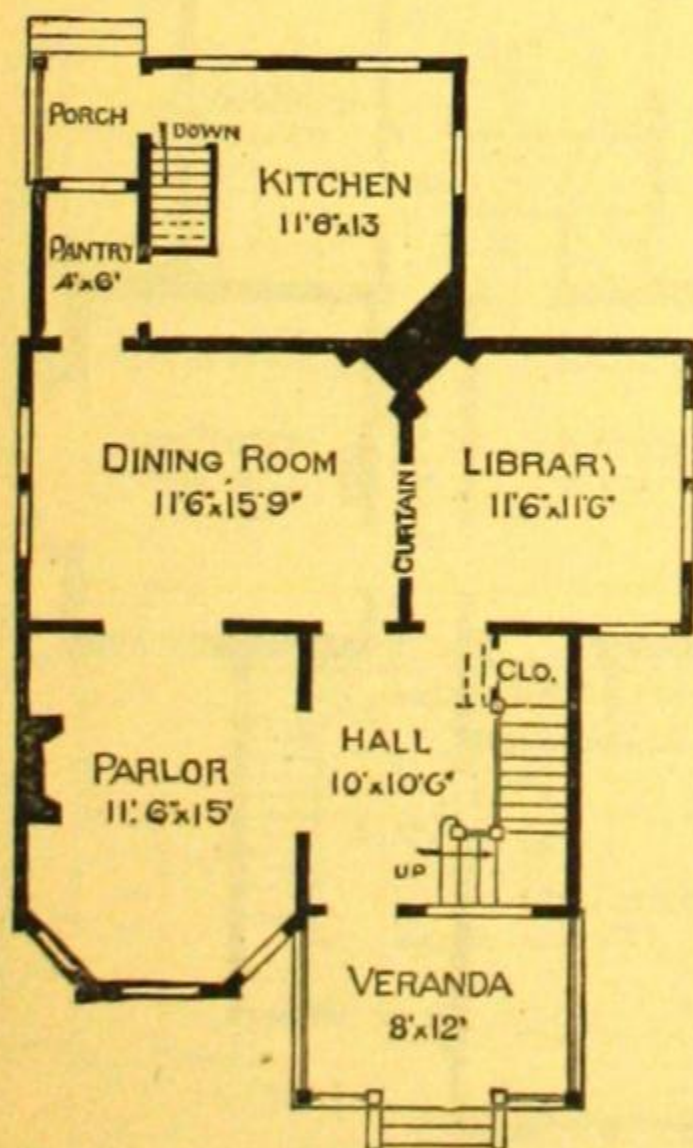
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, 8 ft.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,500, complete, except grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 229

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

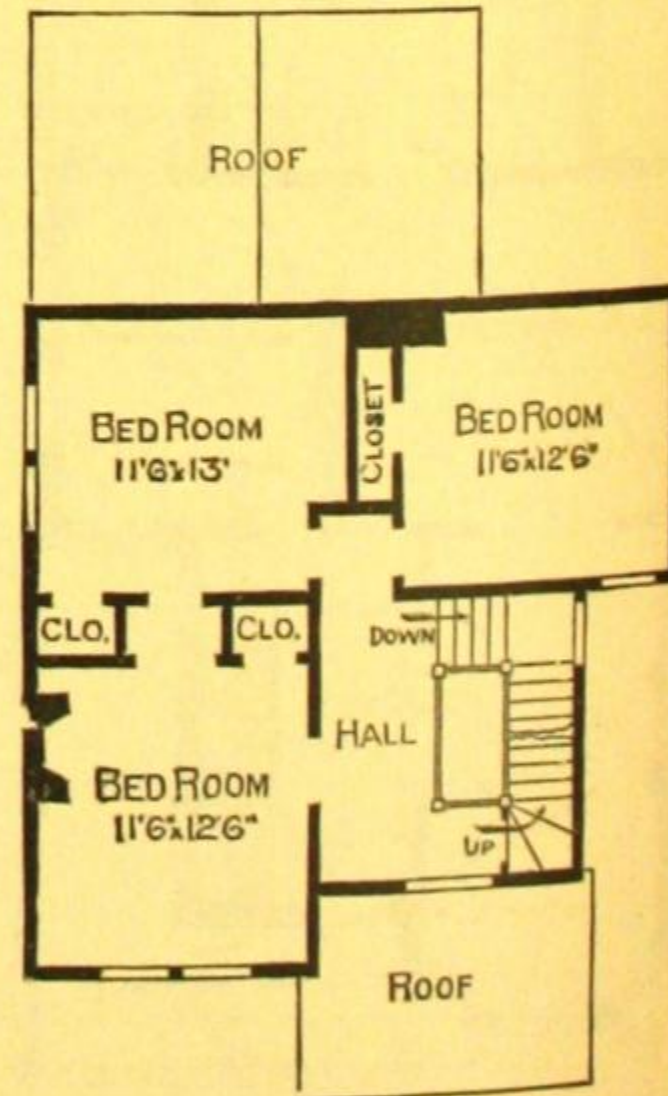
SPECIAL FEATURES.—This is a still greater reduction in size of Number 225, and with the omis-

sion of side veranda and front balcony. The kitchen extension is but one story high. Cellar under the kitchen only.

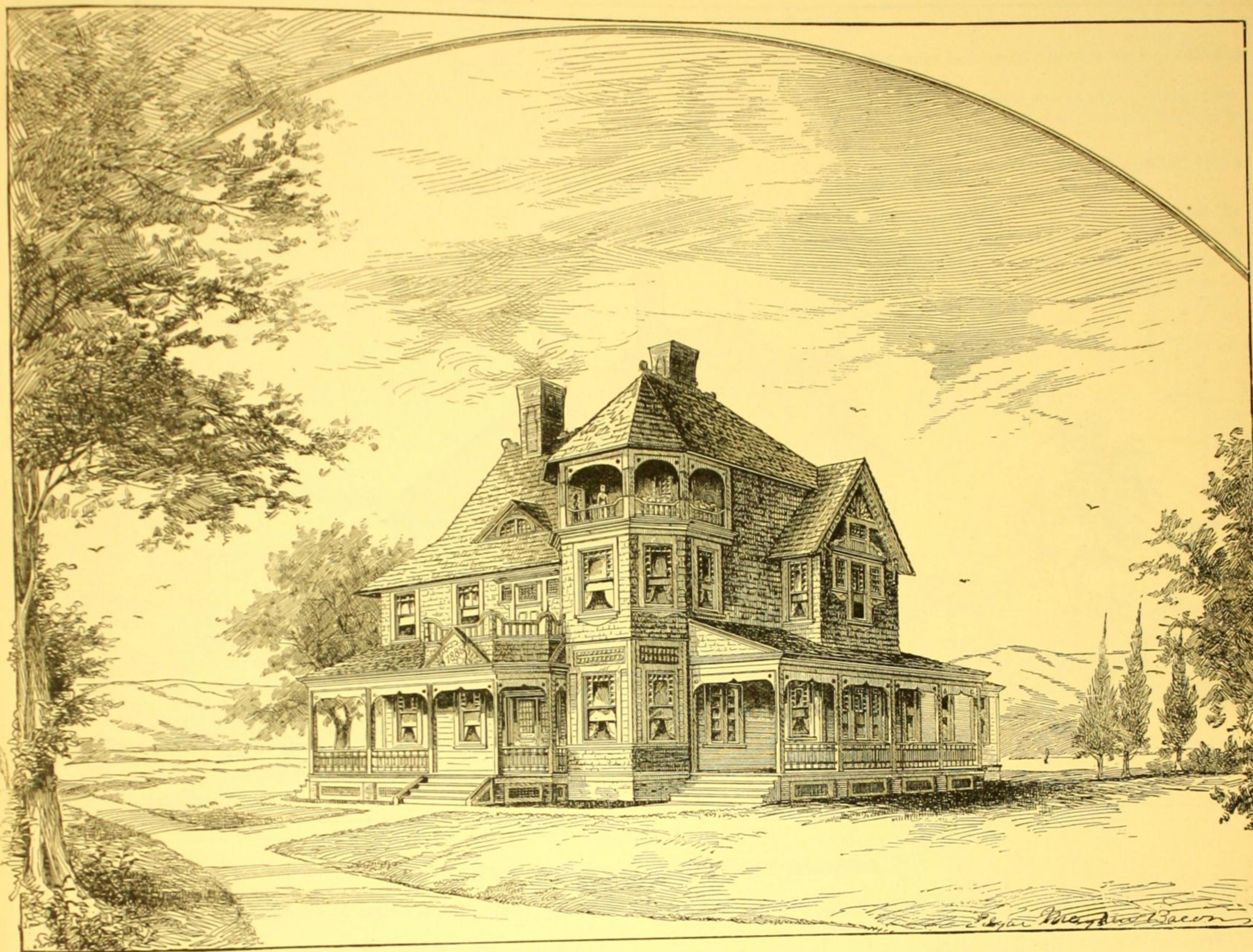
So effective are wide openings between rooms, this design has lost but little in convenience by reduction in size. It is still an elegant and roomy house. It can be better finished, it is easier to care for, it costs less, it has all of the advantages of a small house (and they are many), while it affords most of the comforts, conveniences and style of a large house.

The intending builder may think that the reduction in size and cost means an inferior quality of materials. This would be a mistake. Our specifications for all structures call for good materials. The expense for labor on this house equals the expense for materials, therefore it is manifestly poor economy to expend the labor in working up poor materials. The small expense for architectural services is saved over and over again by having carefully drawn and exact specifications.

We have noticed an inclination lately, on the part of many well-to-do people, to move out of large houses into small, well-arranged modern houses. There are more conveniences, better sanitary arrangements, and more "room" in comparatively small modern houses than in many old homesteads. The difference in expense and labor involved in keeping them warm and "in order" is greatly in favor of the modern house. Some of the old houses shorten the lives of wives and daughters—they are so large and inconvenient that competent servants will not work in them; to superintend the work of a large house with incompetent servants is a very unhappy burden that few ladies can bear without serious injury to health.



SECOND FLOOR. NO. 229



DESIGN No. 230. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 230

SIZE OF STRUCTURE: Front, 48 ft., 6 in.; extreme width, including veranda, 59 ft., 6 in. Side, 82 ft., 4 in., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft., 6 in.; Second Story, 11 ft.; Third Story, 10 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST, \$5,700, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

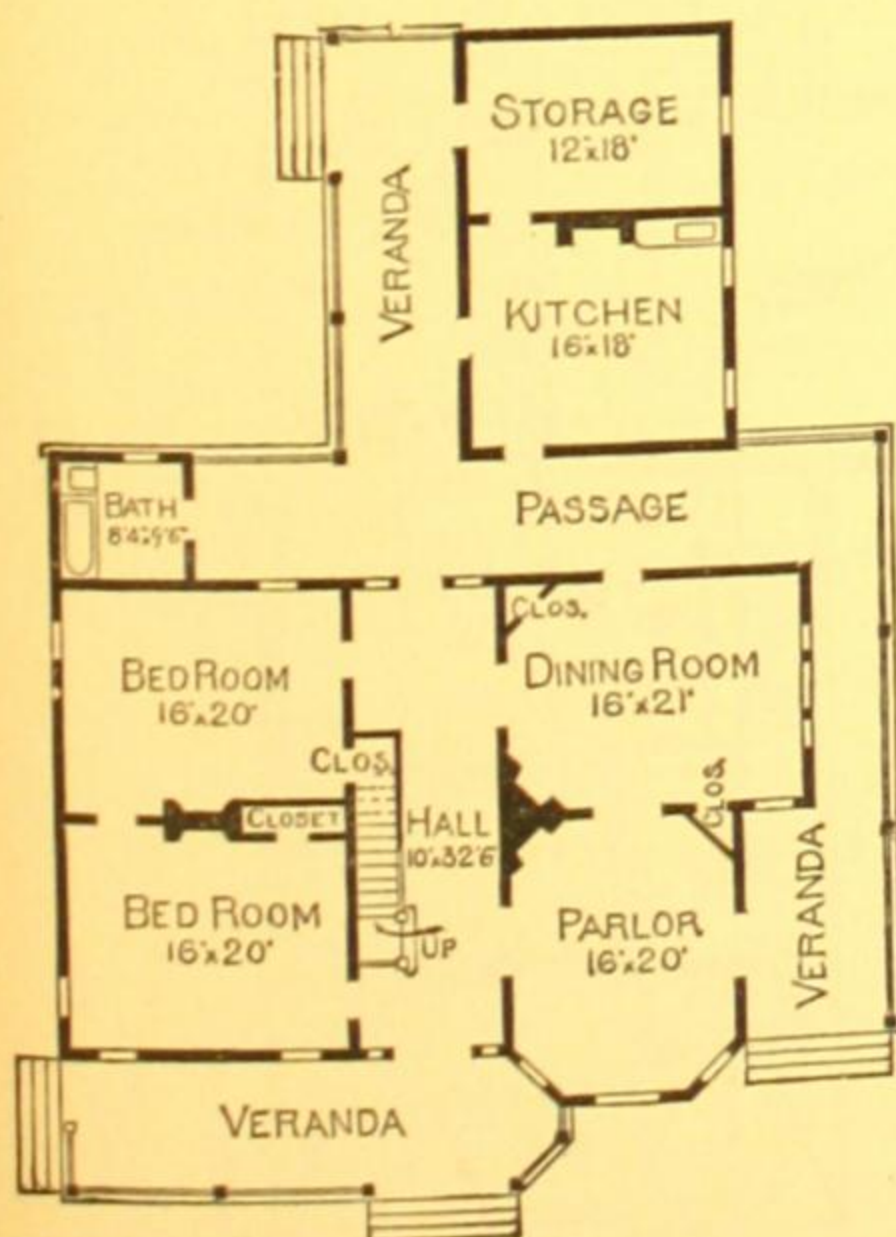
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies

cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

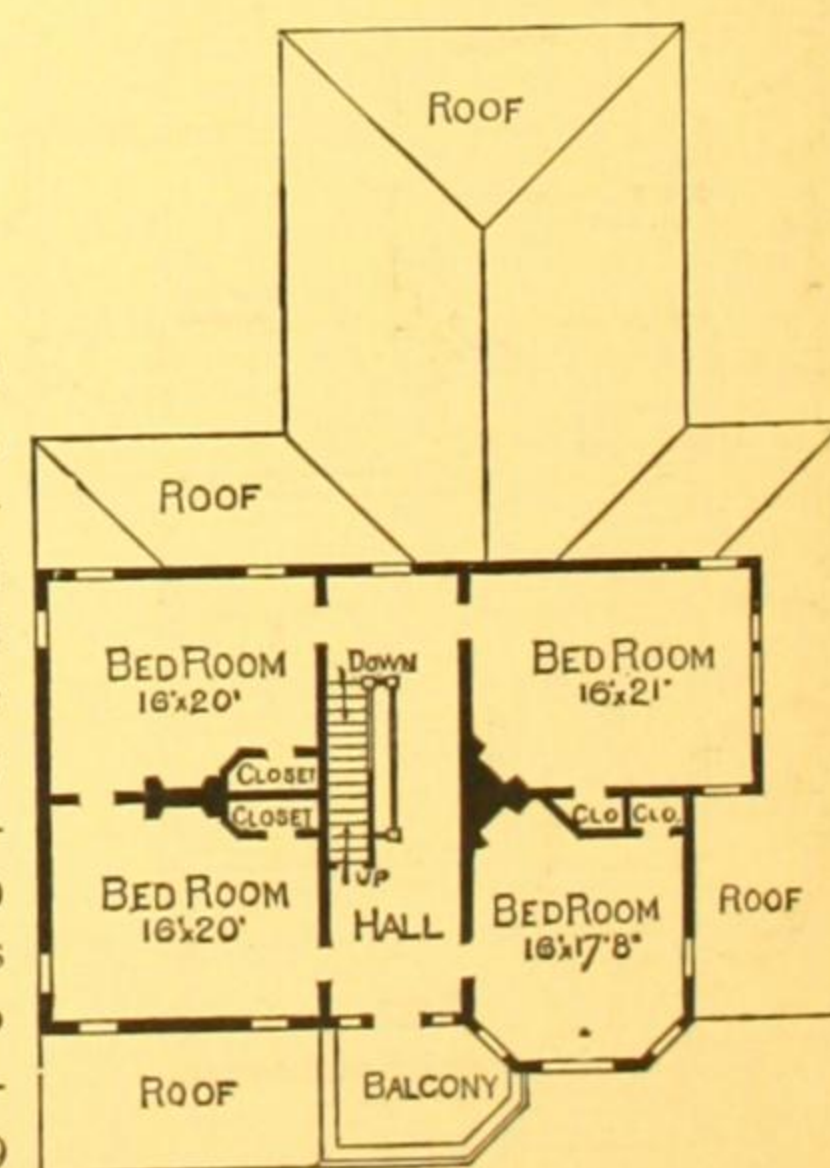
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

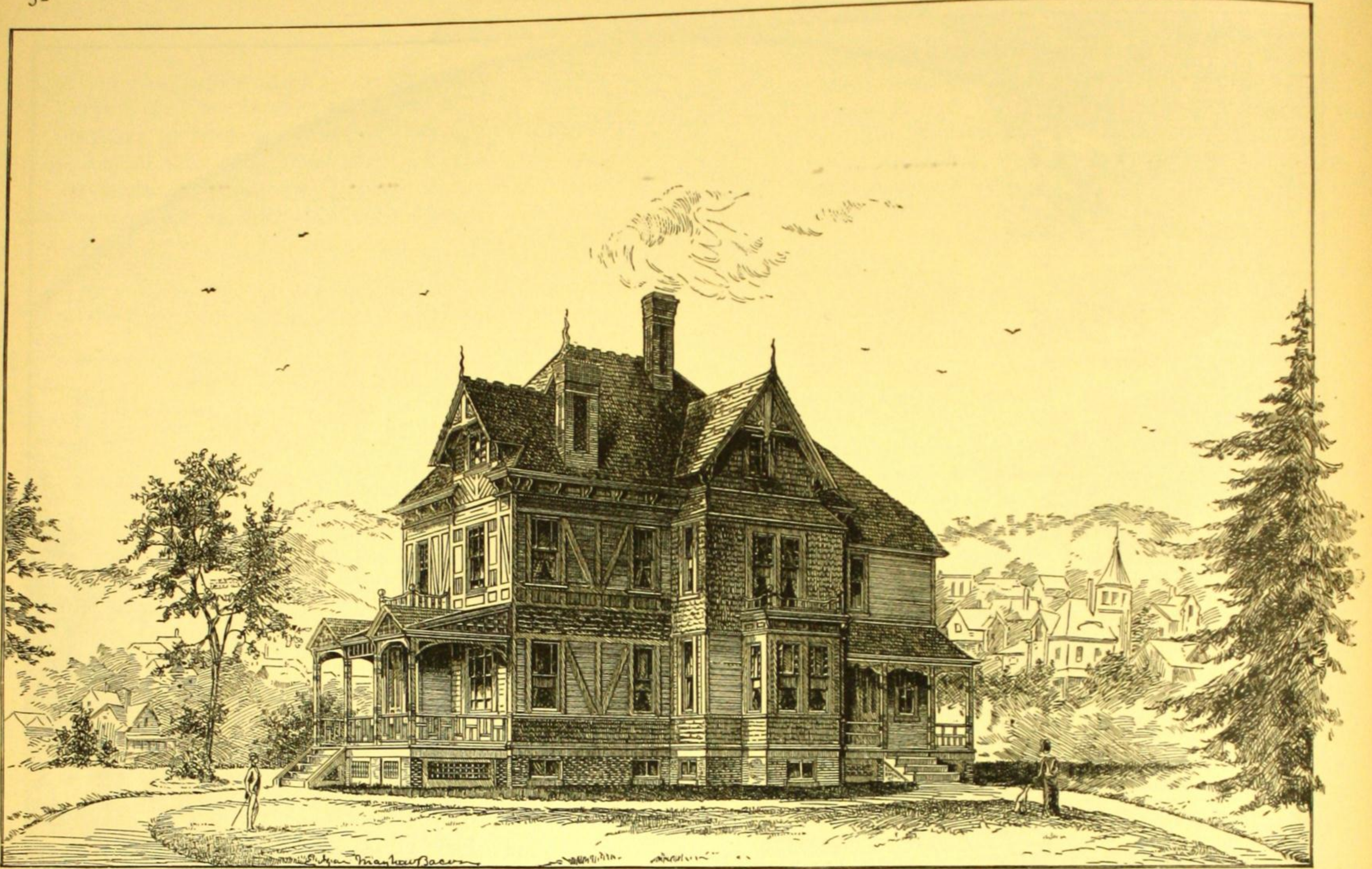
SPECIAL FEATURES.—This house was designed for the South. It has a hall 10 feet wide, running through from front to rear; large open fireplaces in both first and second stories; large, wide windows; verandas, 11 feet wide; detached kitchen; an open balcony over the front entrance, 9 feet 6 inches by 13 feet, access to which is provided by a jib door, and a covered balcony or observatory in the third story, 9 feet by 16 feet.



FIRST FLOOR. NO. 230



SECOND FLOOR. NO. 230



DESIGN No. 231. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 231

SIZE OF STRUCTURE: Front, 22 ft., 10 in. Side, 57 ft., 6 in., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, frame; Second Story, frame; Roof, shingles.

COST: \$4,450, complete, except range, grates and heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working

Drawings, and careful directions for their execution are given in our Specifications.

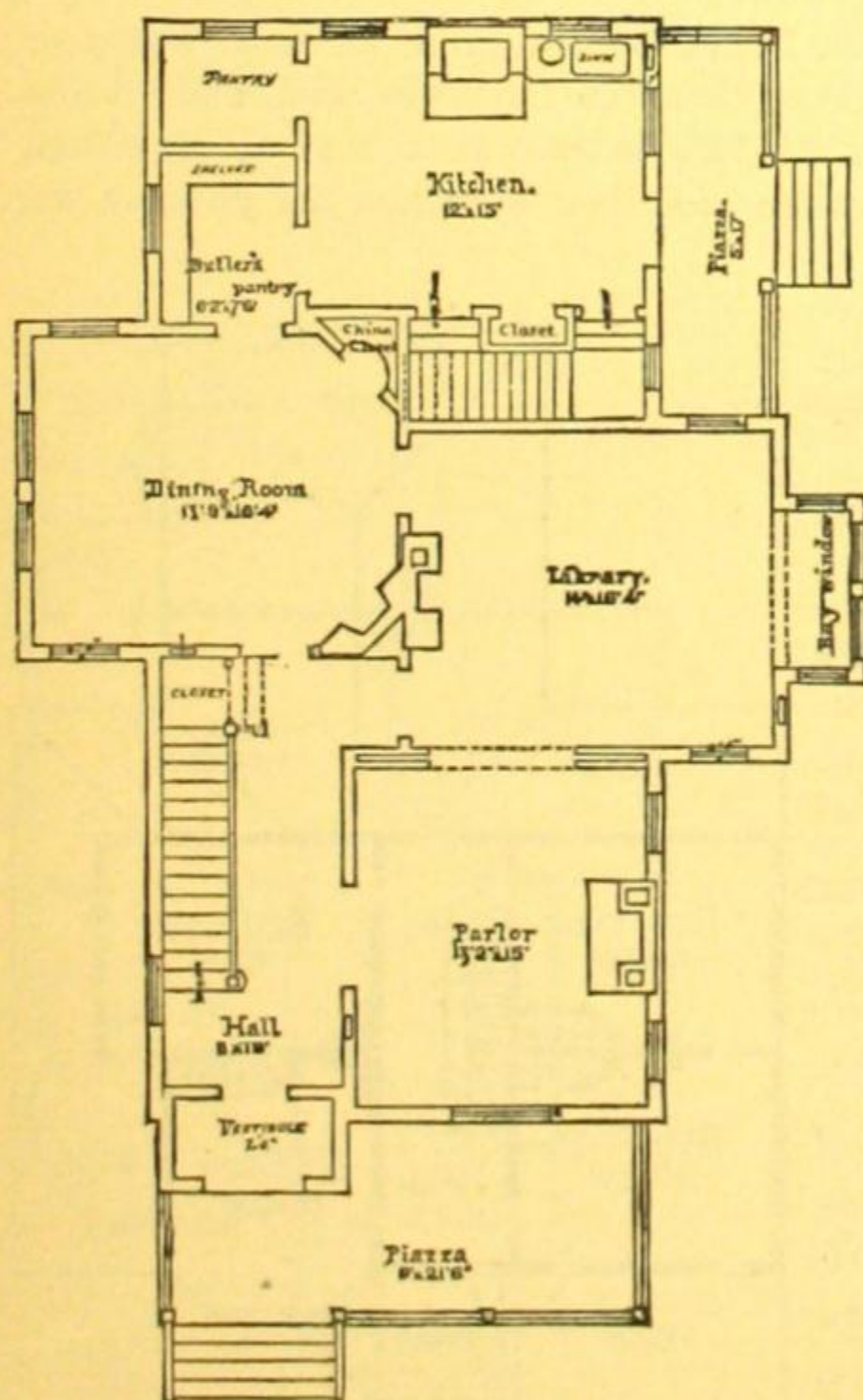
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house. In addition to the rooms shown by the floor plans given, three good rooms can be finished off in the attic, still leaving plenty of storage room. A back stairway runs from the cellar to the attic. Heated by open fireplaces in conjunction with a furnace.

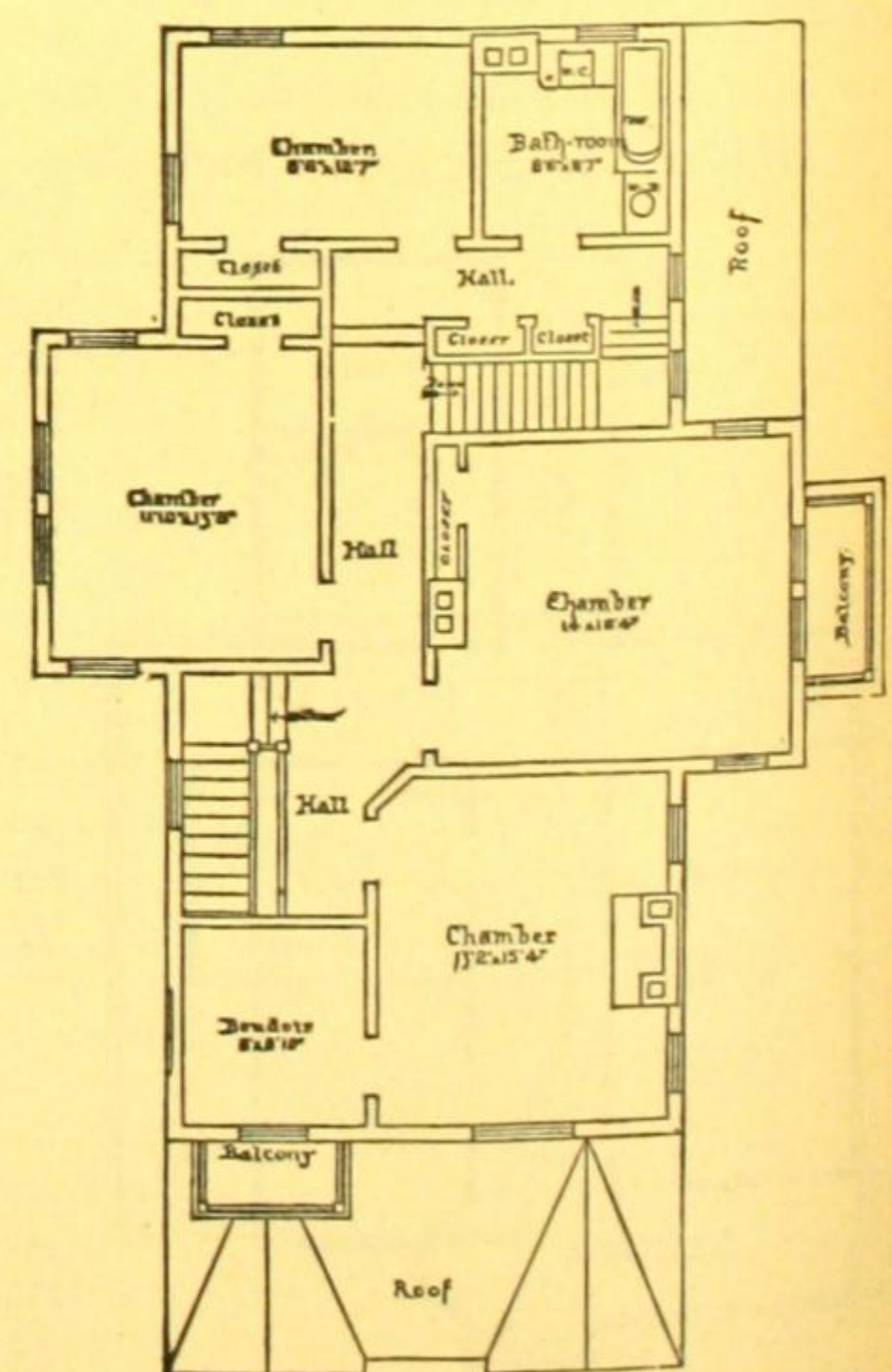
This is a good house for any location, but it is particularly well placed on a corner lot, as the sides are very handsome.

The intending builder who wants a complete and beautiful house need not look much further for a design. The exterior is picturesque and in thorough good taste; the interior is spacious, yet compact—not covering too much ground. The accommodations are complete—all that can be desired in a well-appointed residence.

Well-kept grounds add much to the appearance of a handsome house like this.



FIRST FLOOR. NO. 231



SECOND FLOOR. NO. 231

DESCRIPTION OF DESIGN NUMBER 232

SIZE OF STRUCTURE: Front, 26 ft., 6 in. Side, 54 ft., 4 in., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles; Roof, shingles.

COST: \$3,900, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on

a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

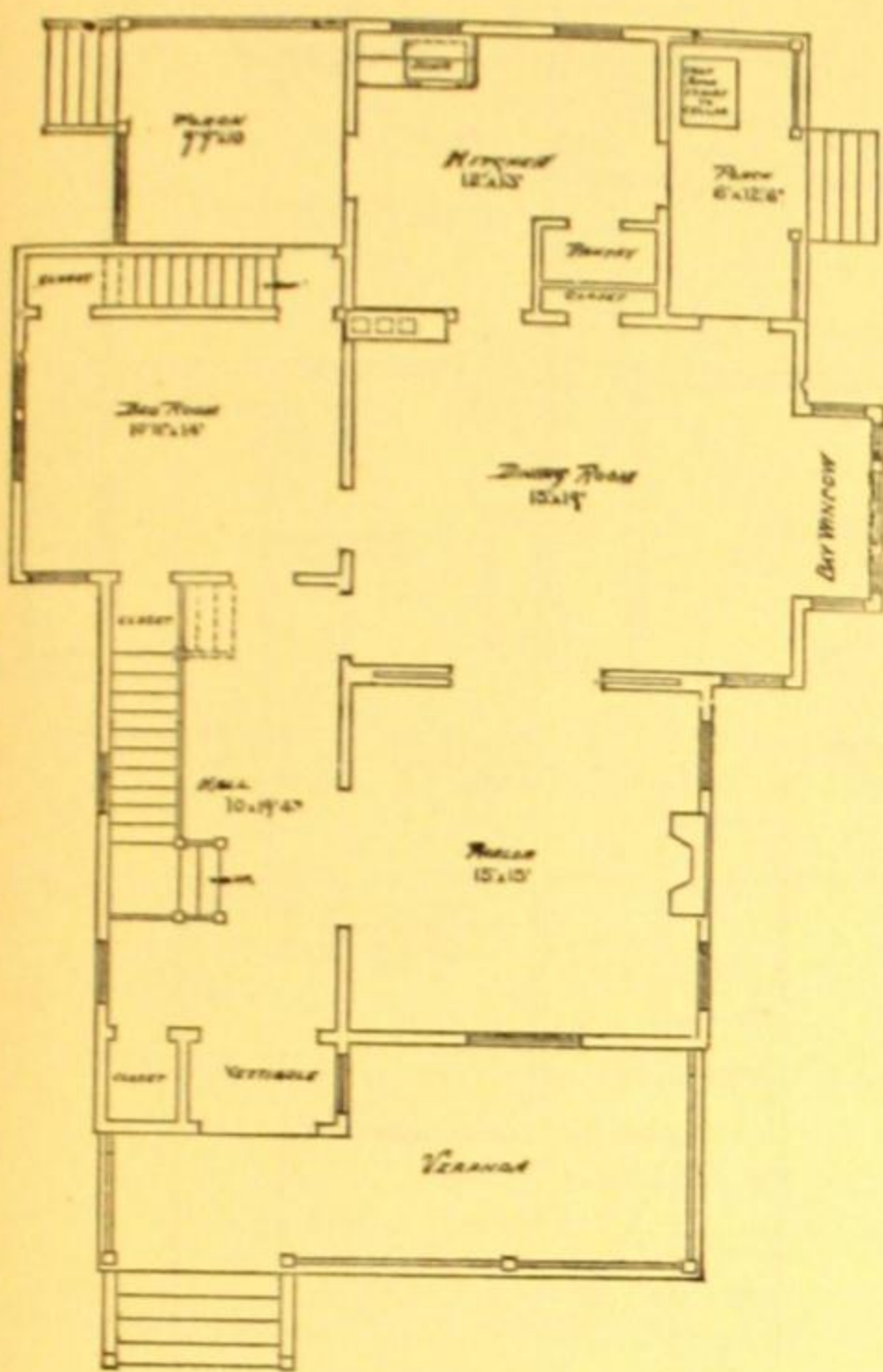
SPECIAL FEATURES.—The external appearance is similar, but a little plainer than the preceding design, Number 231.

Cellar under the kitchen only, but it can be extended under the whole house if desired. The cellar is entered by trap door in floor of side porch. A fireplace in parlor and in the chamber above. It is designed to heat the other rooms by stoves or furnace.

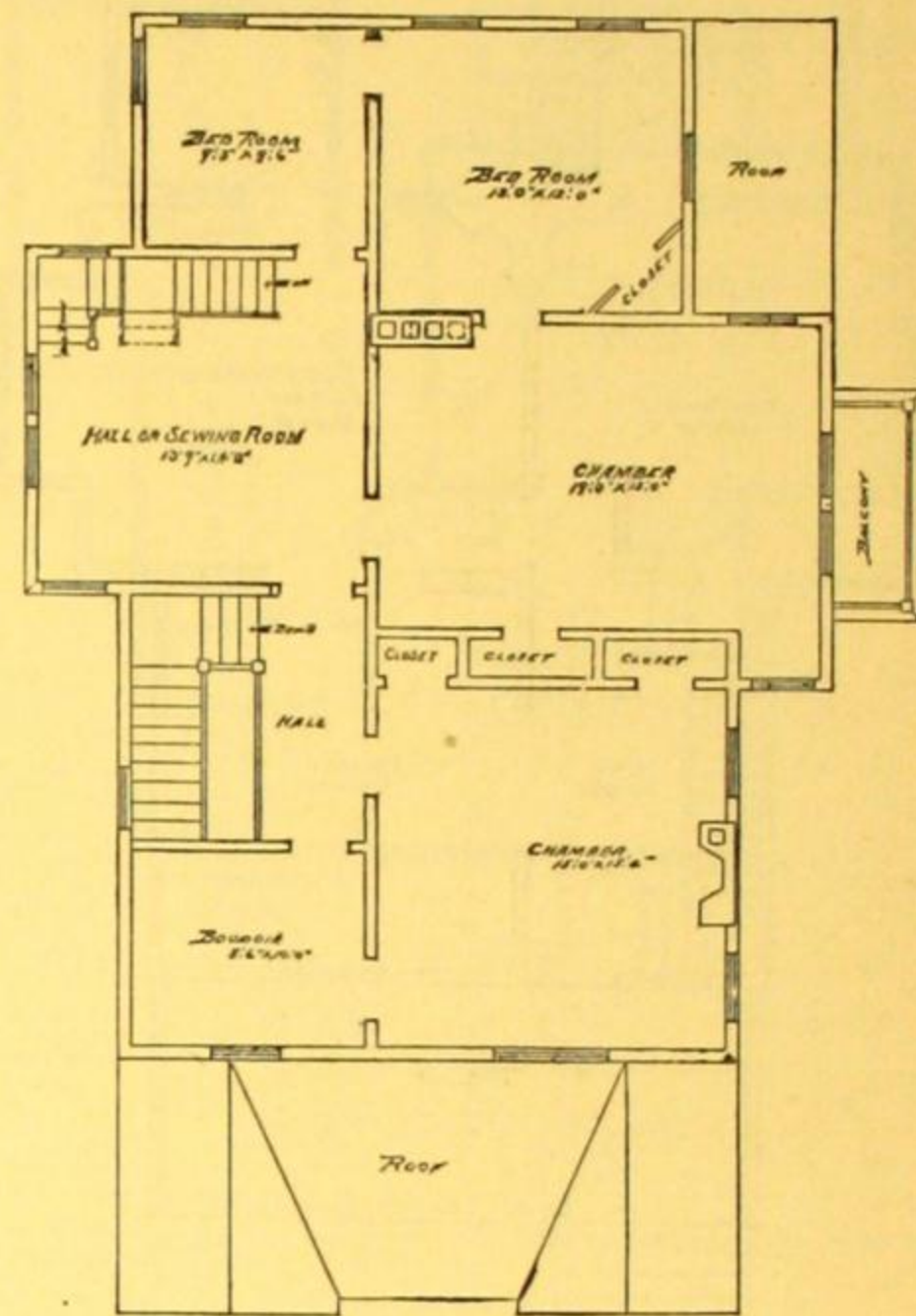
Four good rooms can be obtained in the attic, if desired. The room marked bed-room on first floor will make a good sitting-room or library, in which case it would be well to connect it with the dining-room by a five-foot portière opening.

A large closet in the front hall and a plentiful supply throughout the house.

It is almost impossible to have too many closets. The words, "my wife says she must have plenty of closets," are exceedingly familiar to us through our correspondence.



FIRST FLOOR. NO. 232



SECOND FLOOR. NO. 232

DESCRIPTION OF DESIGN NUMBER 233

SIZE OF STRUCTURE: Front, 23 ft., 8 in. Side, 60 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$4,500, complete, except grates or heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

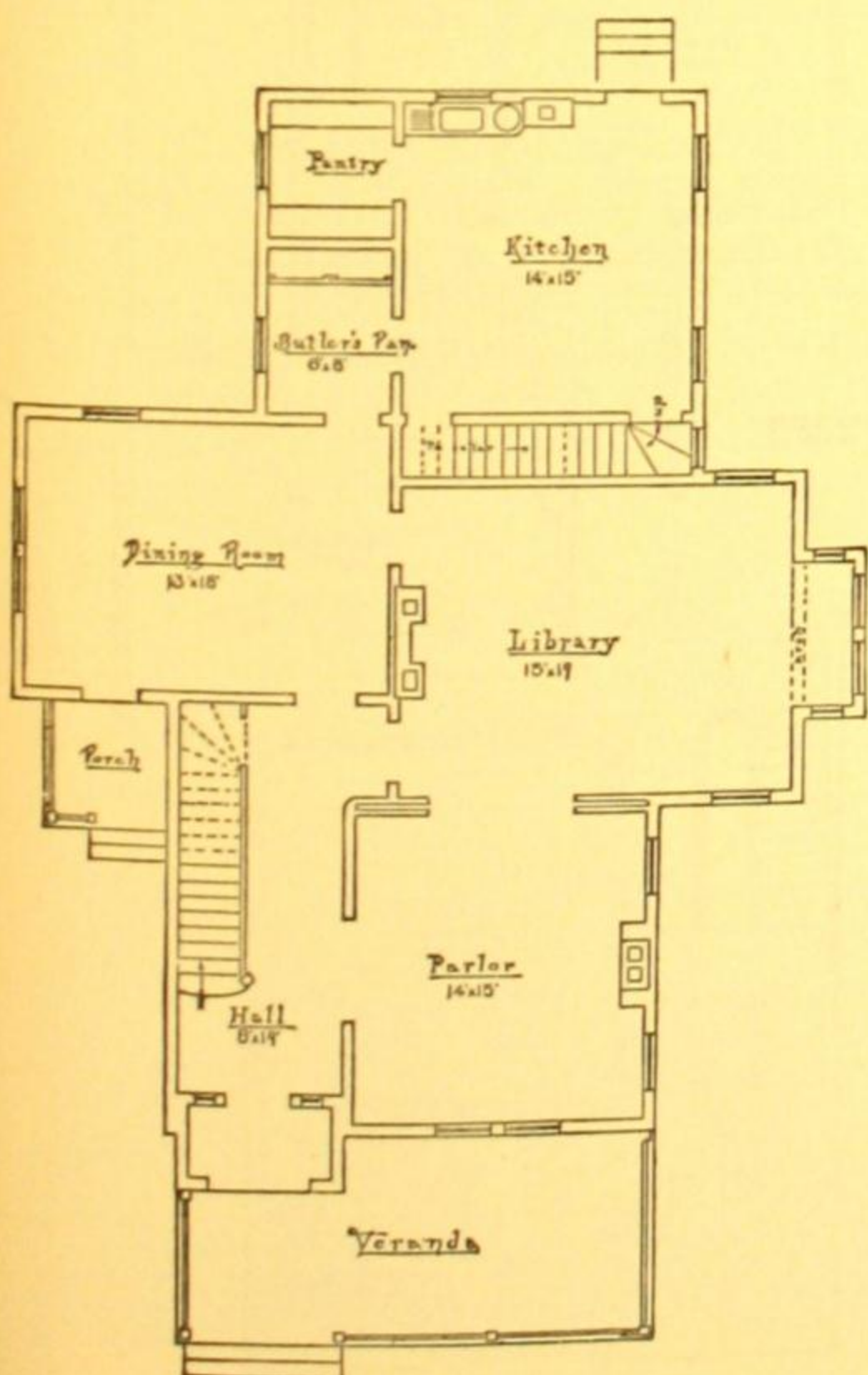
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is another modification of the favorite design, Number 231.

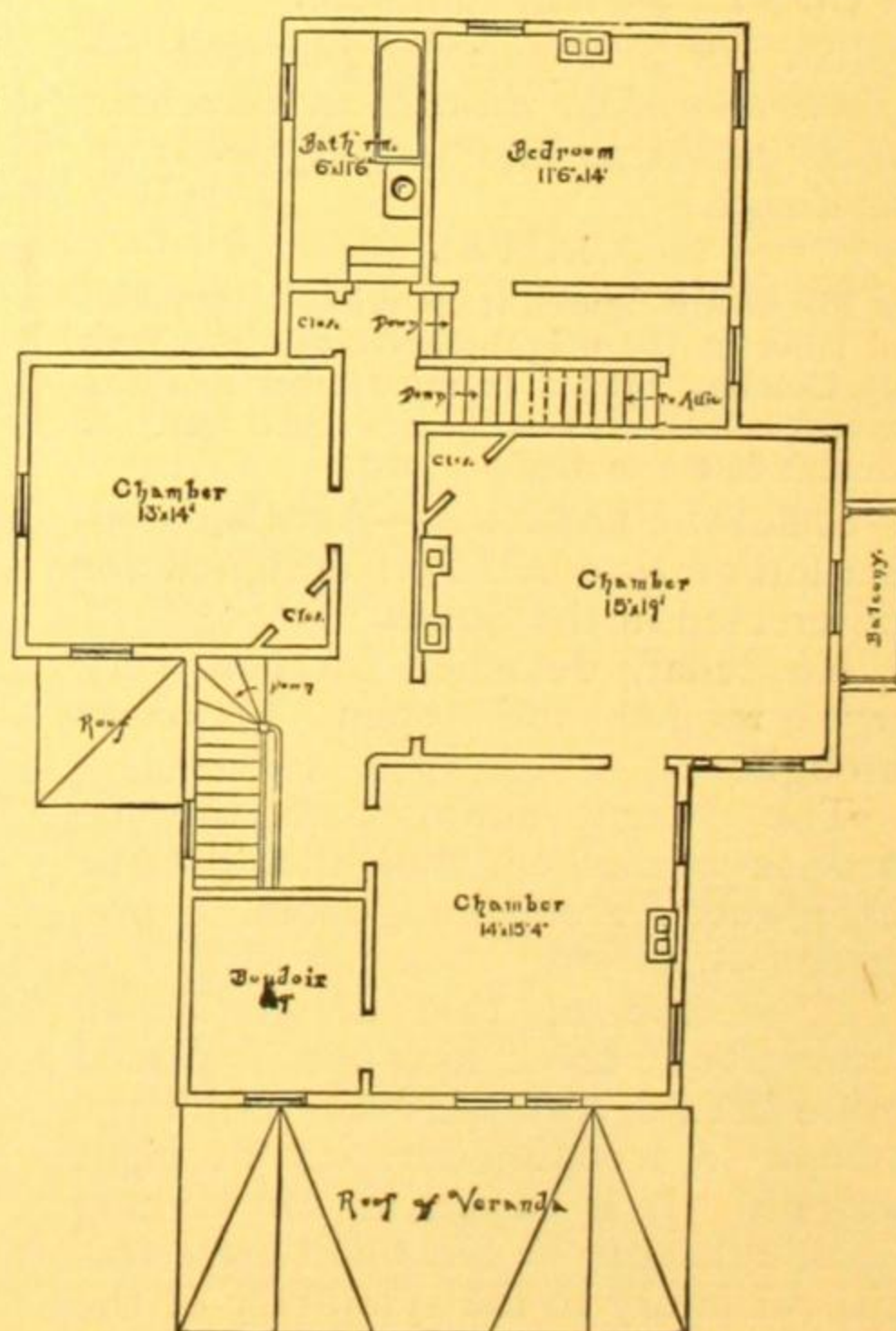
The dining-room, it will be noticed, has a door on the front side opening on to a covered porch—a very pleasant feature. It would be a very simple and inexpensive matter to carry this porch around to the front if more veranda were desired. A large butler's pantry, well fitted up, and a large store pantry.

The vestibule door has side lights of stained glass.

There is a cellar under the whole house. The plans are arranged for heating by a furnace. Three rooms can be finished off in the attic, if required.



FIRST FLOOR. NO. 233



SECOND FLOOR. NO. 233

DESCRIPTION OF DESIGN NUMBER 234

SIZE OF STRUCTURE: Front, 26 ft., 6 in. Side, 69 ft., including veranda and butler's pantry.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Second Story, 10 ft.

MATERIALS: Foundation, brick piers; First Story, frame; Second Story, frame; Gables, shingled and panelled; Roof, shingled.

COST: \$3,900, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and dis-

tinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

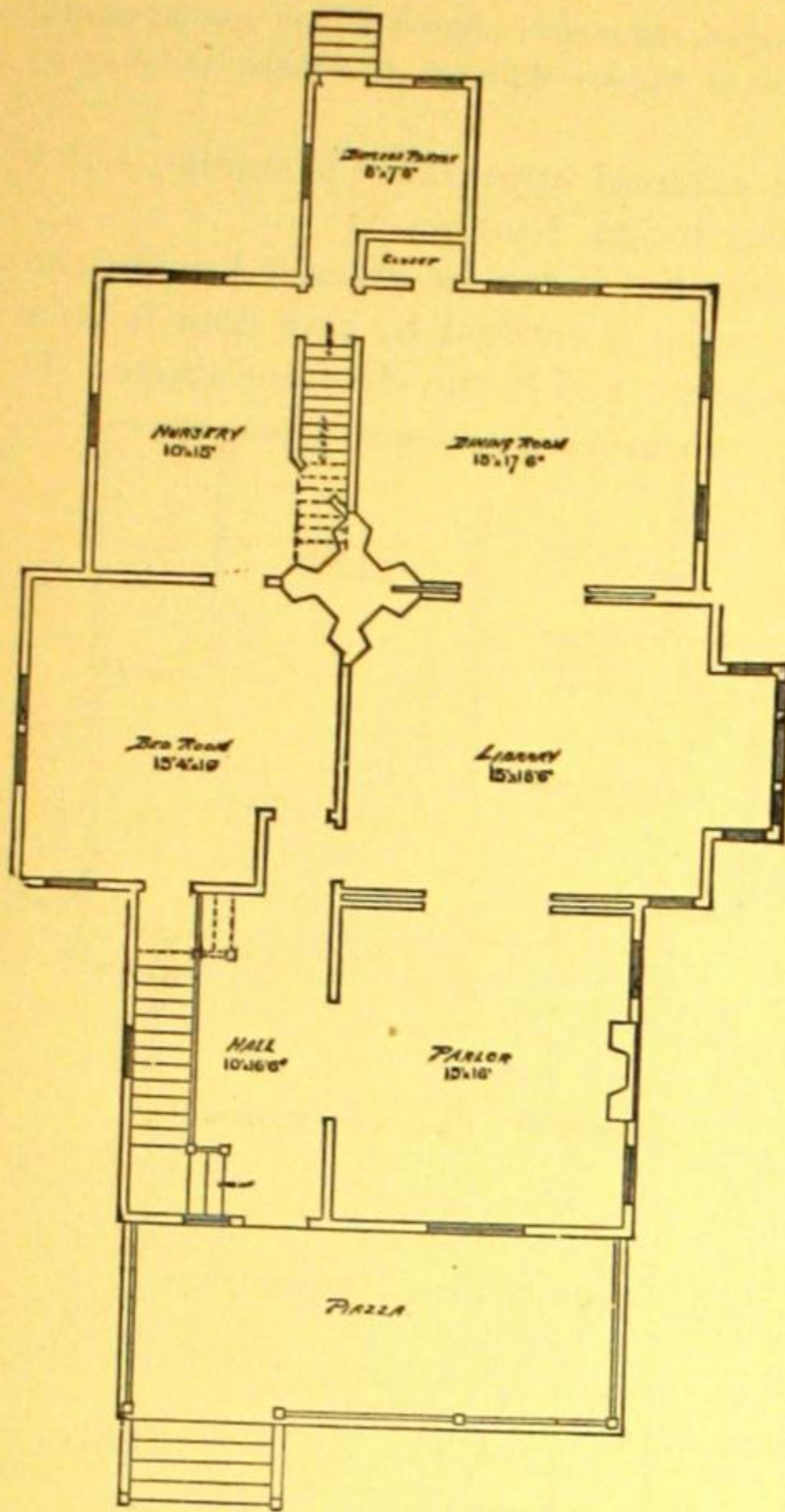
SPECIAL FEATURES.—

This is another modification of Number 231. Being designed for the South there is no cellar, and the kitchen is placed in a detached building. The nursery can be used as a kitchen, if preferred; it can be so thoroughly separated that no kitchen odors will pervade the rest of the house.

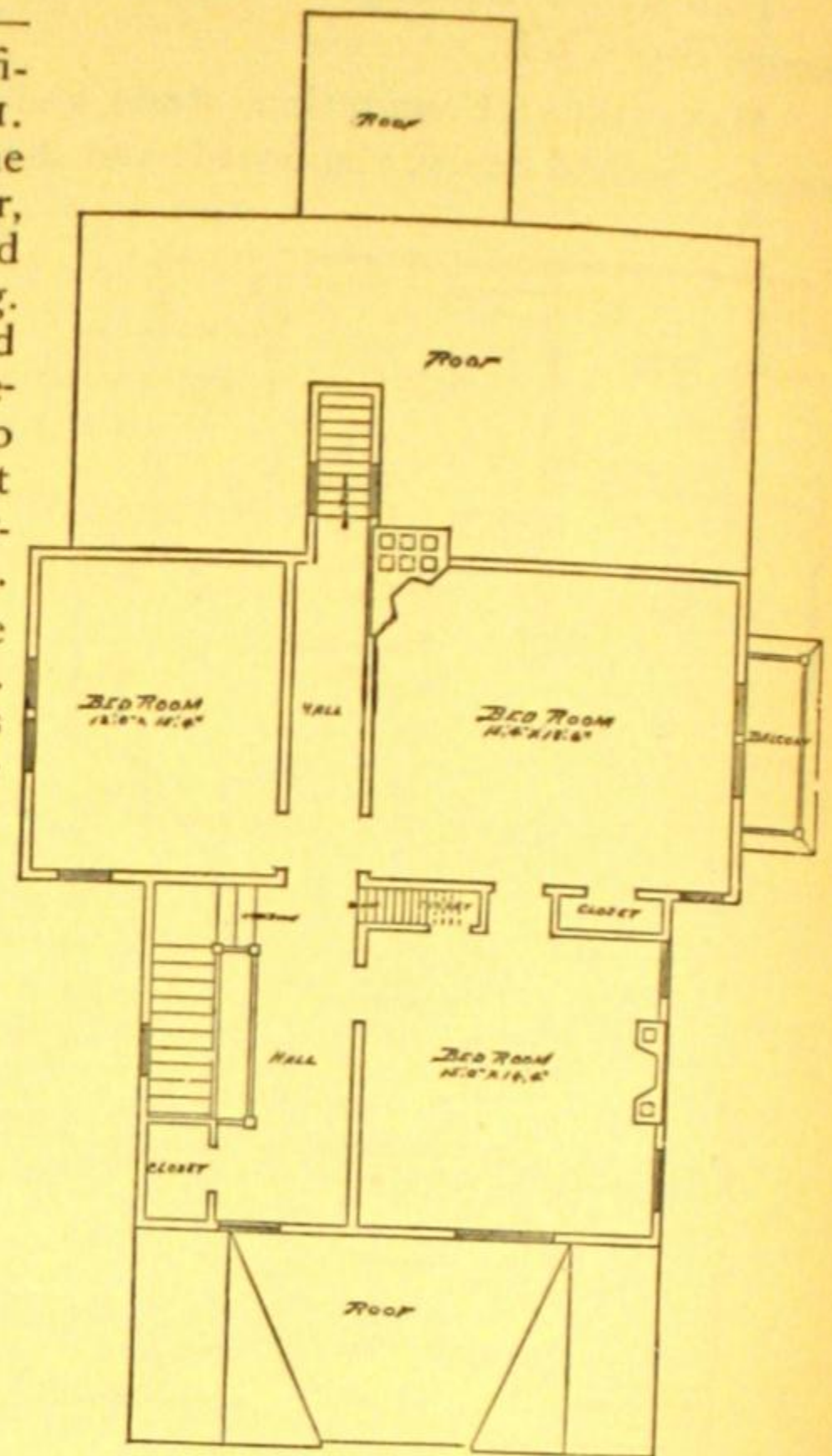
All of the rooms are large and well ventilated. Three additional rooms can be finished off in the attic.

The cost of this house, by contract, in North Carolina, recently reported by a client (who declares himself much pleased with his house) was \$3,000.

The cost of building, in almost all of the Southern States, is much less than in the North, and for many regions one-quarter to one-third, or even more, can safely be deducted from our figures of cost.



FIRST FLOOR. NO. 234



SECOND FLOOR. NO. 234

DESCRIPTION OF DESIGN NUMBER 235

SIZE OF STRUCTURE: Front, 28 ft., 8 in. Side, 76 ft., 6 in., including both front and rear verandas.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Second Story, 10 ft.; Third Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$5,100, complete.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

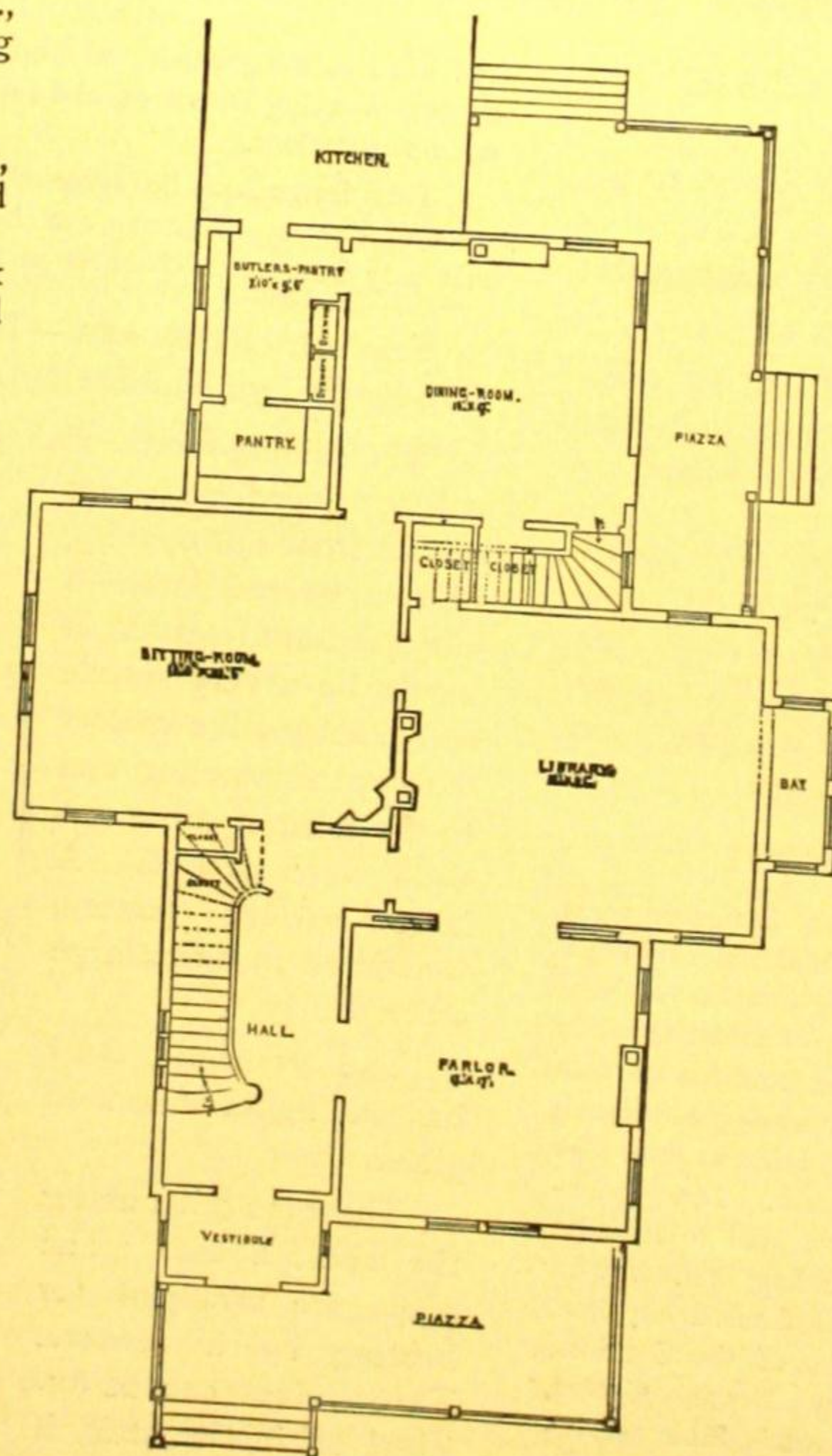
The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost.

SPECIAL FEATURES.—Another modification of Number 231, designed for and erected in the South.

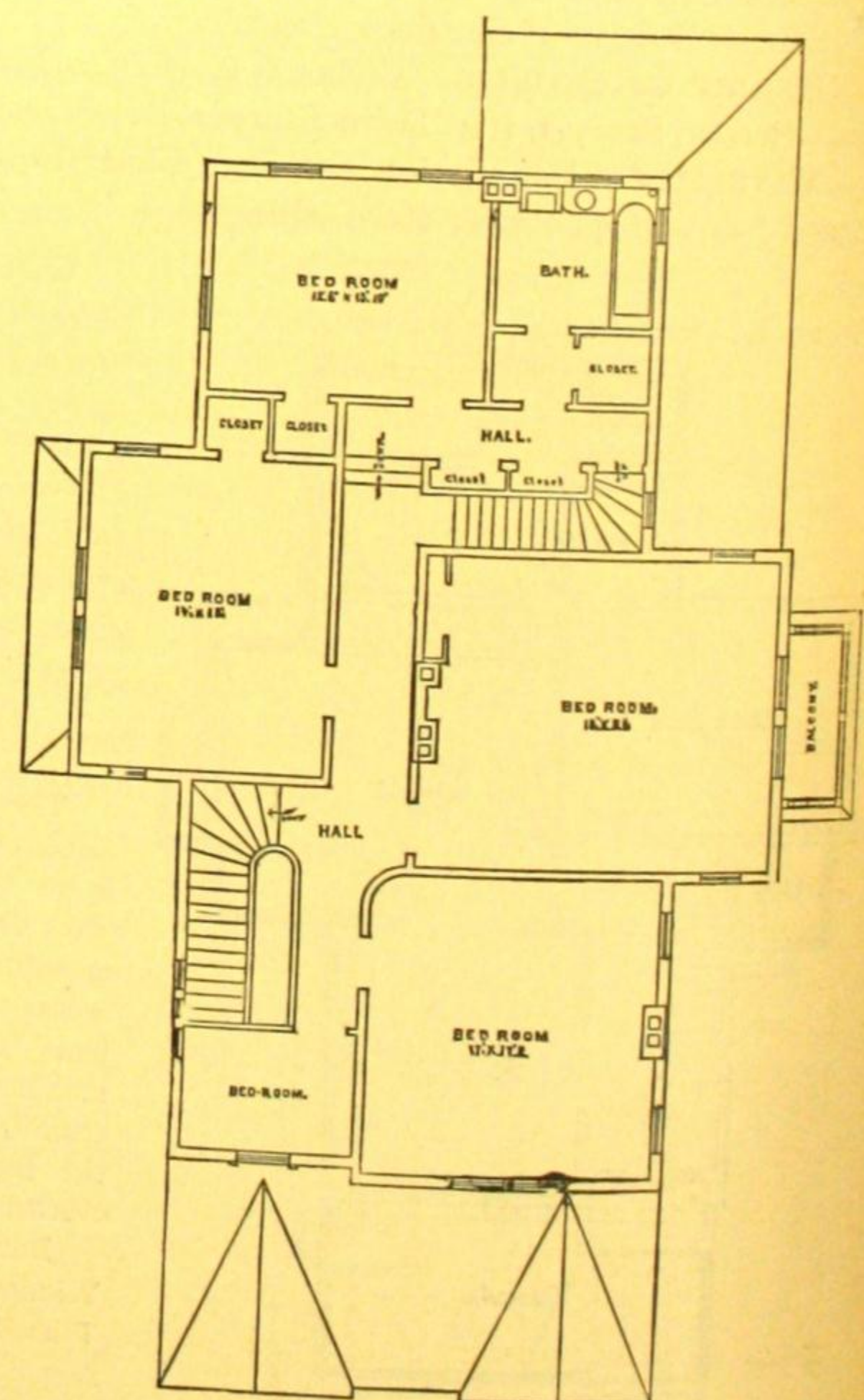
No cellar, detached kitchen, very large rooms and open fireplaces throughout.

The present dining-room can be used as a kitchen, and the present sitting-room as a dining-room, if preferred.

A feature of this design is an observatory or "look-out," placed above the ridge of the main roof, large enough to accommodate six or eight persons. It is shown in our working plans, but it can be left off, if preferred, without injury to the symmetry of the design.



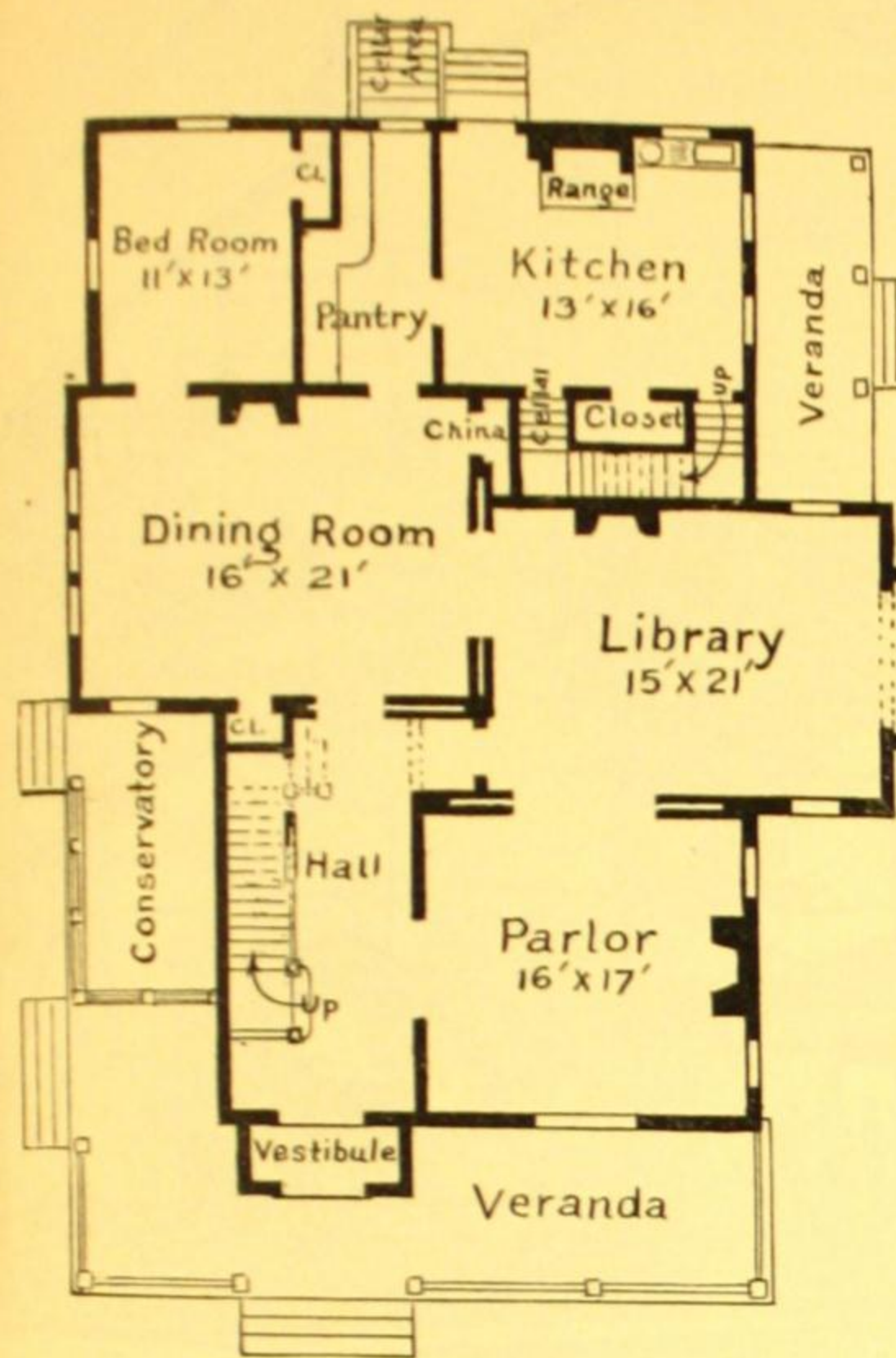
FIRST FLOOR. NO. 235



SECOND FLOOR. NO. 235

DESCRIPTION OF DESIGN NUMBER 236

SIZE OF STRUCTURE: Front, 37 ft., including veranda. Side, 62 ft., including veranda.



FIRST FLOOR. NO. 236

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft.; Second Story, 10 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, slate.

COST: \$5,900, complete, except range, furnace and grates.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other

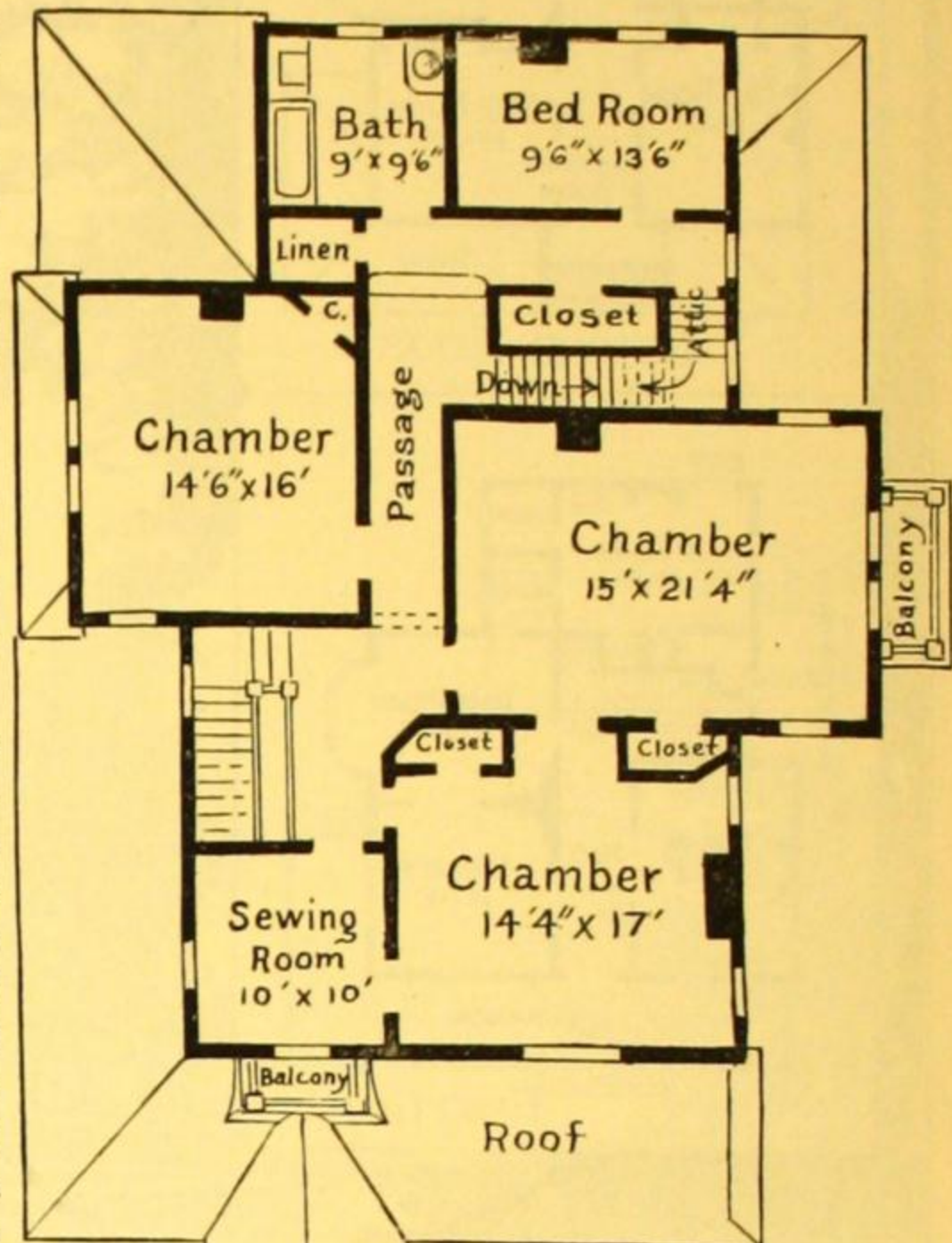
localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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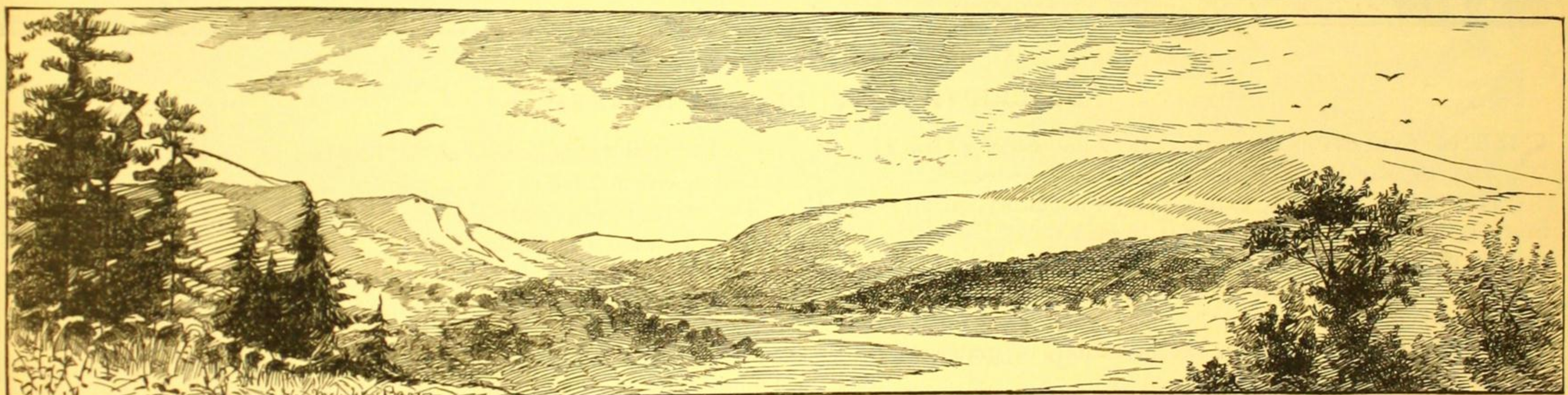
SPECIAL FEATURES.

—This is another modification of Number 231. Cellar under the whole house, with inside and outside access to it. Three rooms are finished in the attic. The laundry with stationary tubs is placed in the cellar; there is a back stairway from cellar to attic.

This house has large rooms, with wide openings and sliding doors between, on the first floor, open fireplaces, a fine conservatory heated from the furnace, and the amplest of closet room. The linen closet in second story has a clothes shoot direct to the laundry in the cellar.



SECOND FLOOR. NO. 236



THE VIRGIN TRACT

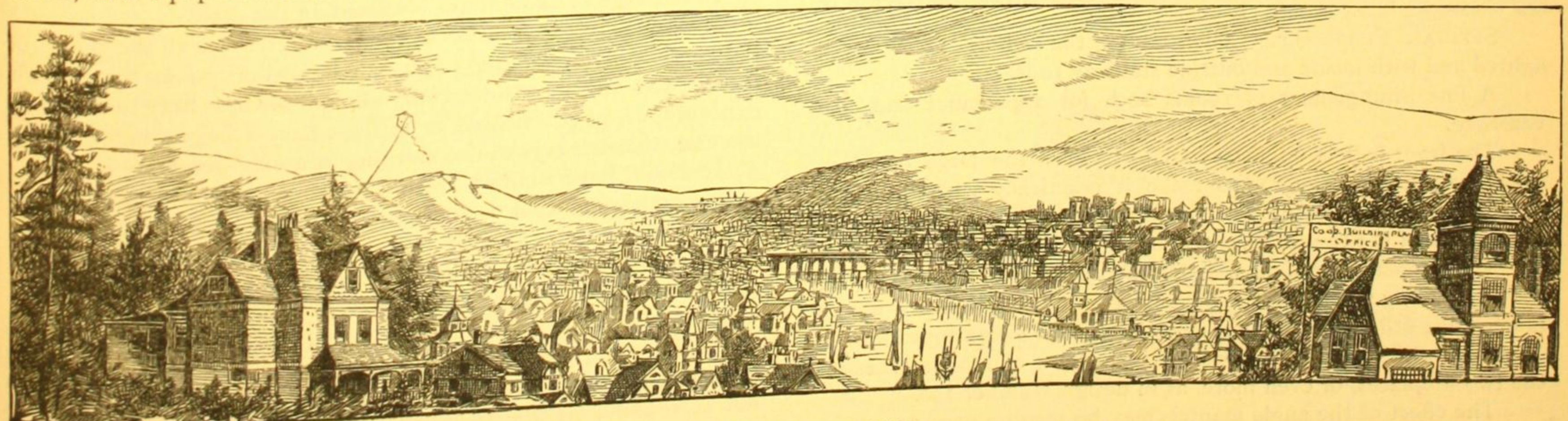
ENTERPRISE AND IMPROVEMENT

IN this country, two good genii named Enterprise and Improvement perform feats as wonderful as those related in the Arabian Nights. They reclaim the wilderness literally, making it blossom as the rose. They build a few houses on a virgin tract; next year they will build a few more; the third year still more; the fourth year a great number; the fifth year a still greater number, and establish a water supply, a sewerage system and gas works, and so on, until a populous town extends through the valley and climbs

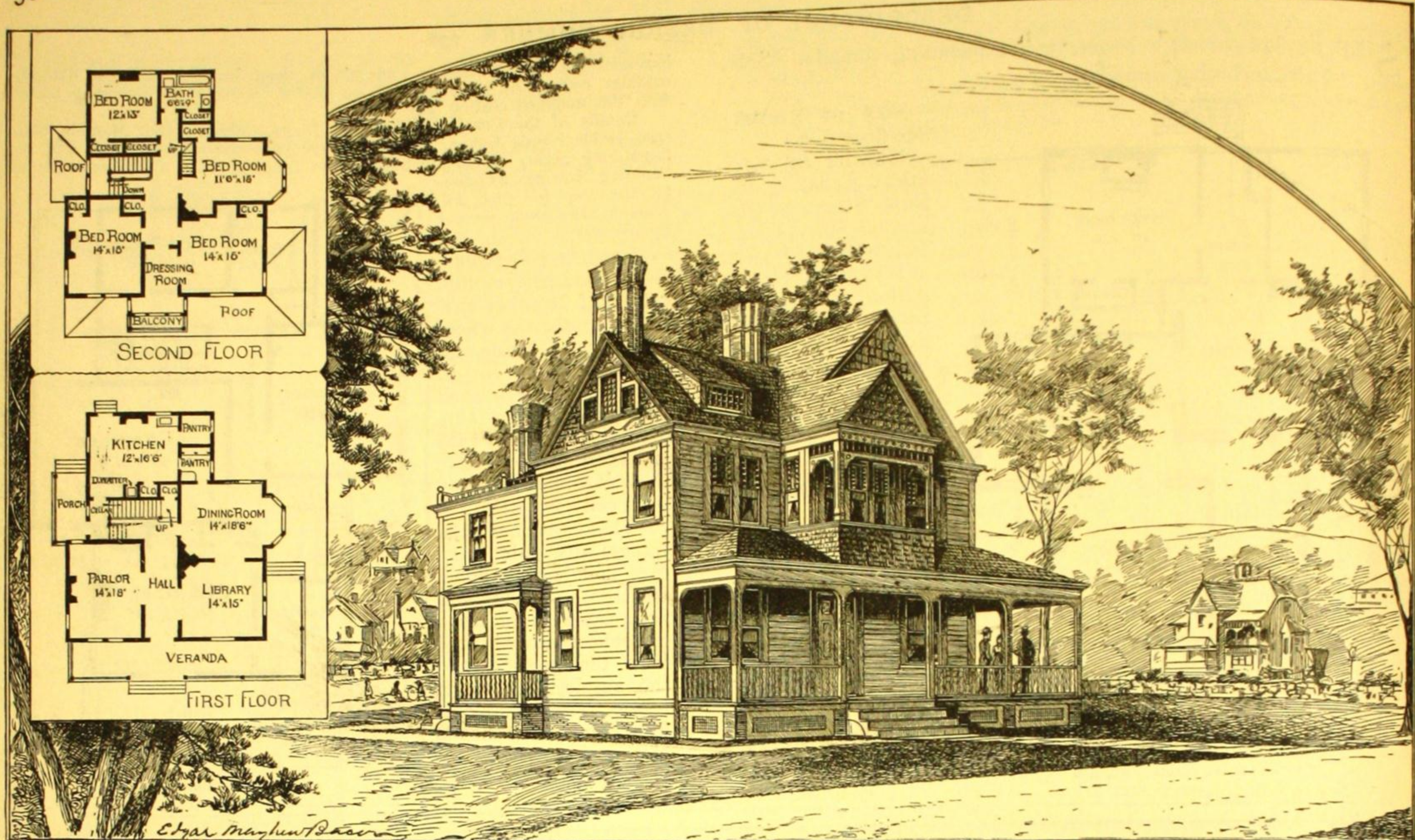
up the sides of the hills. A distant mountain top, outlined against the sky, is all that is left of the virgin tract. In the foreground and on all sides now, are churches, schools, homes, stores, factories, telegraph offices, railways and shipping.

The good genii may do all this in ten years, or they may require the life-time of a generation, but at every yearly stage of their work the results are surprising and beneficial.

Owners of virgin tracts should invoke the aid of Enterprise and Improvement.



THE POPULOUS TOWN



DESIGN No. 237. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 237

SIZE OF STRUCTURE: Front, 37 ft., 2 in. Side, 42 ft., 2 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft., 4 in.; Third Story, 7 ft., 8 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards; Gables, shingled and panelled; Roof, shingled.

COST: \$4,500, complete, except heater, or grates, or heater piping.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house, well lighted and with inside and outside stairway to it.

A fine arrangement of rooms both for appearance and convenience.

The front hall is unobstructed by stairs; the large openings connecting it with the rooms make it practically a part of them when the doors or curtains are thrown open, which they are likely to be much of the time, because of the pleasant effect thus produced.

The fireplaces and mantels in the corners of the rooms are advantageously placed, as they thus occupy places that are not of much value otherwise; at the same time, an excellent appearance is obtained, with economy of construction, as one chimney suffices for the two fireplaces, or even more, as in design Number 190.

The effect of the angle mantels may be seen on page 20.

The staircase is located at the rear end of the hall, and its beautiful newels and balustrades are in full sight as the house is entered. Two steps, facing front, lead to a square platform, on which a door opens to a hat and cloak closet.

Underneath the stairway is a passage which gives access to the front hall from the kitchen, and from which also a door opens to the side porch.

The connection between kitchen and dining-room is through a butler's pantry, in which is a dresser, with shelves for china, and drawers underneath for table linen, also a shelf to set the serving trays upon. A dumb-waiter connects kitchen and cellar.

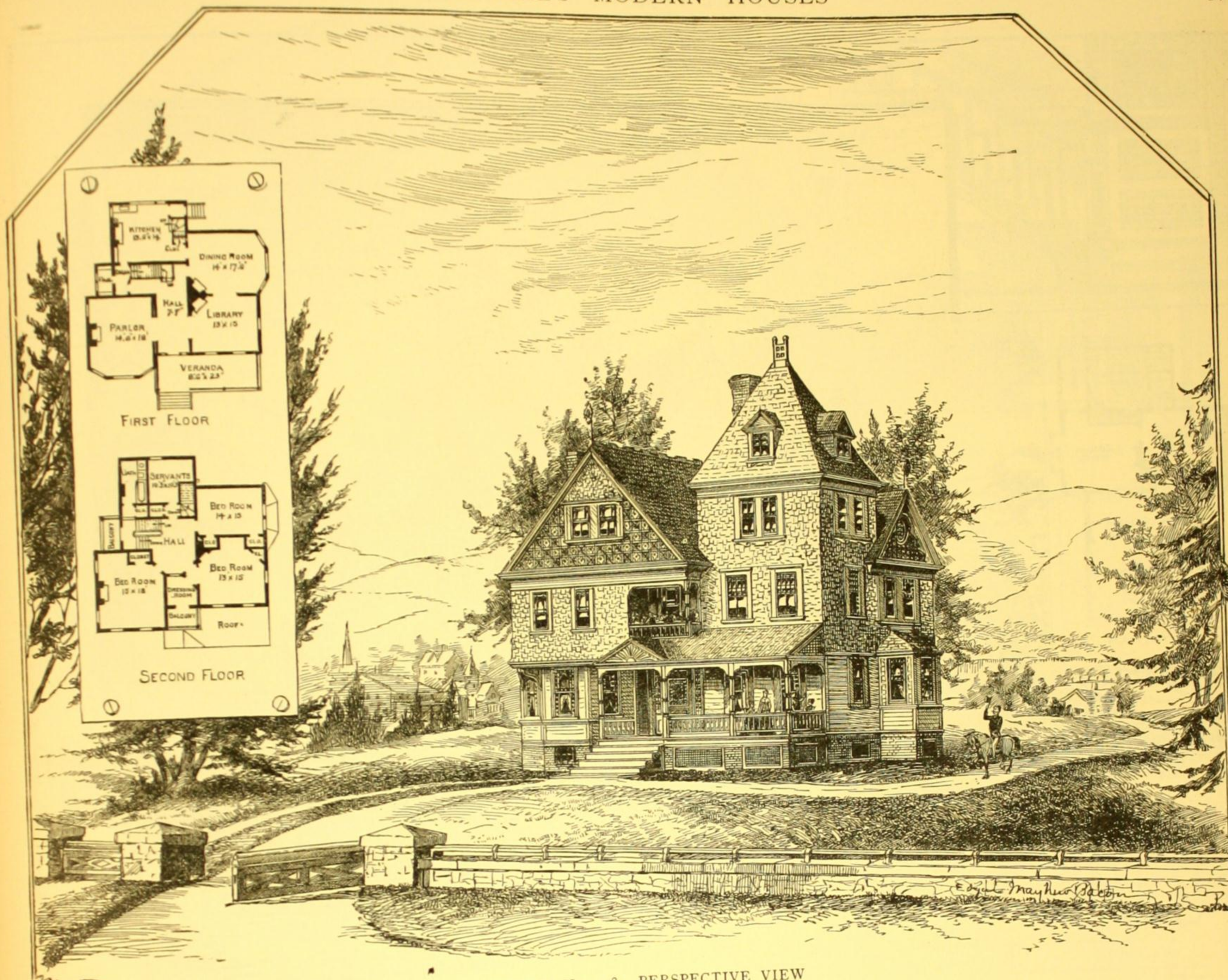
A servant's stairway to second floor is considered unnecessary, but should it be desired it can be obtained by sacrificing the dumb-waiter and small kitchen closet, and the hall closet in the second story. The second floor is no less conveniently arranged than the first floor. A spacious hall, well lighted, from which all the rooms are entered, plenty of closets, good bath-room, provided with tub, w.c. and marble wash bowl.

Three large bed-rooms are obtained in the attic.

A word as to the location of rooms in reference to the points of the compass. The dining-room—an important room, that cannot receive too much consideration—should always have an eastern exposure, where practicable, or at least have a large window facing the east, that the rays of the morning sun may penetrate it.

It should have windows toward the south also. A sitting-room or any other room that is much used should have a Southern or Eastern exposure.

A parlor or drawing-room being more for evening uses, may be placed on the north and west sides. It is not important that the hall should be so placed as to receive the direct sunlight, although, if possible, every part of a house should be so arranged that the sunlight can be admitted freely. For this reason verandas should not surround a room, except in a hot climate where shade is the great desideratum.



DESIGN No. 238. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 238

SIZE OF STRUCTURE: Front, 39 ft., 6 in. Side, 44 ft., 6 in., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, panelled; Roof, shingles.

COST: \$5,800, complete, except mantels, grates and furnace.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The cellar extends under the whole house, the part under the kitchen being used as a laundry and fitted with stationary tubs.

The hall is in the center with the staircase well back yet showing its beauties. Double sets of doors opposite each other connect the parlor and library with the hall, affording a long vista—a charming feature.

Fireplaces are provided in all rooms in first story and in the two front chambers. Side lights and fanlight of stained glass ornament the entrance and light the hall.

The floors are stained and finished for use of rugs.

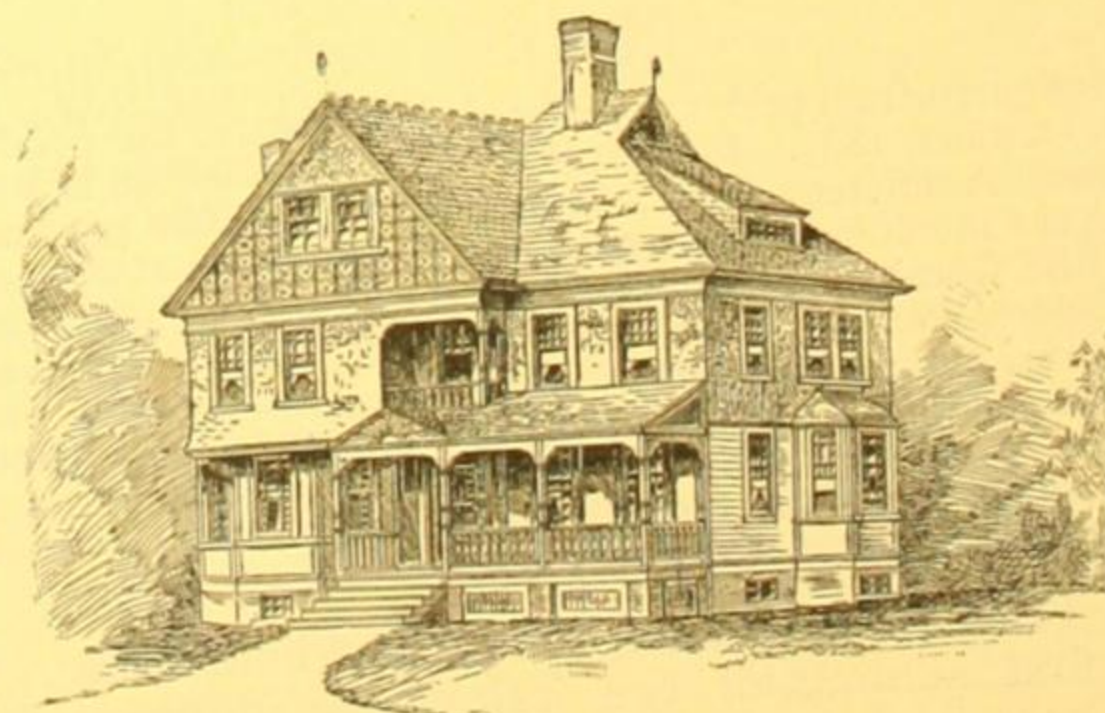
In second story are four bed-rooms and bath-room, and an abundance of closets, each bed-room having one or more. Front bed-room has a good-sized dressing-room or boudoir, from which the front balcony is reached.

A large room is obtained in the tower, and two more rooms can be finished off in the attic if desired. The tower room makes an admirable billiard room.

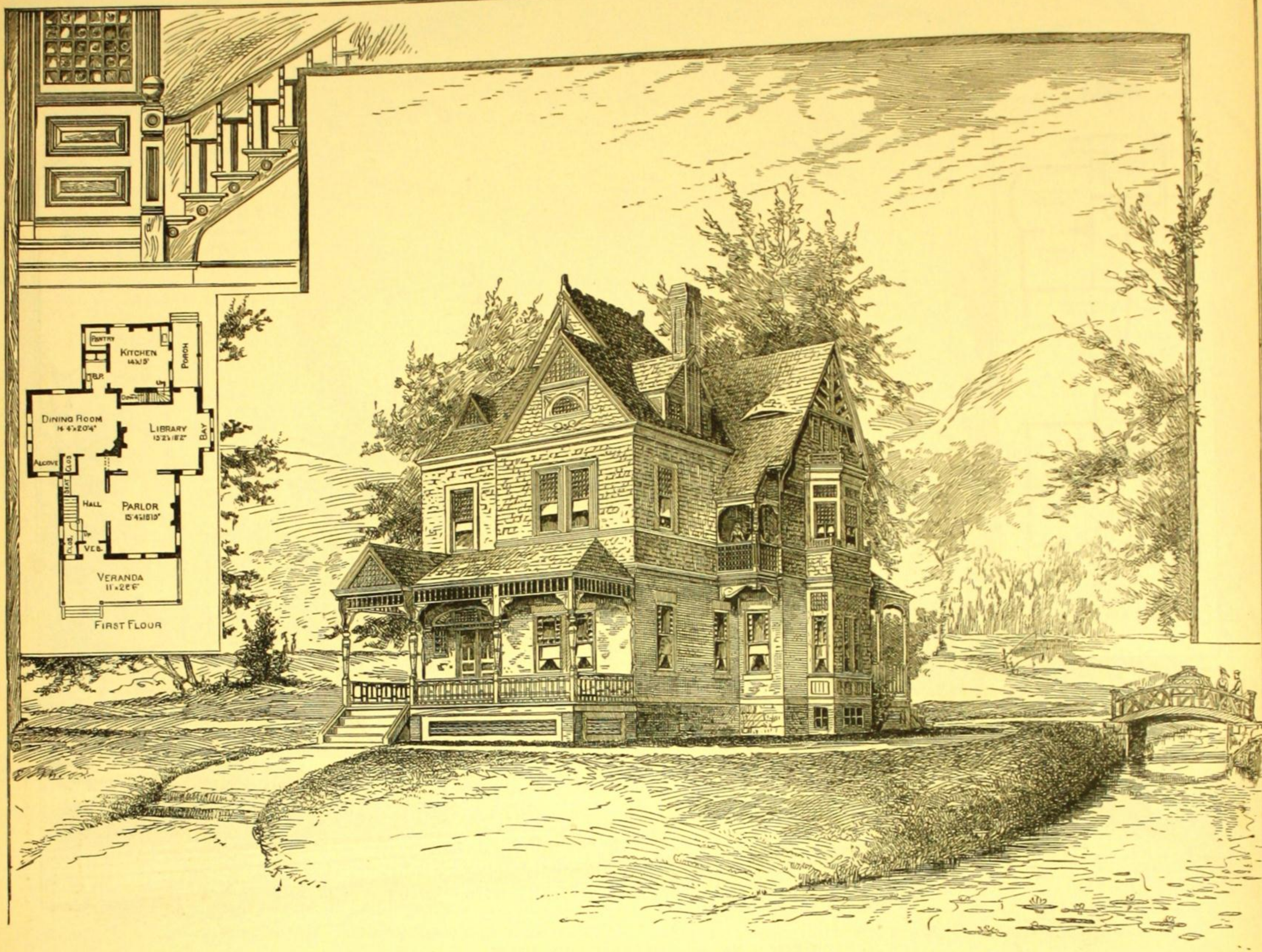
The shingles of the outside walls and of the roof are stained red or brown.

The interior woodwork is of handsome design; in first story whitewood stained and in the second story pine natural finish.

We give a small view of this design as it appears with the tower omitted, which reduces cost \$400, and is preferred by many.



VIEW OF NO. 238. WITHOUT A TOWER



DESIGN No. 239. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 239

SIZE OF STRUCTURE: Front, 28 ft., 6 in. Extreme width, 44 ft. Side, 55 ft., 6 in., not inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 12 ft.; Second Story, 11 ft.; Third Story, 10 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, shingles; Roof, slate.

COST: About \$6,800, complete, except grates and heater.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house.

Off the first landing of the stairway (a glimpse of which is shown in one corner of the large cut), there is a convenient hat and coat closet.

Stained glass in the hall and over the staircase, and in transom lights over the front door and the dining-room bay-windows.

The alcove under the upper part of staircase has a small window and is fitted up with an upholstered seat. There is a similar alcove in dining-room.

Open fireplaces throughout first story and in the front bed-room of the second story.

Sliding doors between hall and parlor, and parlor and library.

Four large bed-rooms in attic, besides a hall and storage room.

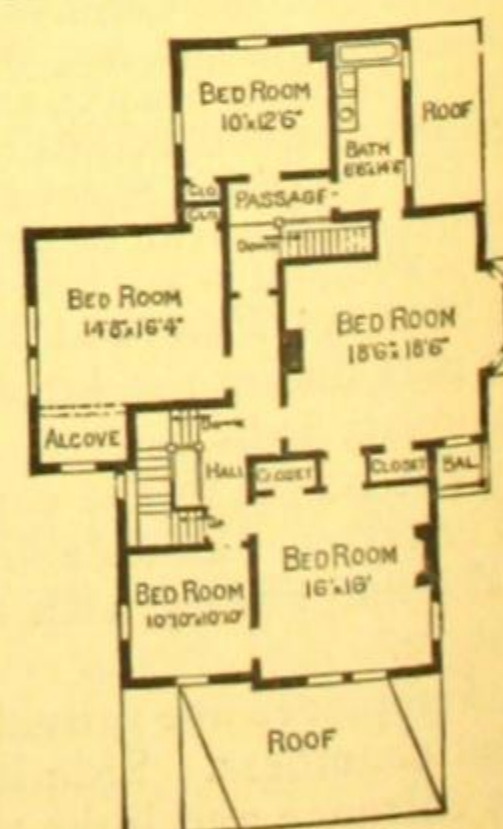
The first story is brick, laid up in red mortar. The shingles on the sides of the building are stained a yellowish brown. The trimmings, cornices, &c., are maroon. The piazza balcony and front door, dark green. The roof crestings, deep red, to contrast with the slate.

The facing of the foundation walls is of cut stone. The kitchen extension is built entirely of wood.

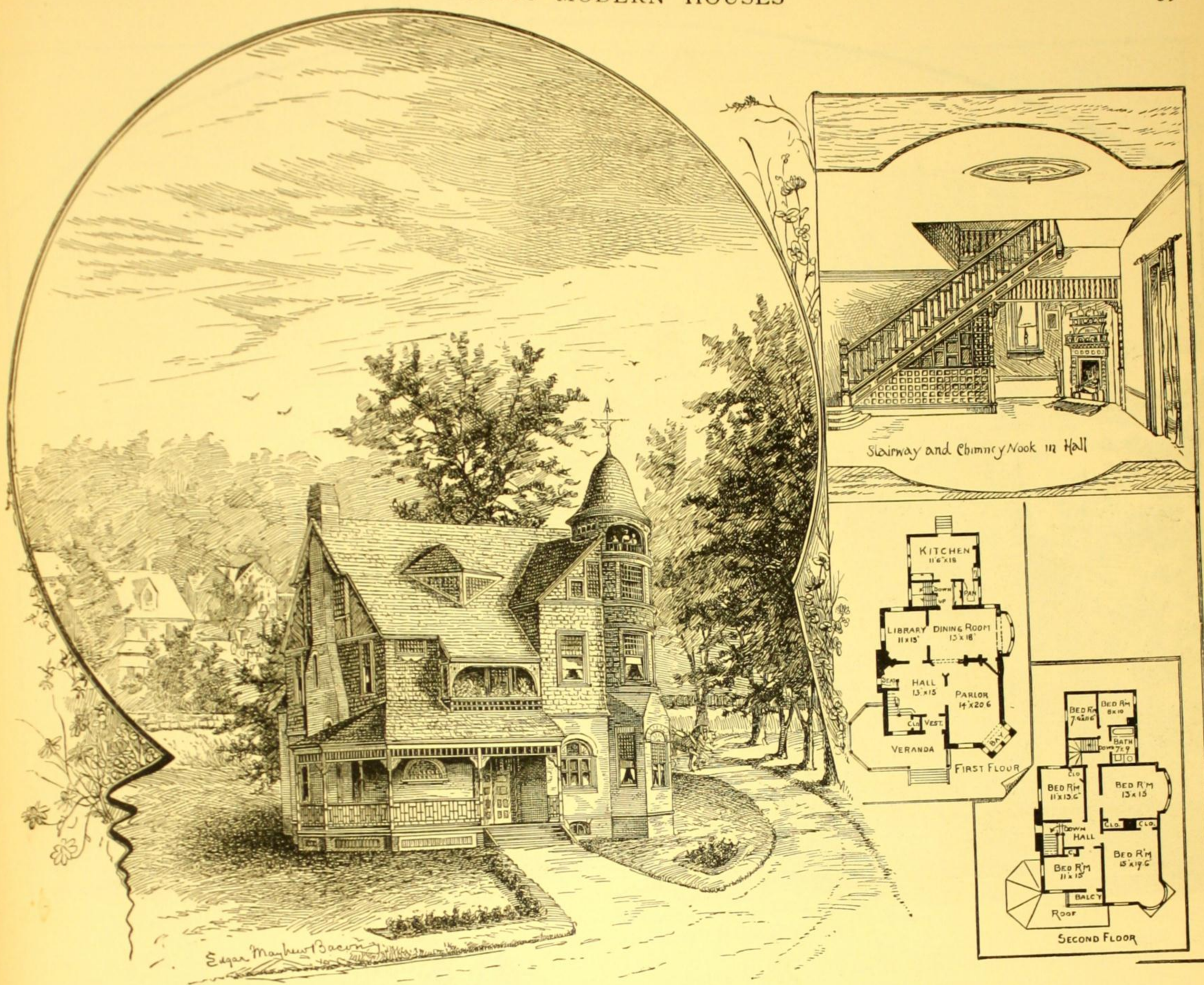
The interior trim of first story may be of oak, ash, cherry, or other cabinet woods—that of second story of yellow pine, stained and polished, very beautiful in effect.

The stories being high and the rooms large, this house is well adapted for the South.

The interior details are elaborate and artistic.



SECOND FLOOR. NO. 239



DESIGN No. 240. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 240

SIZE OF STRUCTURE: Front, 32 ft. Side, 56 ft., not inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft., 6 in.; Second Story, 9 ft.; Third Story, 9 ft.

MATERIALS: Foundation, brick and stone; First Story, brick; Second Story, shingles; Gables, timber and cement; Roof, slate.

COST: About \$6,700, complete, including grates, heater, etc.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, October, 1885. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

SPECIAL FEATURES.—Cellar under the whole house. The first story is built of brick, laid up in red mortar, the walls above the first story are frame covered with redwood shingles, the rear part all frame. The interior finish of first story is hardwood. Elsewhere, white or yellow pine.

Large fine hall, beautiful staircase and a charming chimney nook under the staircase with seat and window.

Large parlor and dining-room, both having large bay-windows.

Back stairway from cellar to attic. Butler's pantry with sink, cupboards and drawers between dining-room and kitchen. Elevated range and best plumbing.

Vestibule door glazed with beveled plate or cathedral glass. Open fireplaces throughout first story, and can be obtained in second story also.

One of the pleasantest rooms in this house is that in the attic, in the angle where the circular tower is, and from this room a small staircase leads to the open observatory above.

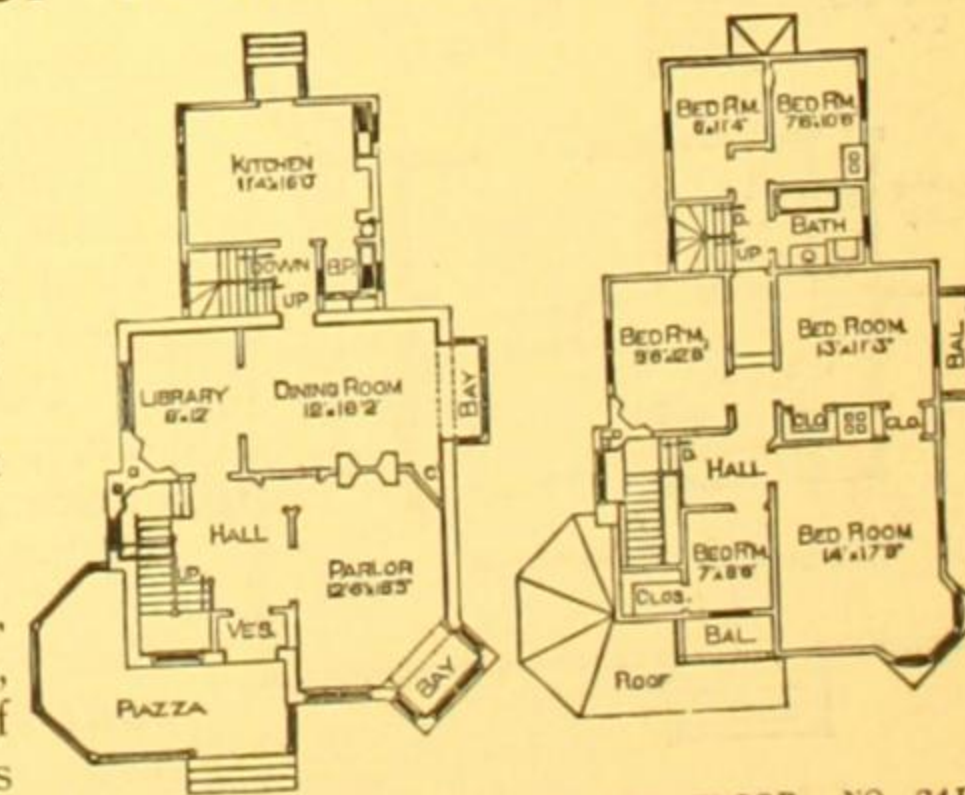
In the attic story there are five rooms.

DESCRIPTION OF DESIGN NUMBER 241

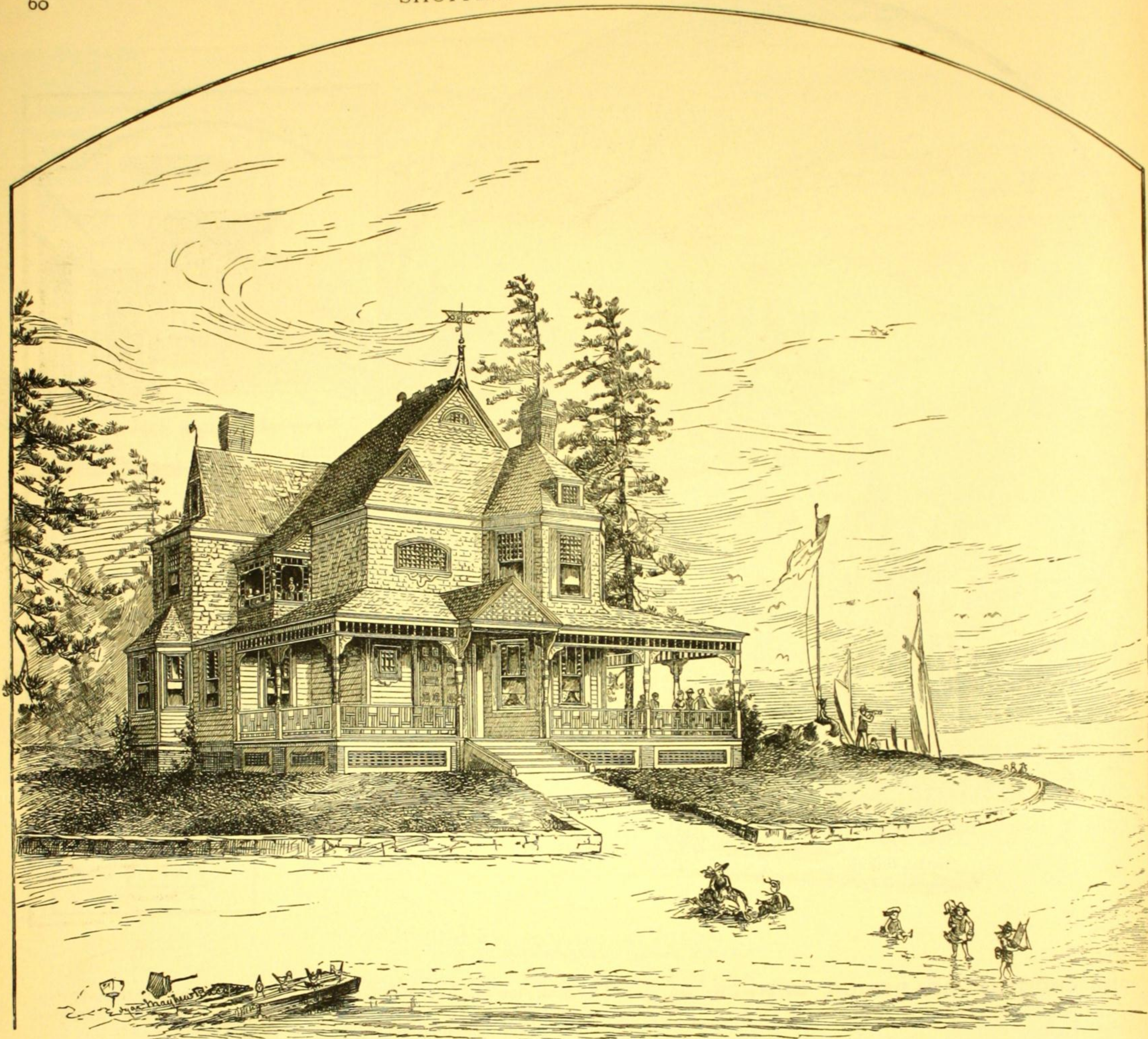
The exterior is in the same style as Number 240, and the arrangement of rooms is similar, but they are reduced in size, as shown on accompanying plans.

COST: \$5,800, except furnace and grates.

With a plainer finish, omission of attic rooms, and the cellar under half of house only, the cost is reduced about \$500.



FIRST FLOOR, NO. 241 SECOND FLOOR, NO. 241



DESIGN No. 242. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 242

SIZE OF STRUCTURE: Front, 43 ft. Side, 56 ft., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, slate.

COST: \$6,500, complete, except mantels, grates and heater, also omitting one of the bath-rooms.

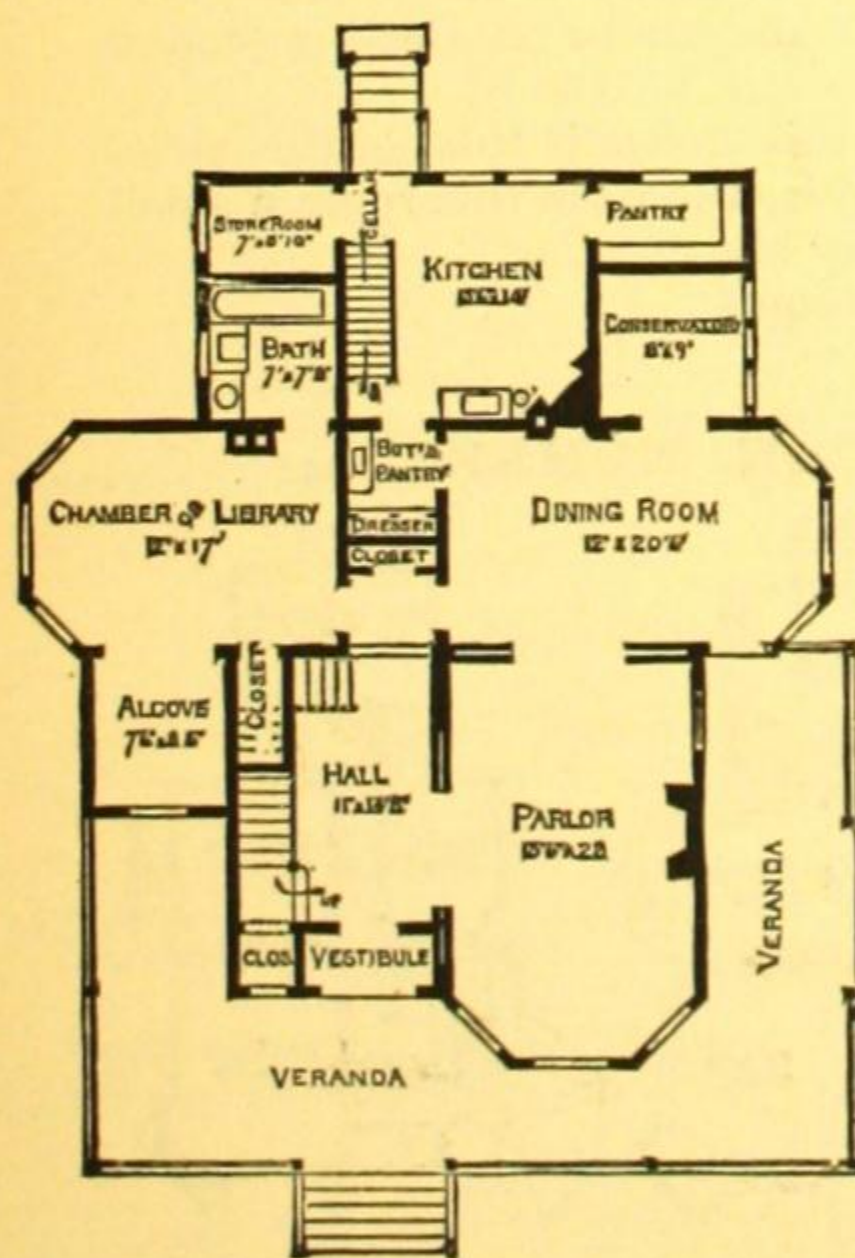
[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Cellar under the whole house and three rooms in the attic, beside storage room.

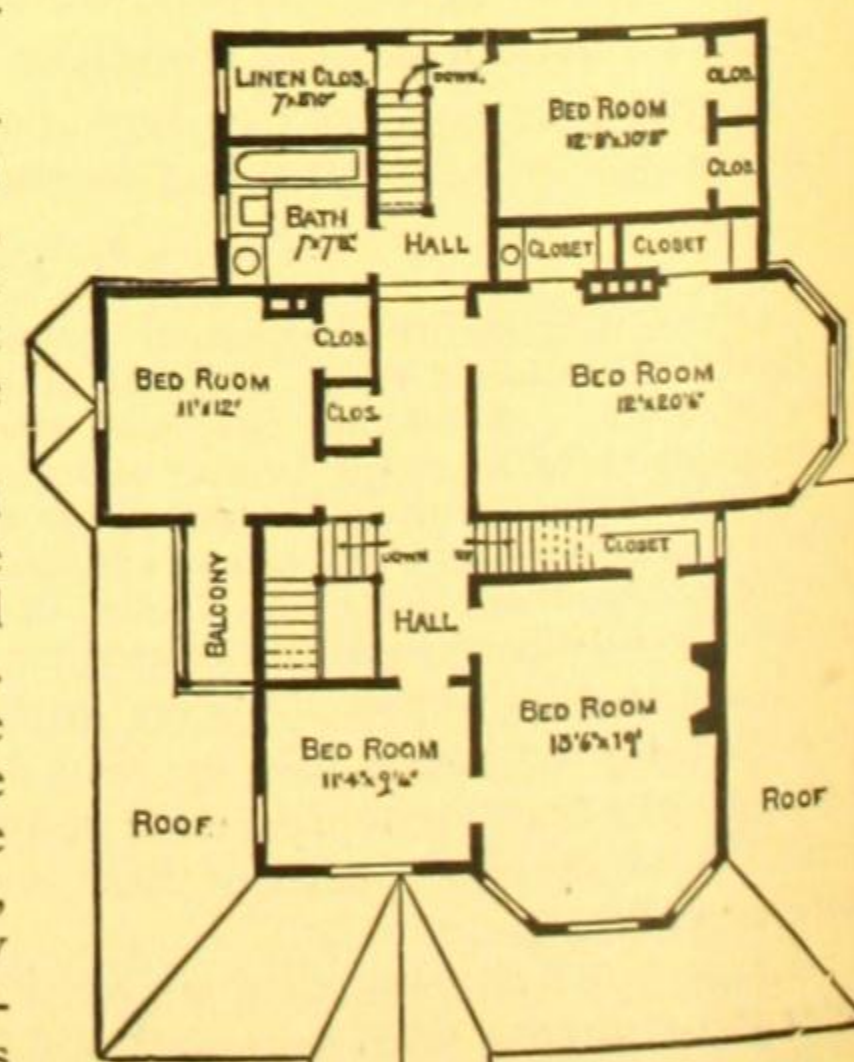
Well adapted for the seaside; also an admirable design for a permanent residence. The exterior is very elegant and the accommodations meet every requirement of a large family of cultivated tastes.

The hall is large and lighted by plate glass in the vestibule door; the staircase is beautiful in design and of very easy rise.

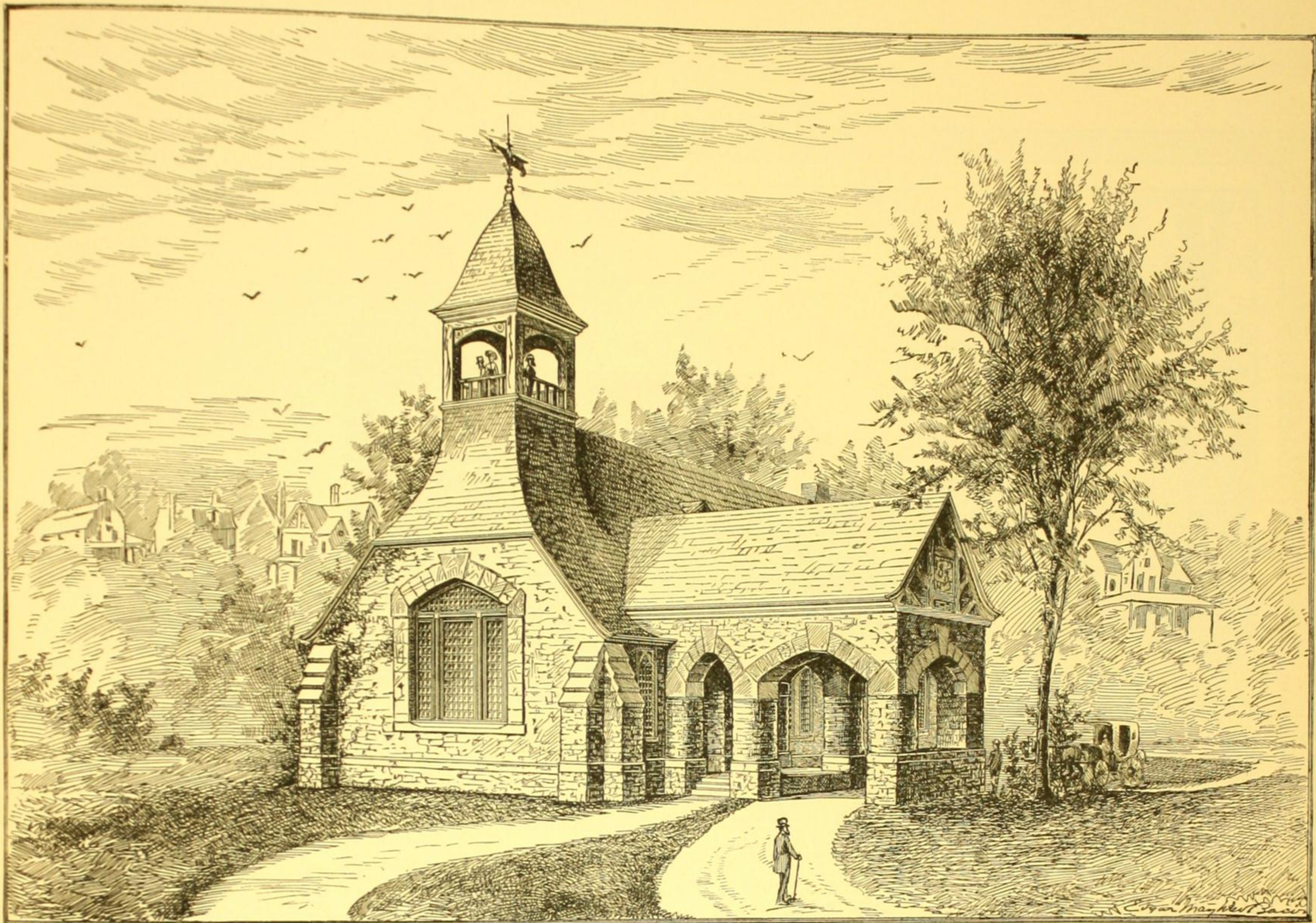
If there is an invalid in the family the arrangement will be found to be perfect. The large chamber with bath connecting, on the first floor, affords every comfort and convenience. If preferred, this room can be used as a library.



FIRST FLOOR. NO. 242



SECOND FLOOR. NO. 242



CHAPEL DESIGN No. 243. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 243

SIZE OF STRUCTURE: Front, 30 ft. Side, 66 ft., 8 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 27 ft.; Lecture-Room, 19 ft.; Rear Rooms, 11 ft.

MATERIALS: Foundation, stone, up to roof; Gables, stone; Roof, shingled.

COST: \$6,000, complete, except seating and heating.

[See the first pages of this book for information about details, specifications, bill of quantities and working plans of this design.]

room practically part of auditorium. This room will seat about 70 people in addition. Heated by a furnace in the cellar.

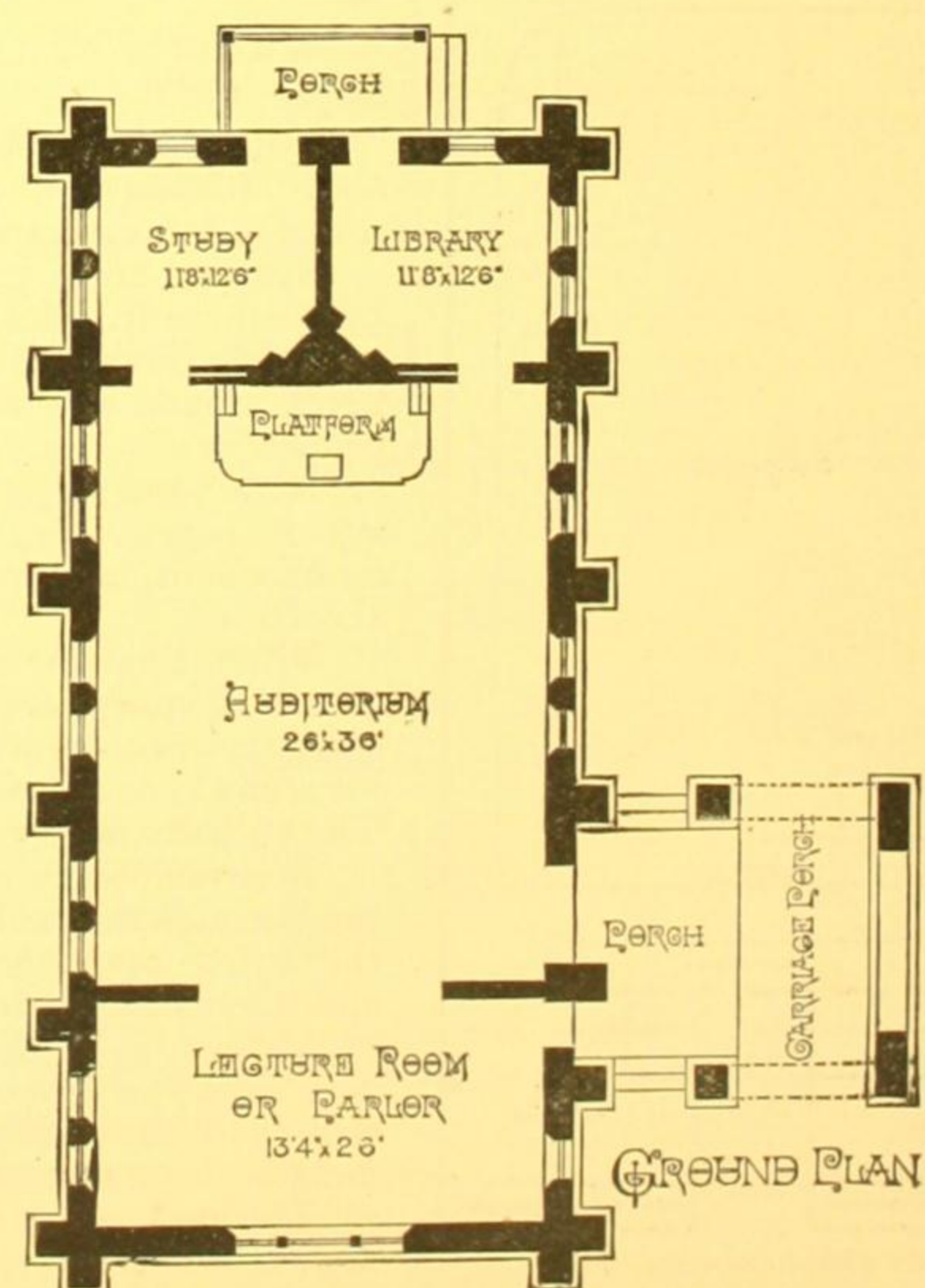
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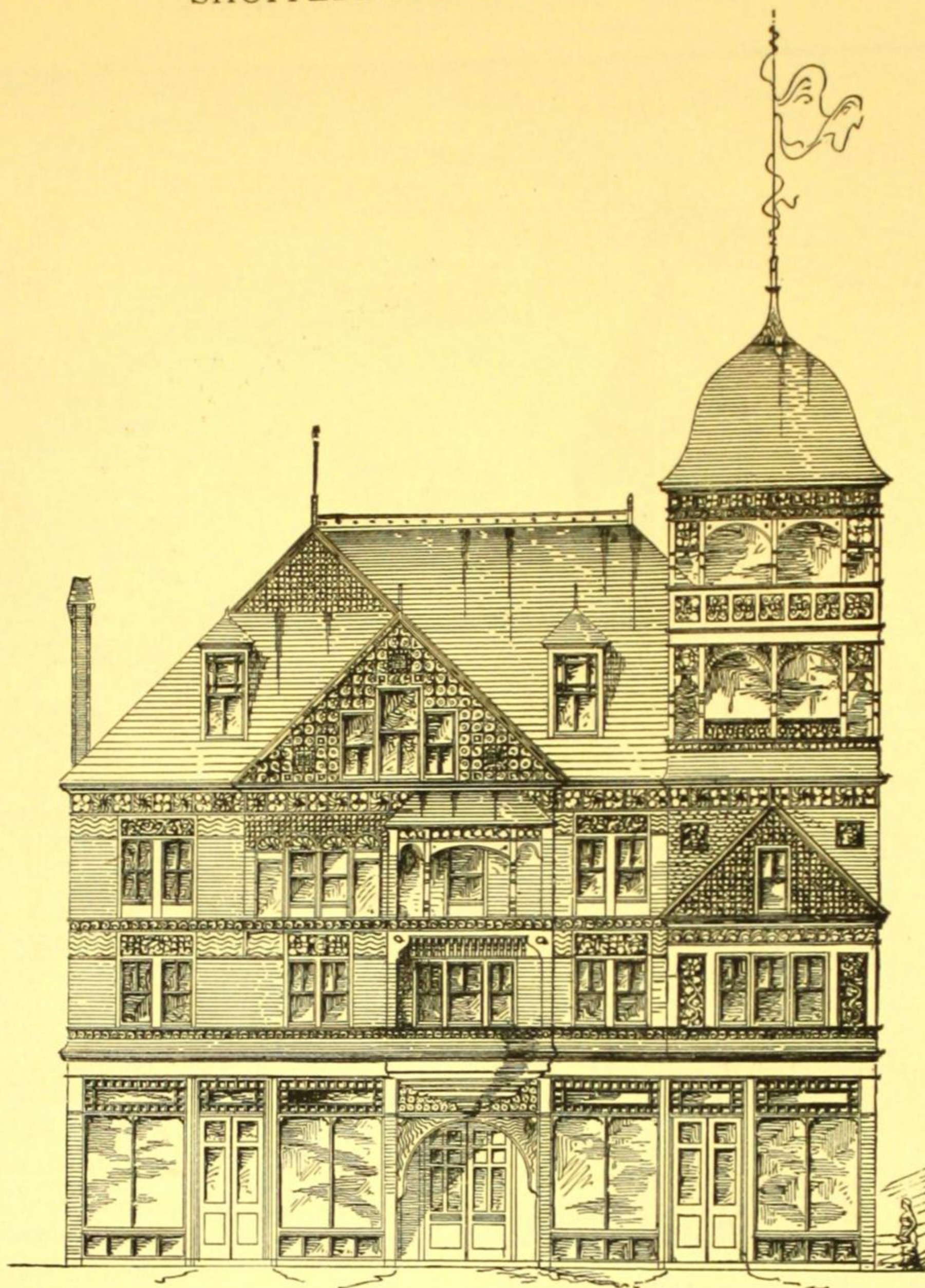
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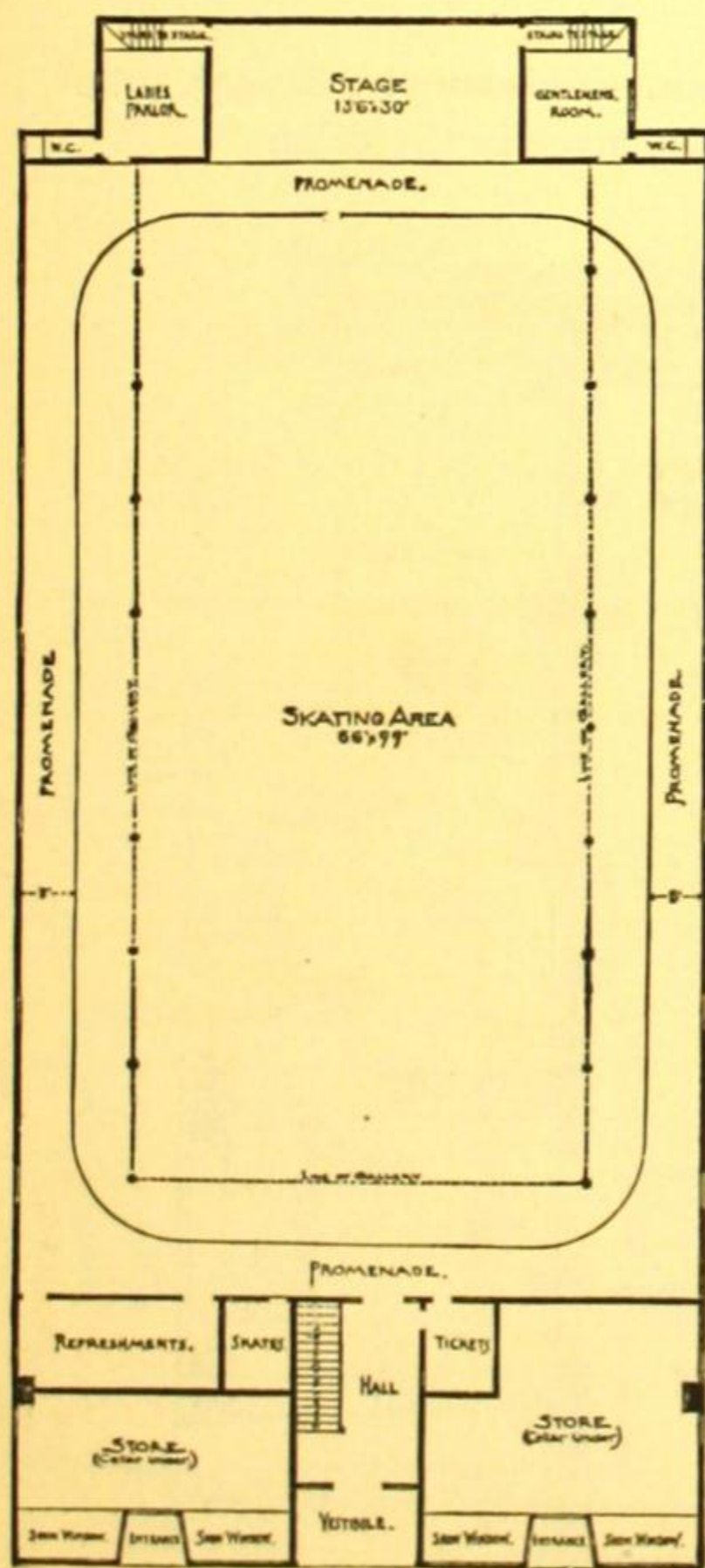
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under half of structure, with outside entrance. Has seating capacity of 160, without crowding. Large opening in partition for doors or curtains makes the lecture-





DESIGN No. 244, RINK. FRONT ELEVATION.



FIRST FLOOR. NO. 244. RINK

DESCRIPTION OF SKATING RINK NUMBER 244

COST: About \$12,000.

WIDTH OF BUILDING, 67 ft.
Depth, 150 ft.

FOUNDATION, brick; all above foundation, clapboards, shingles and carbography.

Skating area, 56x99 ft., or 5544 square ft., exclusive of the 5 ft. wide promenade which extends around the skating area proper.

As a good stage 13 ft., 6 in. x 30 ft., is provided, this makes an excellent hall for concerts or theatricals.

When used for religious or theatrical purposes the floor seats 1275 people, after allowing for a 4 ft. aisle down the centre. The galleries seat 525 more.

Four offices are obtained in the second story, the same in the third story, and janitor's apartments in the fourth story.

The front of this design is very showy in proportion to its cost and is strongly recommended for a store front.

The cost of a hard maple floor laid in the most approved

manner is included in the above estimate of cost.

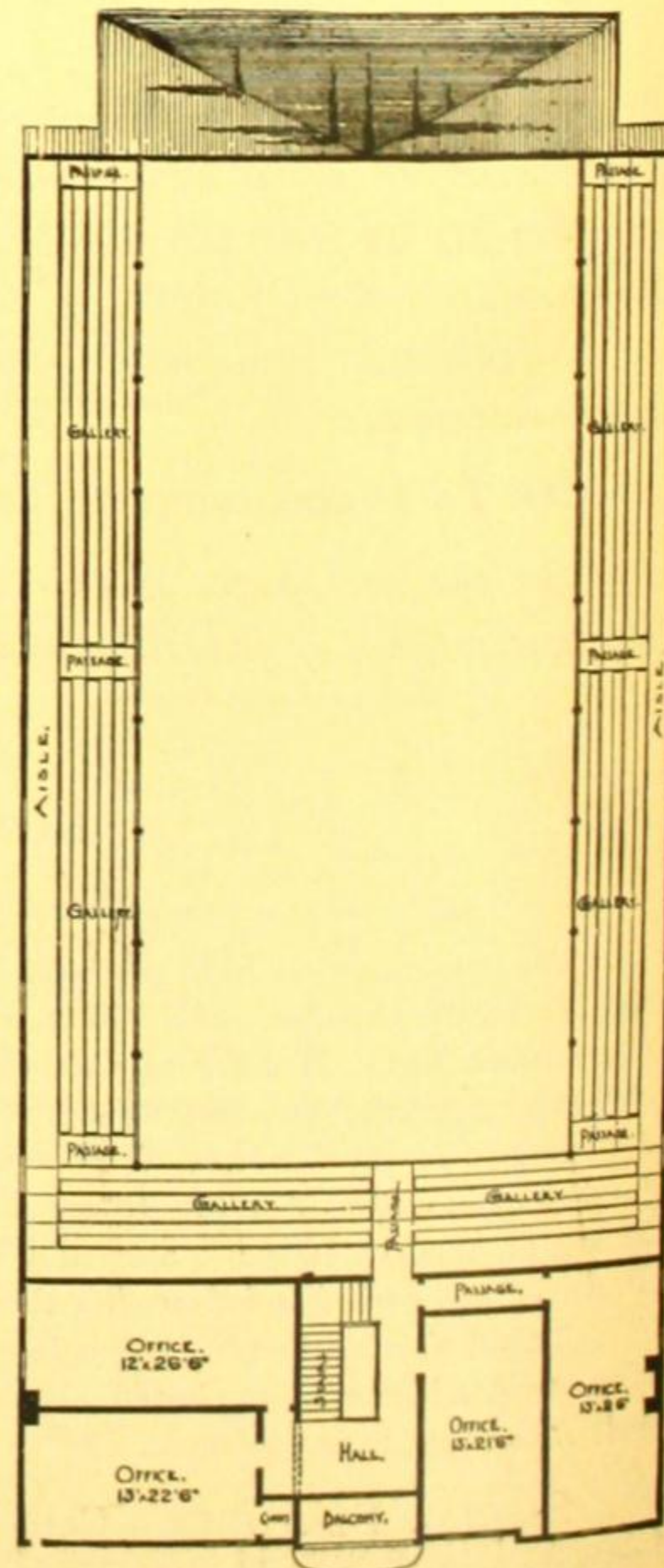
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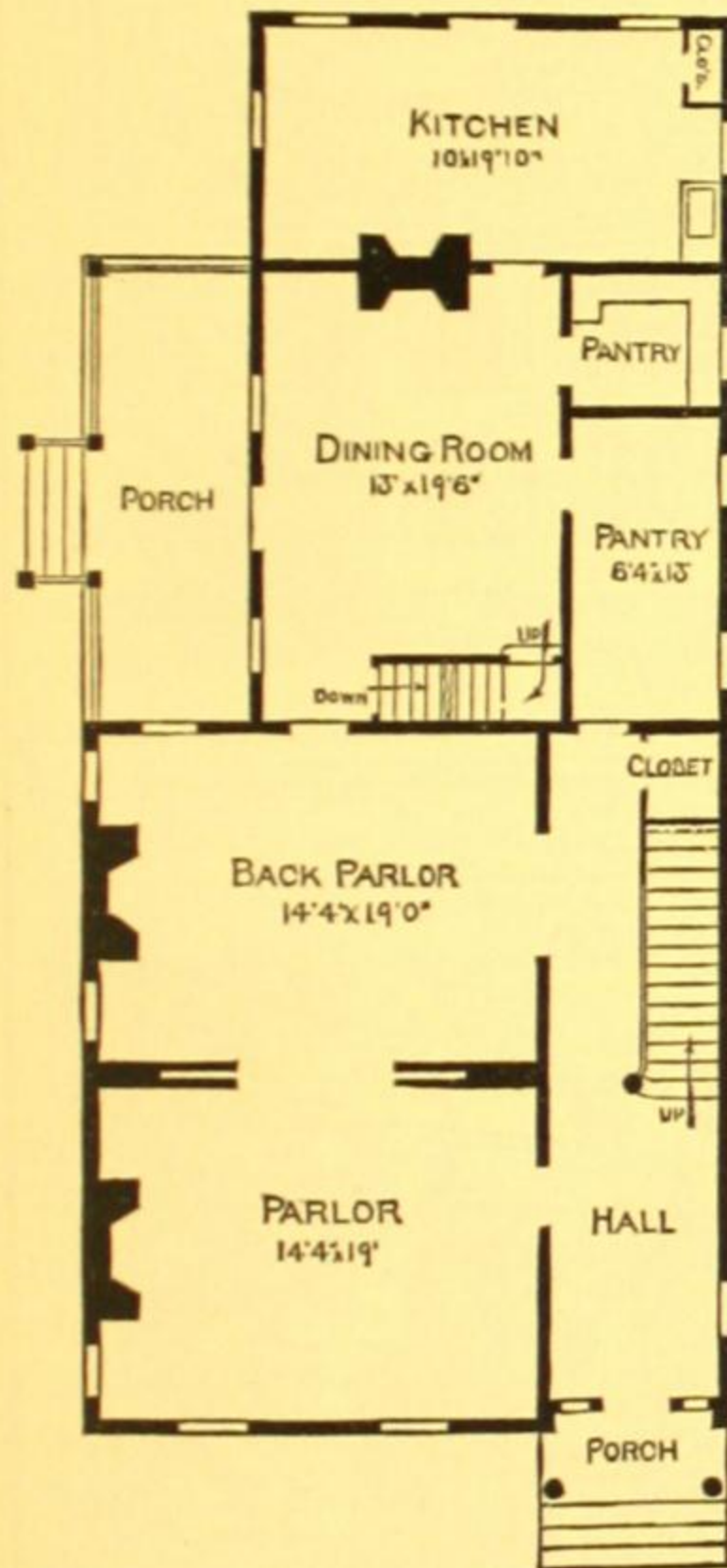
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SECOND FLOOR. NO. 244. RINK



THE OLD HOUSE



FIRST FLOOR OF THE OLD HOUSE

THE alterations and additions to the old house were as follows: A large portion of the side wall was removed and a wing 8 ft., 8 in. x 24 ft. added to the right side; the rear part of the old hall, partitioned off with a part of the new wing, formed a library; the old-fashioned straight staircase was removed and a handsome new one, with landings, erected in that part of the hall formed by the new wing.

A new chimney was built between the library and the hall, serving for each.

In the library and in the front parlor, Jackson's ventilating grates are used, effectually heating the first and second stories, and at the same time giving the cheerful effect of the open fire.

The large front veranda is new, and with its 12 ft. deep secluded bay, formed by the staircase hall, is a feature that is much liked; the side veranda was re-modelled to conform to the style of the other changes.

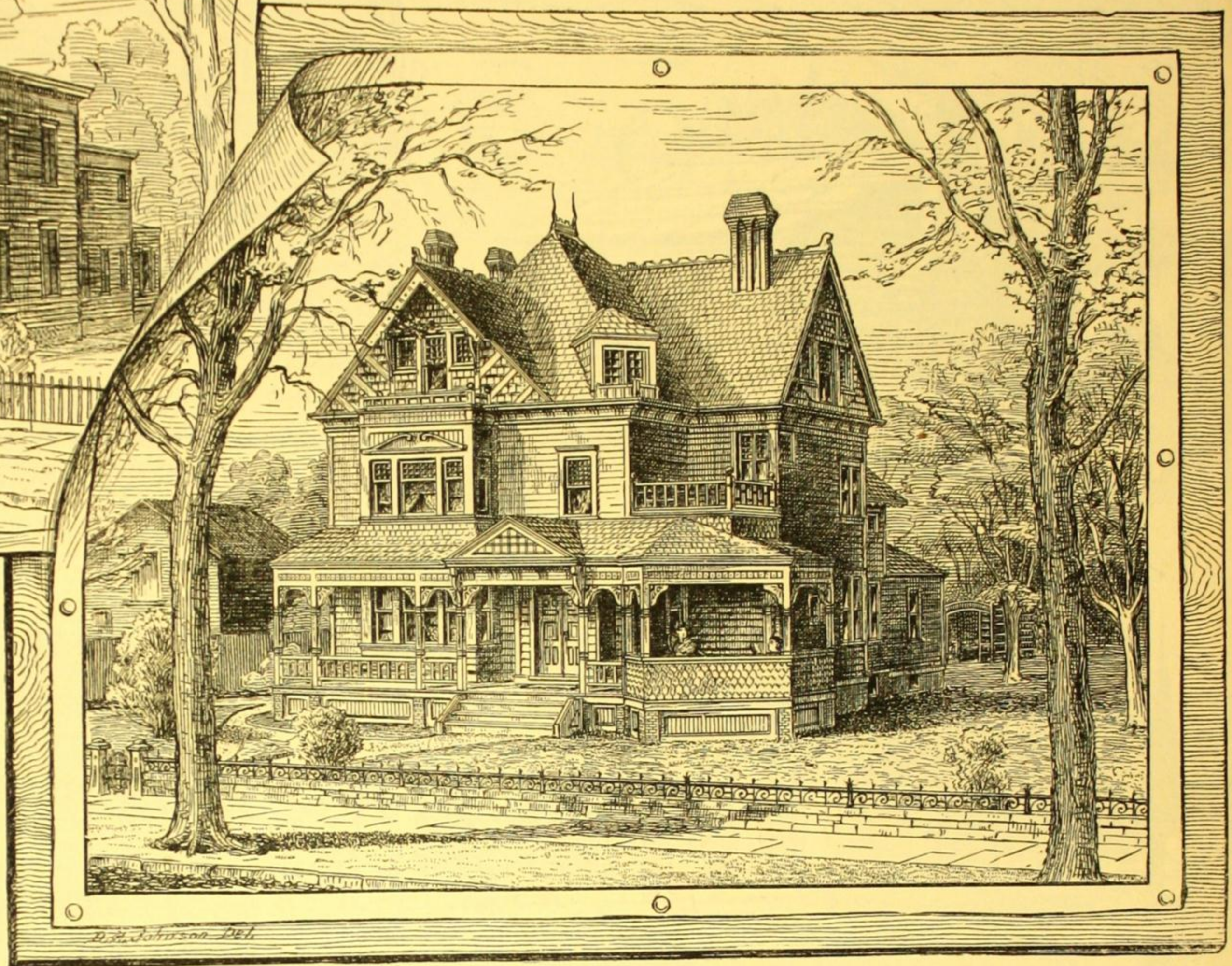
Large bay-windows were added to front and side.

The servants' staircase was removed from the dining-room and put out of sight, with entrance from the pantry.

The high slated roof that was added in place of the flat tin one gives a fine attic, with four good bed-rooms.

The second story contains five large bed-rooms and bath-room.

The first story was re-trimmed throughout, in modern style, with hardwood.



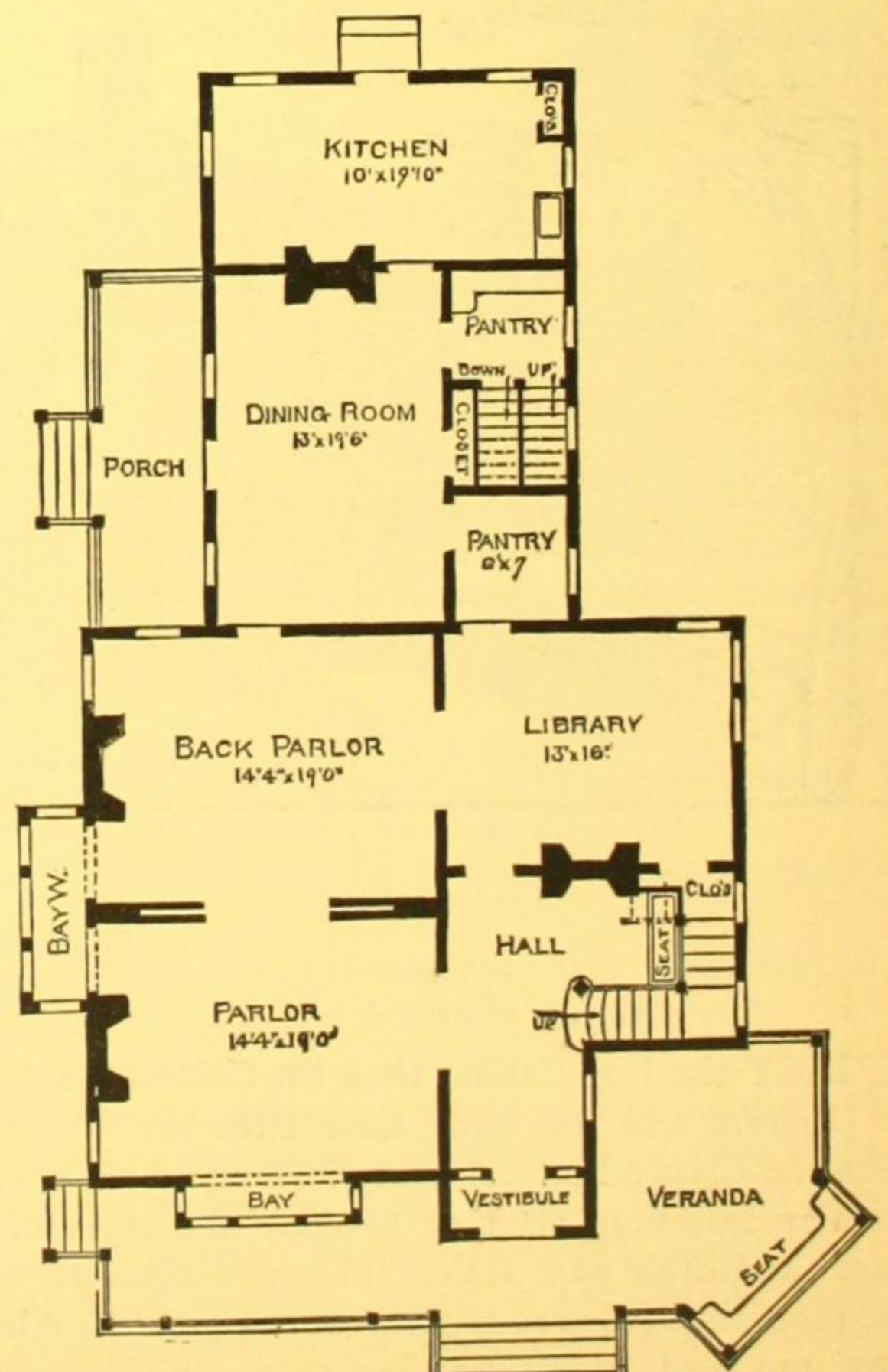
THE NEW HOUSE

RE-MODELLING AN OLD HOUSE

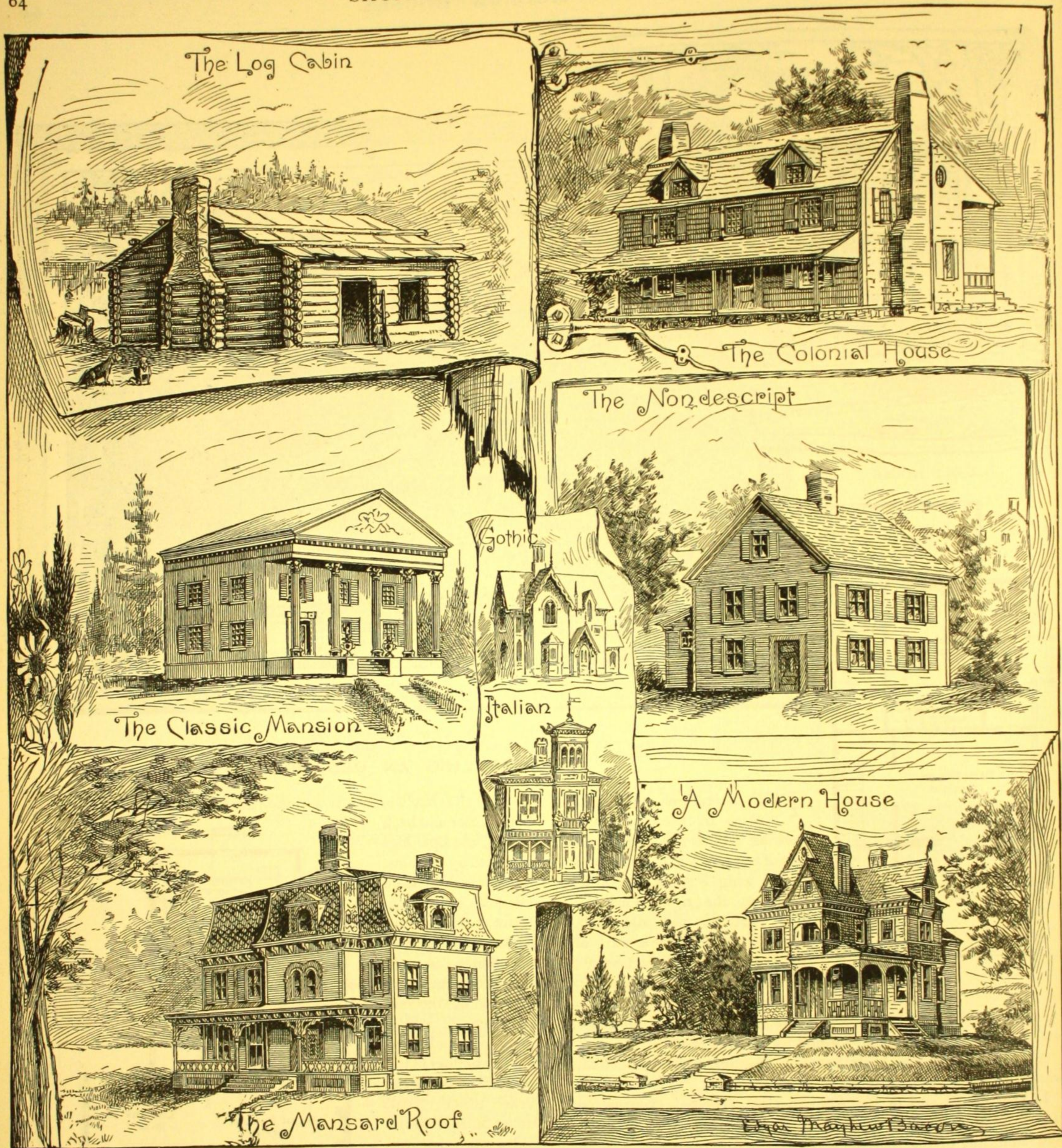
The side bay-window is a rather novel one, being entered from both parlor and back parlor, the openings screened by curtains. The transformation effected in both exterior and interior are great, and show how effectually an old house can be modernized by the employment of a little ingenuity and skill.

The builder of the original house (in the year 1845), "still doing business at the old stand," executed the alterations also, and made a good job of it.

A new house built after this plan would cost about \$6,500 to \$7,000. As a general rule it is better to build a new house than to make extensive alterations on an old one.



FIRST FLOOR OF THE NEW HOUSE



DOMESTIC ARCHITECTURE IN AMERICA

FIRST the Log Cabin; then the Colonial House, which was built before and for some time after the War of the Revolution; then the Classic Mansion early in the present century, which sprang from an ambitious attempt to copy the style of public buildings; later the Gothic and Italian obtained some recognition, and about the same time (1830 to 1840) arose the great Nondescript—the square box, modeled after a packing case, which every rough carpenter

could build,—and he has built it, unfortunately, from one end of the land to the other; next (about 1860) appeared the Mansard Roof, a modification of the box style, simple and easy to construct and therefore popular with the carpenters, who urged them upon thousands of owners; and last the Modern House, designed by the architect and not by the mechanic, having beauty and unity of design and intelligent provision for the comforts, elegancies and refinements of life.

THE HABITATIONS OF MAN IN ALL AGES

BY VIOLLET-LE-DUC

Translated by BENJ. BUCKNALL, Architect

TRANSLATOR'S NOTE

THE instructive and interesting book, a translation of which I now present to the English reader, describes the origin and development of Domestic Architecture among the several races of mankind, the modes in which human dwellings have been constructed, and the appearance and manners of their inhabitants from pre-historic down to modern times. The pencil of the artist has aided our imagination vividly to realize all the chief features in this progress; the rude shelter of primitive man, the shifting habitations of nomadic hordes, the massive grandeur of Egyptian and Assyrian dwellings, the quaint peculiarities of those of China, the elegant abodes of the cultivated Greek and wealthy Roman, the lordly castle of feudal times, and the sumptuous mansions of the Renaissance.

The interest of the subject is further enhanced by the doings and discussions of two imaginary witnesses of this development,—“Epergos” and “Doxius”—personifying respectively the spirit of Progress and that of obstinate adherence to traditional forms and habits.

This latest work of M. Viollet-le-Duc contains the results of his studies in wide and varied fields; and among the principles which his extensive and masterly survey brings into prominence, none, perhaps, is more striking than the fact that it is impossible for man to forget his past; and that just as the incidents of childhood make the most lasting impression upon the memory of the individual, and early habits affect his whole career, so does tradition—which is the memory of a people—perpetuate those habits and methods which necessity or predisposition induced in its infancy. Methods of construction adopted in times of primitive simplicity leave traces in the architecture of later periods, when that simplicity has been exchanged for luxury and refinement. On the other hand, we observe how, in the domestic architecture of the past, the main features of construction are determined by a consideration of habits, exigencies of climate and situation, the nature of the materials and the means of execution at the command of the builders; while we find them succeeding in giving even to the most primitive conceptions and modest structures that charm which arises from the free expression of a rational application of means to an end, and which, in human works, constitutes Art.

This interesting review naturally suggests an important practical question. How is it, that with all our accumulated science, wealth of means, and facilities for studying the artistic works of past ages, few of our buildings possess the charm of Art, while in so many it is conspicuously absent? May we not reply that the cause of our failure is the absence of rational method in design and execution; and that if we brought to bear upon our architectural works the same amount of knowledge, reflection, and common sense which is manifested in our purely engineering and naval constructions, we should possess an architecture of our own, worthy of our advanced civilization and in harmony with our national genius.

I wish to take this opportunity of expressing my deep obligation to Mr. John Sibree, M.A. Univ. Lond., the accomplished translator of Hegel's “Philosophy of History,” for the assistance rendered me here, as well as in my translations of other works of Viollet-le-Duc, by his able and scholarly revision of my manuscript for the press.

BENJ. BUCKNALL, Archt.

PROLOGUE

IN an age very remote from the present, seated upon a mountain brow, two beings are pensively contemplating the vast landscape which stretches before them.

Lakes of irregular shape, connected by stagnant shallows, enclose level expanses covered with scrubby vegetation, varied here and there by low rocks which show like long, upright faults. The horizon is broken by a mountain chain of fantastic outline.

The sun's disc, broad, lurid and rayless, sheds a faint glow on the innumerable liquid streaks through the vapors suspended above them. Beneath this veiled light, the tracts of dry land stand out dark and definite against the haze.

Confused sounds penetrate the warm moist air. They are the croakings of batrachians, the hissings of reptiles, the lowings and bleatings of ruminants, the hoarse roar of mammoths and the cries of large birds.

“All is as it should be,” says one of the beings.

“Nothing is complete,” returns the other; “look at those creatures below this mountain, which we see assembling, then dispersing, looking about and betaking themselves to shelter.”

“Well?”

“They are not animals like the others. . . . They are excited—restless—gaze in every direction and move erect on their feet.”

“They live, eat and reproduce their kind . . . They exemplify the universal law.”

“No, look! they are fighting among themselves; they hurl stones at one another; they move in bodies, armed with branches of trees.”

“All animals fight among themselves.”

“Look again! there is an enormous bear coming out of the thicket; these creatures cease fighting; they gather together; they form a circle round the terrible animal and overwhelm it with stones. The beast does not know where to make its attack; it growls, and with bristling hair turns about. Look! the circle narrows: several of the creatures carry long sticks, armed at their extremity with sharp stones. They strike at the furious bear in concert. . . . It turns upon them. . . . Two

of the assailants have fallen, torn by the bear's claws. Nevertheless the animal is overpowered. Behold it stretched on the ground, covered with ropes made of rushes."

"All animals engage in attack and defence."

"Look again! they crowd round the two wounded ones; they carry them to the shore of the lake, lay them down on leaves and wash their wounds. See how they bend over them; hear those cries."

"What of that! Every created being has its aptitudes, its instincts; some make themselves nests: others burrow in the ground or build dwellings. Some flock together; some live apart, distrustful of their kind: all have their prey, and seek to provide against the attacks of their enemies. Thus should it be."

"Let us go down amongst these creatures. Come!"



CHAPTER I

ARE THEY MEN?

A DOZEN creatures, heavy of limb, with skin of a livid yellow, the crown of their heads covered with scanty black hair falling over their eyes, and with hooked nails, are grouped together beneath a bushy tree whose lower branches have been pulled downwards and secured to the ground by clods of earth. The wind is blowing violently and driving the rain right through this shelter. Rush mats and skins of beasts afford a scanty protection to the limbs of these creatures, who with their nails tear portions of animals and quickly devour them (fig. 1).

Night comes on and the rain increases. The strongest collect dead branches and long grasses, and pluck ferns and reeds, and heap them up against the wind; then, with sticks and with their hands, they try to make the water that invades their retreat run off by throwing soil on the piled-up branches.

Despite the violence of the storm, locked together like a nest of snakes, they all sleep except one, who keeps watch, uttering prolonged and plain-

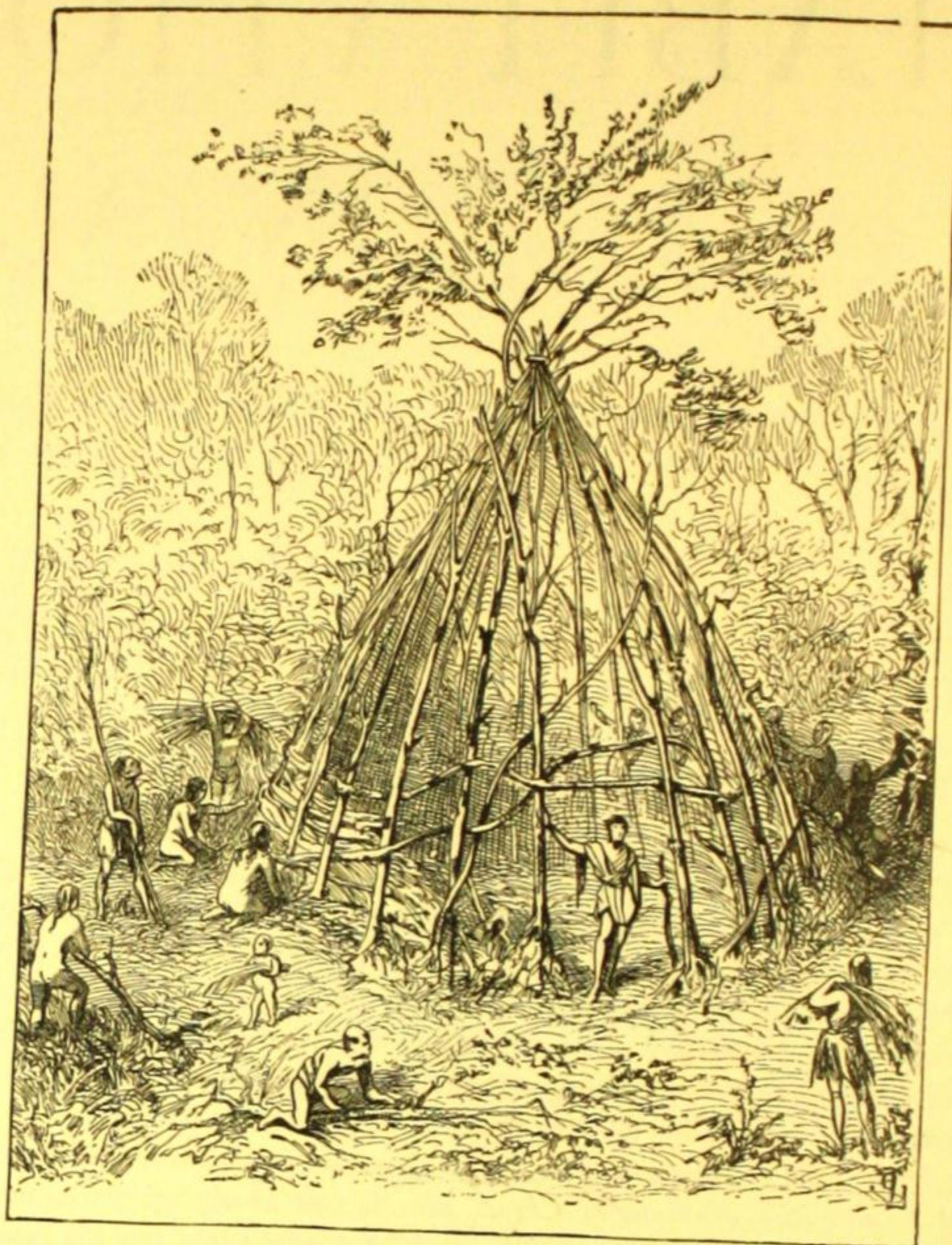


THE FIRST SHELTER.—FIG. 1.

tive cries through the night to keep away noxious animals. When he gets sleepy, he awakens one of his companions, who takes his place.

In the morning the wind has abated, but the rain continues to fall in a close drizzle. The foot of the tree is under water. Then each one sets about looking for branches, reeds, and mud to raise the ground. Some reptiles, driven from their retreats, take refuge on the clods around the shelter, and are killed with sticks to serve as food for the family.

Not far off, Epergos, seized with compassion at sight of this misery selects two young trees a few paces apart. Climbing one of these, he bends it down by the weight of his body, pulls towards him the top of the other with the help of a hooked stick, and thus joining the branches of the two trees, ties them together with rushes. The creatures that have gathered round him look on wondering. But Epergos does not mean them to remain idle, and makes them understand that they must go and find other young trees in the neighborhood. With their hands and with



THE FIRST HUT.—FIG. 2.

the help of sticks they uproot and drag them to Epergos, who then shows them how they should be inclined in a circle by resting their tops against the first two trees that had been fastened together. Then he shows them how to fill in the spaces with rushes, branches, and long grass interlaced; then how their roots should be covered with clay, and the whole structure successively (fig. 2); leaving an opening on the side opposite to the wind that brings the rain. On the floor he has dead branches and reeds spread, and mud trodden down with the feet.

By the end of the day the hut is finished, and each family among the Nairriti wishes to have one like it.

Epergos, covered with sweat and dirt, then rests by his companion Doxius. "Why," says the latter, "thus run counter to things as they are? Wouldst thou be for teaching the birds how to make their nests, the beavers to build themselves huts different from those they are accustomed to make? Why thus alter the Creator's work?"

"Who knows!" answers Epergos: "let us return here in a hundred thousand days, and we shall see whether these creatures have forgotten my instruction and live as they were living yesterday. If so, then I am wrong in meddling with their affairs, and I have not found what I have been seeking; but if they have profited by my suggestions,—if the huts we see then are better made than these, I have been successful, for in that case these creatures are not mere animals."

"Folly!" returns Doxius.



CHAPTER II

THE ARYAS

DOXIUS and his companion have halted in the midst of an elevated country. It is a vast plateau, commanded on the north by a chain of mountains whose summits, lost in the mists, are seldom visible.

Wide and deep valleys furrow the plateau, and torrents rush down the slopes and along their beds, which are covered with rocky fragments and forests.

Eternal snows clothe the heights. Accumulating, they spread out in long glaciers as far as the bottom of the valleys, hollowing out gleaming furrows, and pushing before them rocks and sand. If at times the rays of the sun warm the atmosphere, the vapors soon rise from every quarter, along the slopes, enveloping the mountain-tops, and gather in dense clouds; the air darkens, and terrible storms last for several days.

Overtaken by one of these storms, Epergos and Doxius have sought shelter under a rock. The close rain prevents them from distinguishing objects a few paces off, and the echoes return the claps of thunder which seem to burst from all points of the horizon; when a voice clear and ringing strikes the ear of the two companions; they have never heard anything on earth of which its intonations remind them. The voice comes nearer—they can distinguish the words:

"The milk of the cloud has swollen our waters, and we are ever moving onward to the reservoir which God has prepared for us. We cannot stay our course. . . . What does the sage desire who interrogates the rivers?"

"What is that?" says Epergos.

"It is the noise of the wind," answers Doxius.

"No; it is a spirit. He is close to the rock." . . .

In reality, a being like the two companions comes under the rock. . .

"Who art thou?" asks Epergos.

"Arya," replies the stranger.

"Thou art alone?"

"No; I am the father of a numerous family. I have a wife, children, and nephews, not far off, in my dwelling. Come with me; you will rest better than under this rock; but let us wait a little till the clouds pass away."

"And how are you occupied in this dwelling?"

"The mother brings up our children. I have flocks and herds which I tend, and with the milk I feed the family. With my weapons I defend them against wild beasts and enemies. In the morning, before the rising of the sun, and in the evening, after its setting, we sacrifice. The young men help me out of doors,—the maidens weave garments, gather in the *sôma*, milk the cows, and keep the dwelling clean."

"Are there other families besides thine?"

"Many."

The rain abates, and masses of whitish vapor, drifted by the wind, are spread in flakes through the forests. Sometimes dark spots are visible between them—the bottom of the valley or some point of rock; at other times they present only a gray mass shutting out every object from view.

"Let us go!" says the *Hom*, and the companions follow their guide.

Shortly after, two boys are seen coming through the mist. "Father!" they say, "the storm is terrible up yonder. We were in search of thee, and are glad to meet thee."

"Here are guests," the father answers. "Hasten to tell your mother to make ready what is needful."

Doxius, Epergos and the father reach the dwelling. It is placed against high rocks, which shelter it from the wind. The roof, very projecting, is supported by forked trunks of trees. The walls are formed of other trunks laid horizontally one upon the other, and framed together at the corners.

On either side of the dwelling, a little in advance, are two sheds; one is intended for the cattle during the winter, and the other contains forage (fig. 3). The walls of these sheds are made of coarse wicker mats.

These three structures surround a kind of area, in the middle of which is a large stone, smooth and clean.

Surrounded by her children, the mother receives the guests beneath the overhanging roof, and takes them into the hut, at the farther end of which, against the rock which serves to support the building, a bright

fire is burning, whose smoke finds vent through an opening contrived in the roof and a long, wooden flue.

Rush mats cover the beaten floor; other mats are hung along the walls and across the hut, dividing it into three nearly equal parts. Lamb-skins laid upon heaps of dried herbs form seats round the hearth, in front of which a large, black earthen pot is giving out steam of an agreeable odor.

Epergos observes all these things not without surprise. As for Doxius, he seats himself near the hearth and looks at the flame.

"Mother," says the *Hom*, "get ready the meal; these strangers must be hungry." Then turning towards his guests: "Perhaps you are tired; rest awhile before you eat. Here are lamb-skins provided for you."

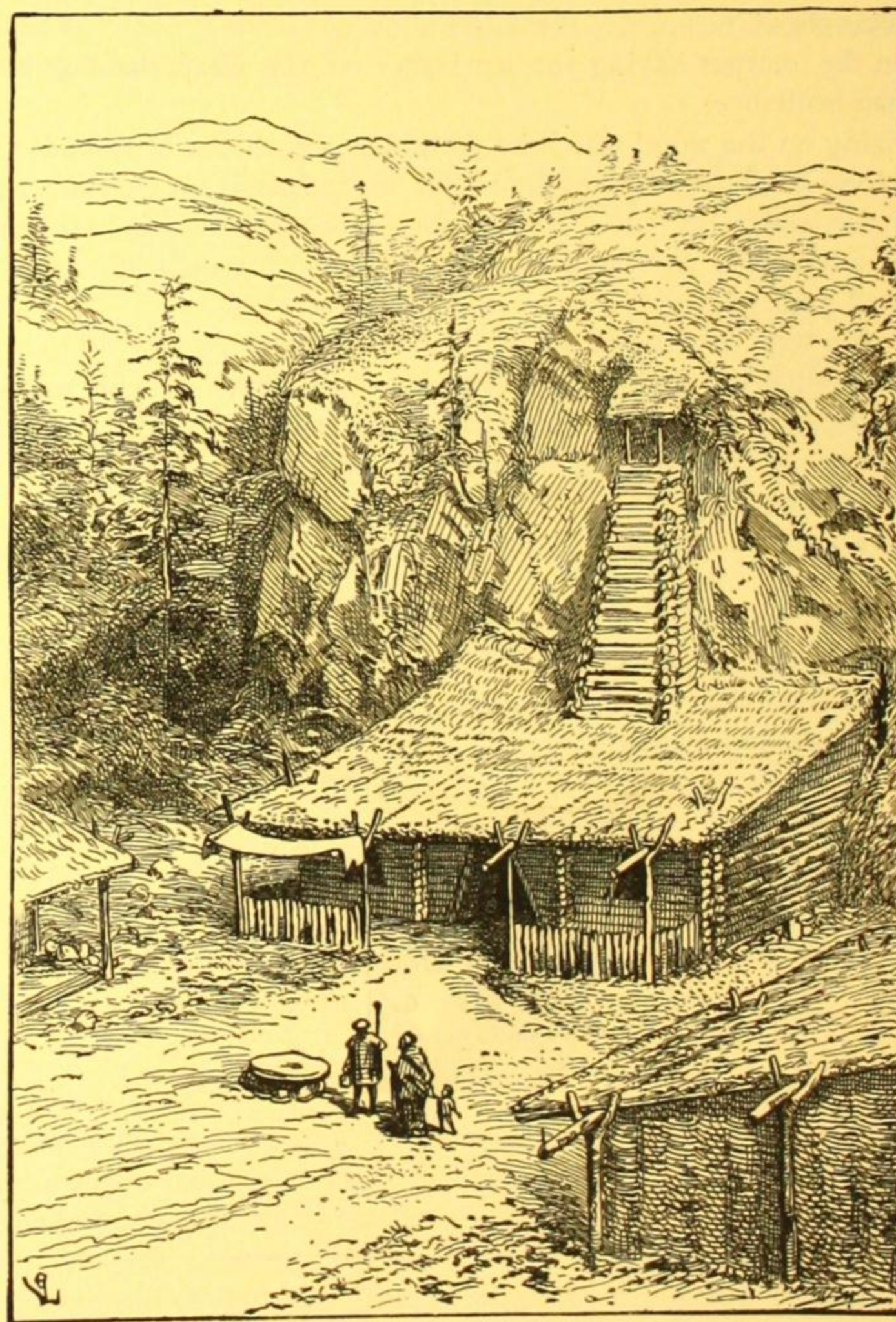
"No," says Epergos, "we are in no want of rest.—May I ask if it is long since your family settled here?"

"Stranger, why this question? Have I asked thee whence thou comest, or where thou wast going? The Aryas have always inhabited this mountain. My father, and my father's father, lived in this house, which is ours as well as the pasturage round about. . . . But of what interest is that to thee?"

"Pardon me; but my companion and I know nothing of these things. We knew not that these elevated plateaus were inhabited by Aryas. Hitherto we had only seen on the earth beings inferior to thee, living like the brutes on raw flesh and wild herbs,—not knowing how to build places of shelter,—naked and filthy."

"Yes, the *Dasyus*," replied the master, "an accursed race. Indra will drive them from the earth, which they defile by their presence, and which belongs to the Aryas!"

At these words a faint smile escaped from Doxius. The fury of the



THE PRIMITIVE HOUSE OF THE ARYA.—FIG. 3.

storm was increasing. Black clouds were gathering on the neighboring peaks, and the reflection of a dull gray light gave place to the bright flame of the fire. The wind was lifting the mat hanging in front of the triangular doorway, and was driving the hailstones into the very middle of the hut. The younger children, holding their mother's long tunic, had become silent, whilst the father and his eldest son were securing the mats which closed the openings with rush cords.

The thunder did not cease rolling, but with a muffled sound.

At times there came a lull; then a kind of distant wail was heard, but

which came ever nearer, and seemed to issue from every point at the same time; then the crackling of trees close by, and the cabin shook, and the rain beat violently on the pine bark which covered the roof.

Soon the water, driven against the rock that supported the house, found its way in through several openings, and ran over the floor; a cracking noise was heard; it was the top of the large smoke-shaft, which was giving way, borne down by the water. A torrent of mud then fell upon the fire. The hut was no longer tenable; smoke, hail, and blackened water were pouring into it on every side. All had to take shelter in the cattle shed, then empty, the animals being out at pasture.

The *Hom* and his companion first bethought them of their guests. They housed themselves as well as they could in the shed, and for supper had to be content with milk, cheese, and pine seeds. Toward break of day the storm ceased, and the stars shone out in the sky.

Just as they were beginning to pale, the father and his family went out of the shed and advanced towards the stone placed in the centre of the area. The mother was holding two wooden vessels: one containing a liquid extract from the *sôma*, the other some butter.

The father, having taken from beneath his garment a bundle of dry grass and sticks, laid it on the stone; and rapidly turning a stick in a piece of bark, the latter soon blackened and took fire. The dry grass being lighted, the mother poured over it a small quantity of the liquor of the *sôma*; immediately the flame burned with a bright light, and the father pronounced with a sonorous voice these words:

"I invoke for you the bright Agni, host of the people, . . . that he may pour down floods of light, and from his central fire load his servant with good gifts.

"We love to honor this god, the source of all your prosperity; we love to see him increase and send forth his beams. His flames undulate on the branches."

Then the mother having thrown butter on the altar, the fire blazed with fresh brilliance.

"Seizing on the wood which he consumes, he shines in splendor; he rushes along like a torrent, resounding in his course like a chariot; a trail of blackness marks his path. He charms like the sun smiling between the clouds. Give us, O Agni, brave comrades, happy abundance, noble offspring and great wealth!"

The sun was then beginning to light up with touches of gold the snowy peaks defined against the deep blue of the sky. The air was keen and piercing. The family were standing in silence before the fire, gazing intently eastwards. Nothing broke the stillness save the noise of the neighboring torrent.

The two companions stood a little way off. Then said Epergos aside to Doxius:

"What thinkest thou of all this?"

"I think that these Aryas, as they call themselves, will destroy the Creator's work. They were not wanted on the earth."

Epergos made no answer



CHAPTER III

THE NEW DWELLING OF THE "HOM"

"TAKE care of our guests," said the father to his companion. "I am going to seek my brothers to help us to rebuild our dwelling;" and taking his eldest son with him, he plunged into the neighboring forest.

Assisted by her second son, the wife, after having served her guests

with milk, began to look among the ruins of the fallen house for things which might still be used.

Epergos, raising the fallen timbers, was helping her, while Doxius seemed lost in meditation.

"Doxius!" cried Epergos; "come thou, too, and help us!"

"Why," answered Doxius, "since this hut has fallen, seek to rebuild it?"

"Why!" warmly replied his companion. "When the storm has destroyed its nest, does not the bird form it anew? If a stone falls into an ant's nest, do not the ants make another by the side of it?"

"True," answered Doxius; and he went to aid in the clearing.

Towards the middle of the day the father returned with his two brothers, and by sunset the site of the hut was cleared. The brothers had brought some provisions. The weather was fine, and a large fire having been lighted in the court, the inhabitants and the two companions seated themselves around it on clods of turf, and having eaten their meal, thus conversed:

"Host," said Epergos, "if you build your dwelling against this rock, are you not afraid that the first storm will overthrow it again?"

"Yes," replied the Arya; "but my father lived there, and I wish to live there."

"Be it so; but then should you not turn aside the rain-water which collects up there and pours down upon the roof? In the morning we will ascend the rock, and see if we can lead the rain-water to the right or left of your dwelling."

"That might perhaps be done," returned the father; "I had already thought of that."

"And then," continued Epergos, "why not build the walls of your dwelling with fragments of stone and earth? It would thus be more substantial, and protect you better from cold and heat."

"We will try," replied the Arya.

"Hom!" then said Doxius, "just now you spoke wisely; you said that you wished to have your father's house restored; rebuild it then just as it was—just as your father left it to you."

"But," returned Epergos, "who has told thee that the house destroyed yesterday was in every respect like that which was probably erected in the same place before it?"

"It was not like it," said the Arya; "for my father told me that his father's dwelling was smaller, and was covered with dry grass."

"Then," said Epergos, "we can make the new one more spacious and strong than the last was."

"Where wilt thou limit thy desires?" murmured Doxius.

"Why should I limit them? Let us set to work, that will be better than talking."

"Woman," continued Epergos, addressing his hostess, "tell us, you who have always lived in the house, and have taken care of the things it contained, whether the ruined dwelling suited you in all respects; whether you found it wide enough, and sufficiently weather-proof?"

"It is true," answered the woman, "the children were cramped for space; in high winds the smoke often annoyed us, and we were scarcely sheltered from the north wind or the heat. Still, such as it was, we lived happily and peacefully in it." And she began to weep.

"No useless tears!" said the Arya. "Let us set to work before the sun disappears behind the mountain. Come with us, mother, and tell this stranger what thou wantest in addition to that which we had before, since he shows a desire to help us."

The wife then pointed out, on the site of the cleared ruins, the space she proposed to allot to the children, the common apartment, and the room intended for herself and her husband. And it was not without shedding fresh tears that she thus designated each part of the house.

"Thou seest," said Doxius, "this woman thinks only of her ruined dwelling; and all that thy knowledge enables thee to build will never make her forget that old habitation where she brought up her family. Be satisfied, therefore, with the building such as it was; our hosts will be happy and will bless thee."

"Leave me to act," replied Epergos. "Present good makes us forget that which is past; the fruit makes us forget the flower."

"And winter blights both," muttered Doxius between his teeth.

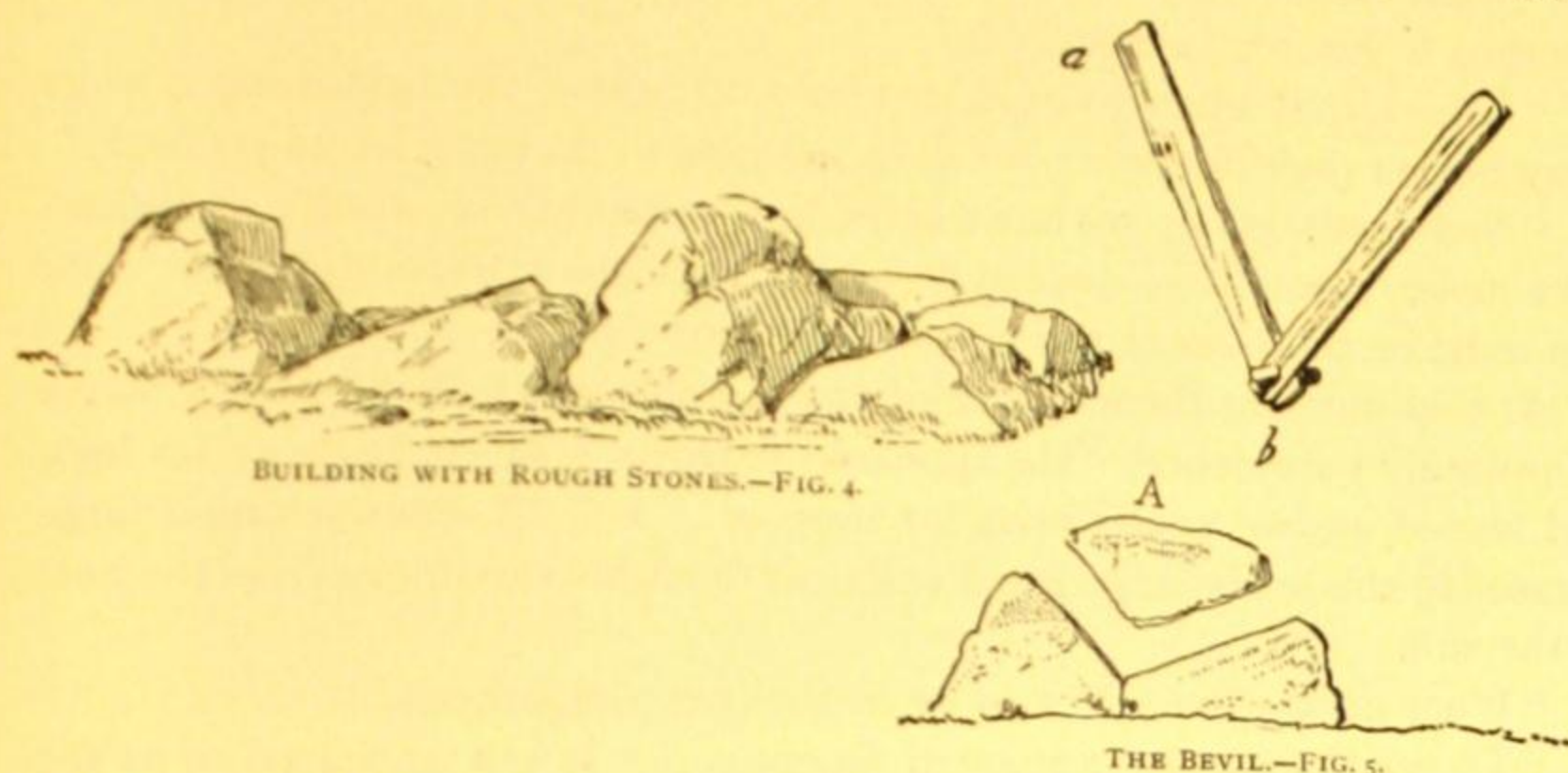
In the way of tools the Arya had only hatchets of flint provided with handles, and a kind of saw of the same material.

While the host, his brothers, Epergos, and the eldest of the children, went into the neighboring forest to cut the timber required, Doxius

remained with the mother. He led her thoughts back to the ruined dwelling, and took pleasure in getting her to describe minutely the various parts of the hut, the primitive furniture it contained and the family events it had witnessed. Doxius seemed moved by each touching souvenir communicated by his hostess, and constantly repeated: "Have this dwelling, therefore, rebuilt in such a way that you may find everything in the place it formerly occupied, and may not have occasion to regret anything of the past."

When in the evening the *Homs* returned, covered with sweat and dragging after them the timber collected in the forest, they observed the woman silent and sad.

The meal was not prepared, and they were exceedingly hungry.



"Mother!" said the Arya, "what is the matter, and why this sad countenance? What has happened to hinder thee from preparing our food?"

The woman, her eyes red with weeping, made no reply, but hastened to make up for the time lost.

"The mother," said Epergos, "regrets her ruined habitation; her melancholy has caused her to forget our wants and her own. It is only natural. When she finds herself mistress of a larger and more comfortable dwelling her sadness will vanish. Let her indulge her regrets, and to-morrow we will set to work."

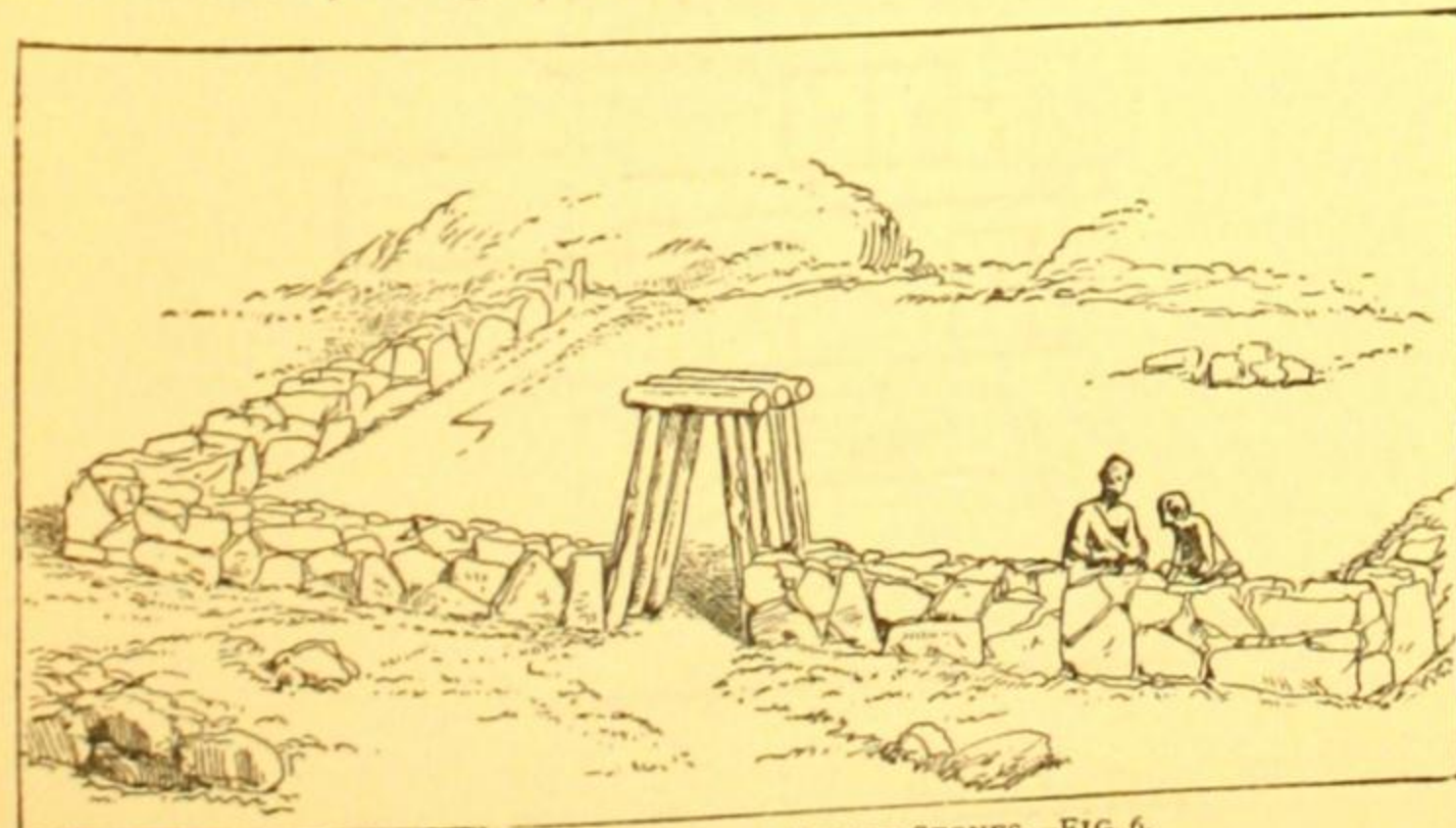
At daybreak, in fact, they began to mark out the new house, and to get everything in readiness to erect it speedily. By the advice of Epergos they determined to build the house upon a platform formed with an edging of large stones, so as to preserve the floor inside from the damp kept up by the rain around the old dwelling. Next, the perimeter of the house was commenced with stones fitted carefully together. A first course was placed on the ground (fig. 4), the broadest face downward; then, by means of two pieces of wood joined with a peg (fig. 5), they took the angle *a b c* made by the two stones already in place, and looked for a stone which should present nearly that angle; having found one, they put this stone *A* in that angle, and similarly for all the first course; so that, by the end of the day, the basement of the future dwelling was formed, an open space being left for the door (fig. 6).

With smaller fragments the basement was made even. The walls were terminated by the rock.

"If instead of these piled-up trunks of trees, which formed the walls of your dwelling," said Epergos, next morning, when they had resumed the work, "we were to raise the walls with stone up to the height of the roof, should we not thus have a more substantial and durable shelter?"

"Certainly," replied the father; "but how could we lift these stones? We have already had great difficulty in laying the last."

"Observe," returned Epergos, "what we can do; we will not lift stones from below, but go and find some up there, on the rock, and let



BASEMENT FORMED WITH ROUGH STONES.—FIG. 6.

them down on trunks of trees inclined so as to form a road. In proportion as the wall rises we will give less slope to the trunks, by resting them on the wall."

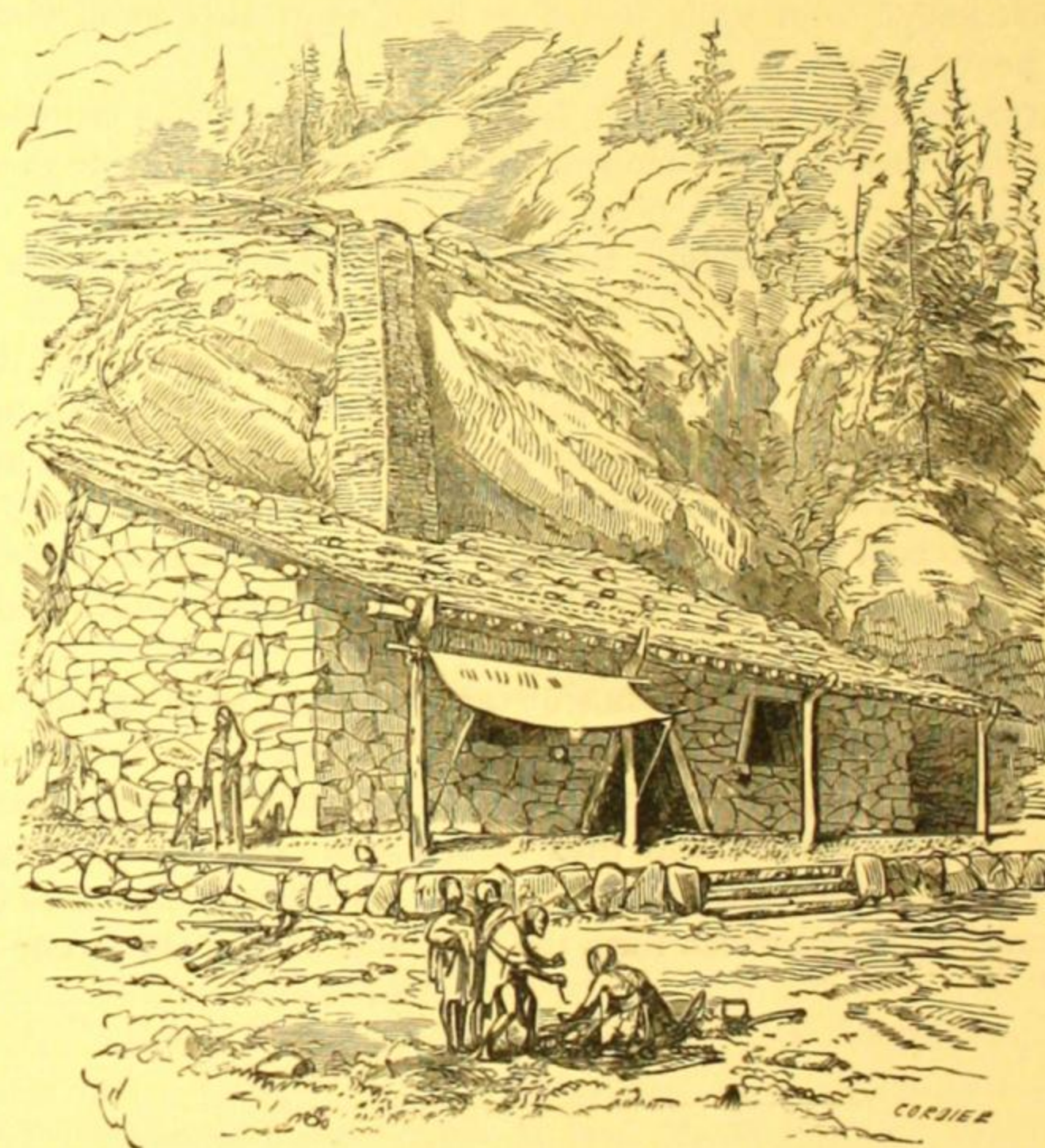
"Let us try," said the Arya. Accordingly, with the help of bonds made of supple branches, the stones were let down from the rock on trees laid side by side slantwise, their lower ends resting on the side walls, already showing above the ground. Thus the walls were raised without very great difficulty, openings being left for the door and windows. This work, however, necessarily took up a great deal of time, for the workmen were not very skillful; the rain, too, came on again, and continued falling for four-and-twenty hours. One evening, while the family and their guests were taking their meal, crouching round a fire sheltered by a few mats, discouragement was marked on their faces; the children clustering round their mother were shivering, and but few words were exchanged; Epergos alone preserved his usual cheerfulness. "I see," said he at last, "that the task we have undertaken appears to you heavy and very tedious. We should have finished sooner if we had made walls of trunks of trees, piled one upon the other, as in the house that has fallen."

"That," said Doxius immediately, "is what wisdom enjoined; and this woman and her children would now have been under shelter in their dwelling if thy imprudence had not induced thee to undertake a labor beyond thy strength."

"We should have finished sooner if thou hadst lent us thine aid," interrupted Epergos. "Since the *Hom* has a conception of the best, he ought to follow the tendency which leads him towards that best; and is it to contravene the intentions of the Creator to say to him: 'Thou shalt stop here.'"

The Arya had listened attentively; and putting his hand on Epergos's shoulder, he said to him: "Guest, it shall be done as thou hast said."

Next day the family set to work with fresh ardor, and in a few days the house was finished (fig. 7).



REBUILT HOUSE OF THE ARYA.—FIG. 7.

By the advice of Epergos the openings had been formed by means of leaning wooden jambs with cross-pieces above (fig. 8). The stones rested against the jambs and upon the lintels, so that they were kept securely in place. The joints, more or less open between the stones, had been filled with moss mixed with clay. The openings were covered with mats. In front of the habitation, upon the plateau which raised the structure above the natural soil, was a portico formed with forked trunks of trees set upright, which received a cross-piece on which rested the timbers supporting the roofing of pine-bark. This time the fireplace was made with large flat stones fixed upright. On these stood the framing to which were fastened the pieces of bark forming the smoke flue. The pieces of bark were kept in place by osier bands, and the whole was plastered with clay which they found in the neighborhood.

On the top of the rock the workmen had made a dyke by means of trunks of trees laid down, intermingled with pebbles made firm with earth.

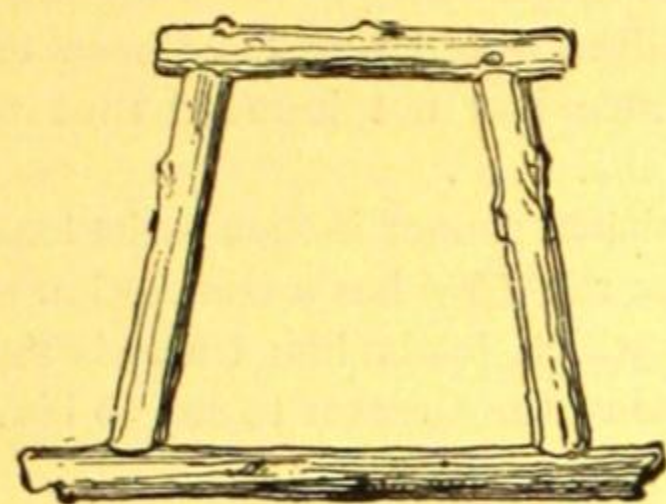
Thus the rain-water flowed off right and left, and could no longer penetrate the roof. They settled in this new dwelling, more roomy, strong and weather-proof than its predecessor. They were working at the mats which were to form the partitions. The father was engaged in making the earthen vessels which were to replace those broken. For this he used clay procured in the neighborhood, and which he fashioned with his hands on a thin slab resting on a stone pivot. He made this plate revolve so as to give the vessels a circular form. Epergos was watching him at work and attentively considering some fragments of pottery broken by the fall of the house.

"How do you give these vessels the hardness necessary to enable them to hold water?"

"By drying them in the sun and surrounding them with fire when they are quite dry."

"If so," said Epergos, "you might make walls with this earth, and make them very hard by surrounding them with a hot fire."

"Those masses of earth could not be sufficiently dried; being thick, they would retain some moisture, and would burst with the heat; for if



CONSTRUCTION OF A WINDOW-OPENING.—FIG. 8.

our vessels are too thick, and not thoroughly dried before they are baked, they burst."

"Oh, then you might bake pieces of earth small enough to dry well, and by their union form walls easier to build than ours were, made of large and heavy stones."

The Arya, listening to his guest, had suspended his work; he reflected a few moments, then taking some soft earth he beat it on a stone to make it thinner, cut it square with a piece of sharp wood, and said:

"Thine is a good suggestion, Epergos; we will try to bake this with the vessels."

Shortly afterwards, aided by the sun's heat, the pottery was well dried; the Arya built around a circular wall of pebbles, then he filled up the whole space with small wood which he lighted, taking care to keep up the fire. In half a day the vessels appeared to be sufficiently baked; they were allowed to cool slowly until the next morning. Some of them were broken or mis-shapen; but the earthen slab was hard, sonorous and of a beautiful brown color.

"Well," said Epergos to his host, "thou hast no need of any other material to make the walls thou desirest to build. Thy children can shape pieces of earth, and when thou hast a certain quantity thou wilt have them baked together, and thus form a floor in thy house quite dry and clean; and if some of the slabs are large and thin enough thou canst lay them on the timbers which form the roof, and shelter thy family from the rain."

CHAPTER IV

THE YELLOW RACE

A PLAIN, covered with luxuriant vegetation, stretches as far as the eye can reach; it is traversed by a wide river with a slow and muddy current, which separates into a number of branches, leaving between them long low islands. On the horizon there rises an immense cone crowned with snow, from the summit of which escapes a cloud of white vapors. On the banks of the river may be seen scattered habitations, which are built partly in the water, partly on *terra firma*. The men who live in these dwellings have not the lofty stature, the long fair hair, the white skin and blue eyes of the Aryas, but are of medium height; their skin is yellow and shining; their eyes, black and small, are contracted and turned up at their outer extremities; their hair is of the color of the raven's wing, and

beneath their sharp nose opens a wide mouth which exhibits short sharp teeth.

Epergos and Doxius would scarcely have felt disposed to make a long sojourn among this people, had not the aspect of their habitations strongly excited their curiosity. All these houses present a gay appearance in the sun; for they are covered with brilliant colors, and contrast with the rudeness of the dwellings of the Aryas. The companions, therefore, direct their steps towards one of the houses which appears to them more spacious and better ornamented than the others, and is surrounded by a garden. But when they wish to enter the enclosure they are received with a shower of stones.

"What thinkest thou of the manners of these hideous creatures?" said Epergos to his companion.

"I think that when you fall in with wild beasts, the best thing is to go away before they bite you; we have nothing to do here, let us go back."

"Nay, not so fast; we must know how creatures so savage in appearance make themselves dwellings which indicate refined manners. Our aim must be to discover the means of getting in."

At that moment there appeared at the door of the habitation a native of unwieldy corpulence. He appeared scarcely able to keep on his legs, and leaned on two young boys for support. A third was opening a large parasol to shade his large head, sunk between his shoulders, from the heat of the sun.

"What do you want?" said he to the two companions.

"To see thy house," answered Epergos. "It has appeared to us the most beautiful of all."

"Who are you? What do you bring?" returned the corpulent proprietor of the house.

"We bring health and long life, and cure infirmities," Epergos quickly replied.

"If thou speakest truth, come in, then, for I have need of you," said the fat man, softening his voice; "but what proof have I that you are not seeking to deceive me?"

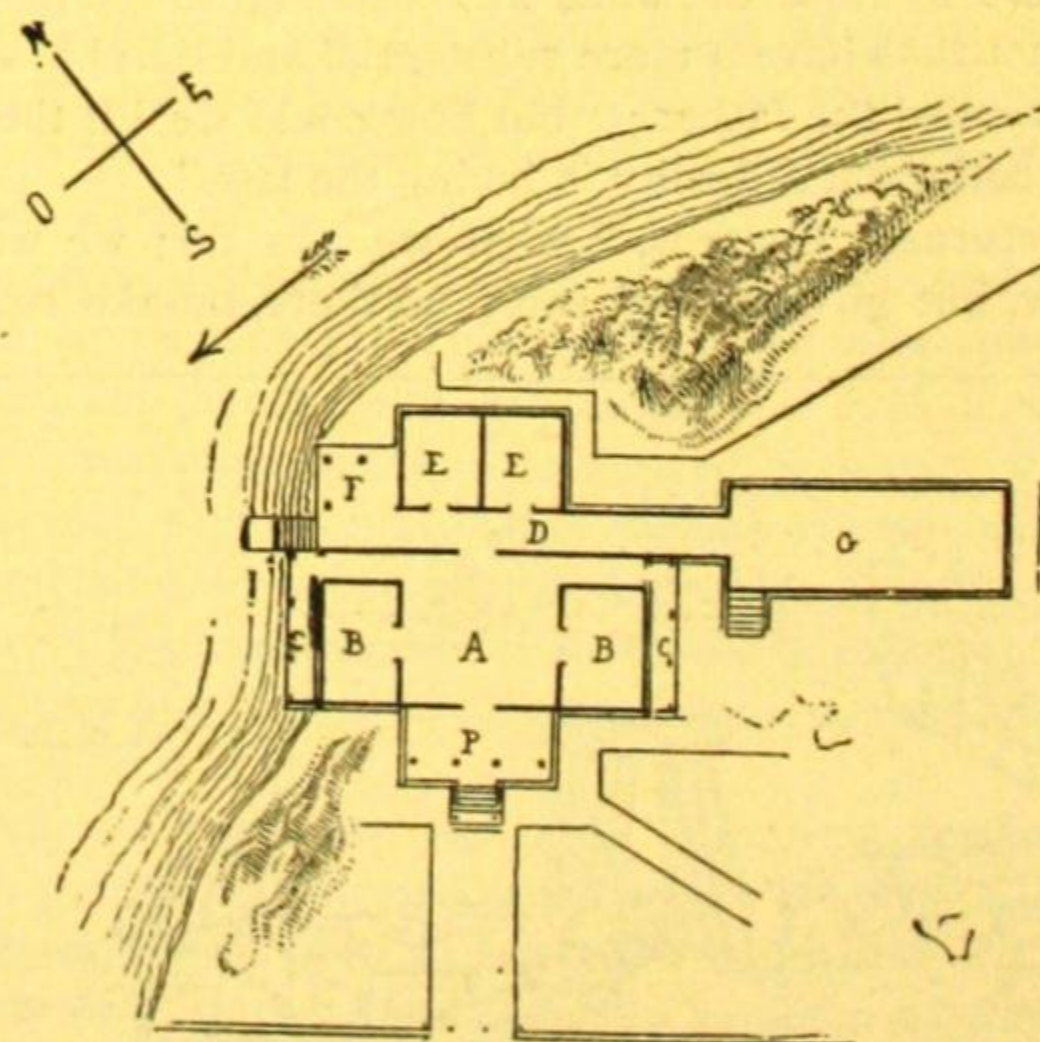
"We are very much older than thou, and yet thou seest that we appear young and active; we will tell thee our secret."

"Then you are welcome."

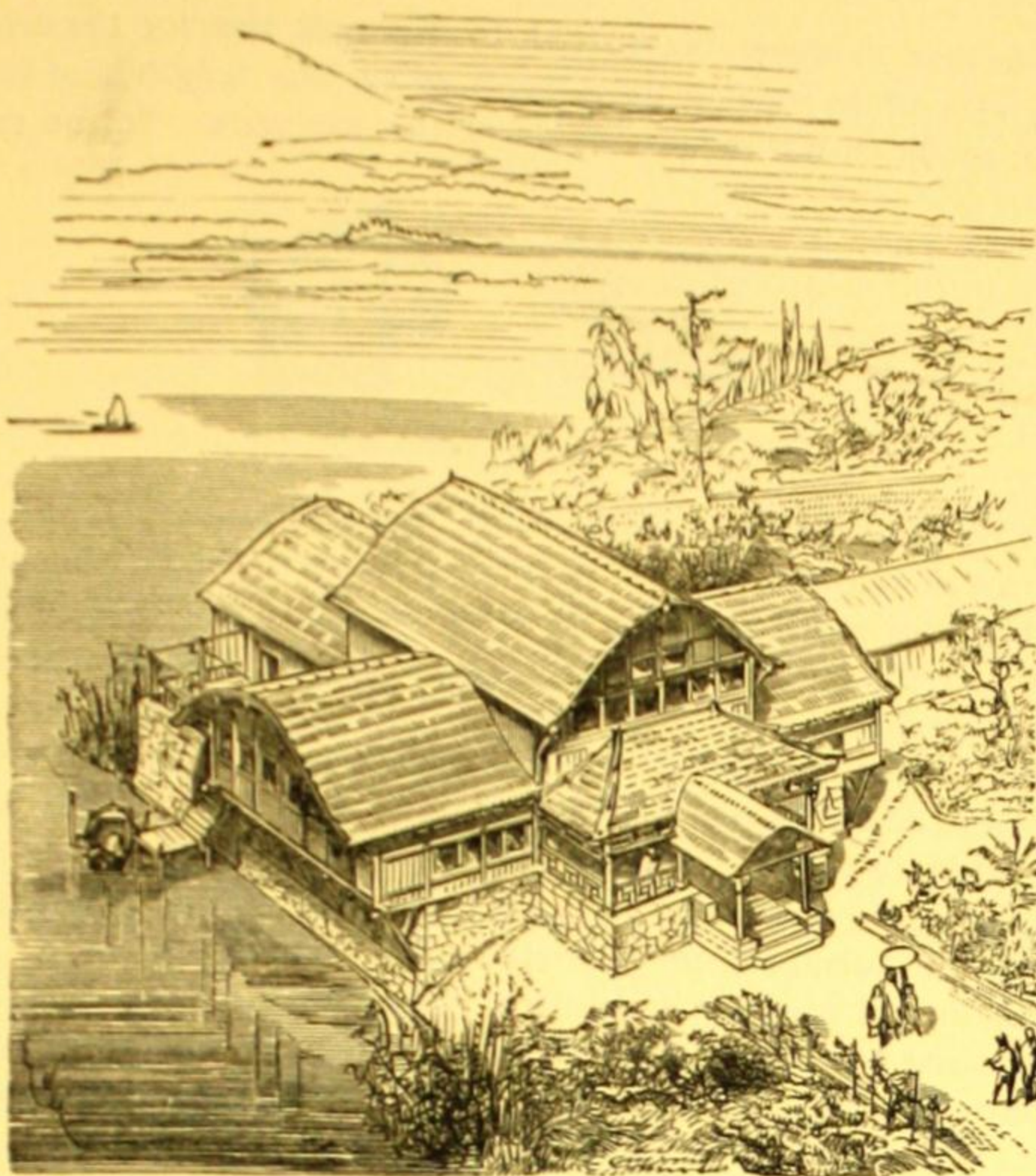
"What new folly is this?" whispered Doxius to his companion. "Art thou then a God, to promise health and long life?"

"Do not interfere with me; this deformed creature will be satisfied with us, and I shall have seen what I am desirous of seeing."

The house of the fat Fau (the name given to him by his servants), surrounded by shrubs and fruit trees, consisted of a portico raised a few steps above the ground (fig. 9). This porch P, very low and deep, gave entrance into a central room A, lofty, and lighted near the wooden roof which covered it, by openings furnished with a trellis-work of canes. On this room opened two side rooms B, very much less in height, and a narrow passage which led right and left to two covered balconies projecting on brackets C. One of these overlooked the river. Behind this gallery another wider one D, led on to a terrace F, to two small chambers E E, and to a long, low building G, allotted to the servants and the offices, such as the kitchen and provision stores. On the terrace F were posts,



PLAN OF THE PRIMITIVE CHINESE HOUSE.—FIG. 9.

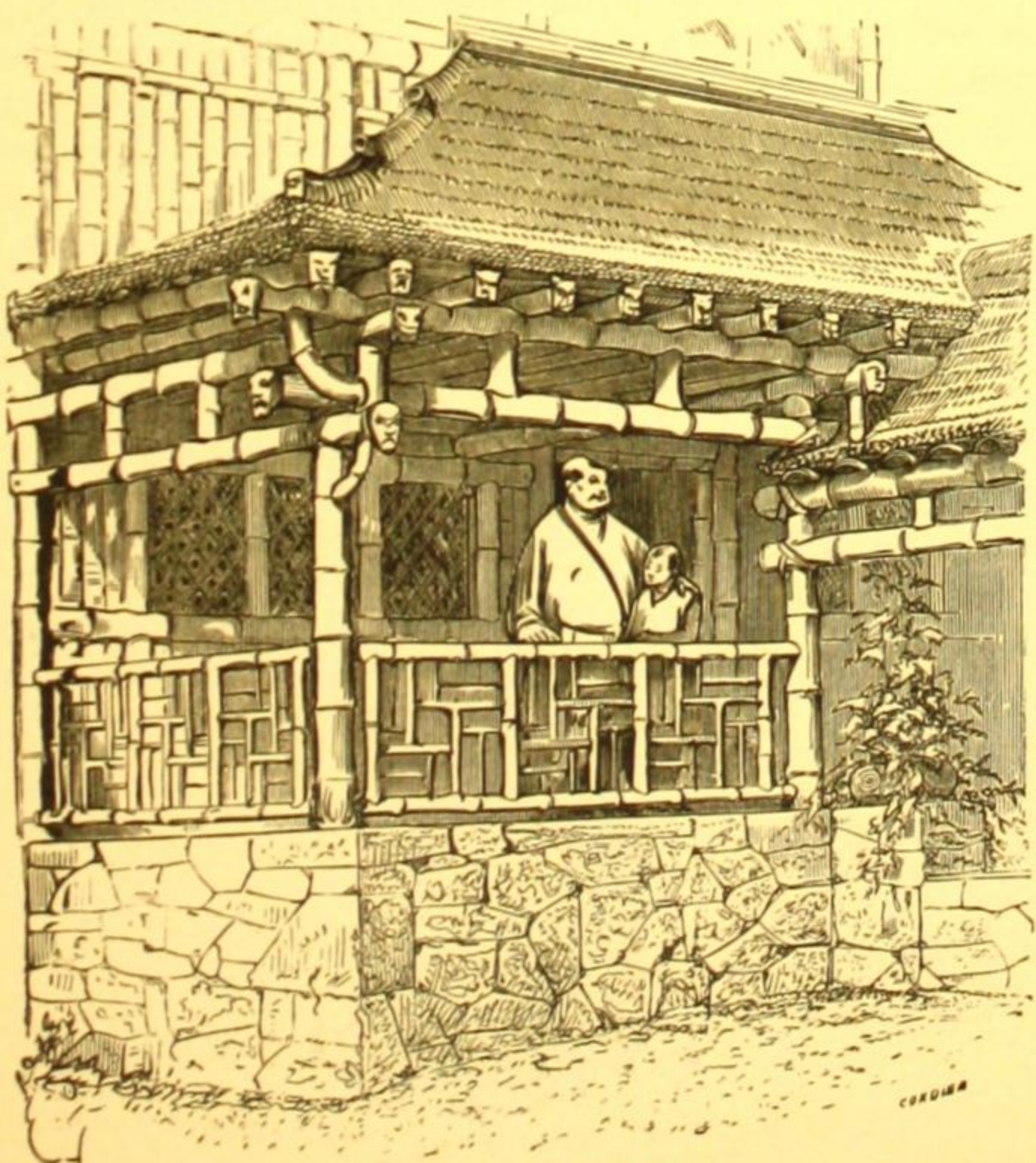


VIEW OF THE HOUSE.—FIG. 10.

from which mats might be hung, enabling the occupants to enjoy the fresh air of the river under cover. A small landing-stage descended from this terrace to the river to facilitate excursions on the water.

This building was constructed entirely of bamboos. Trellis-work of cane, tastefully composed, closed all the openings and allowed the air to circulate, while it subdued the glare of the sunlight. We give (fig. 10) the view of this habitation on the entrance side, and (fig. 11) the aspect of the porch.

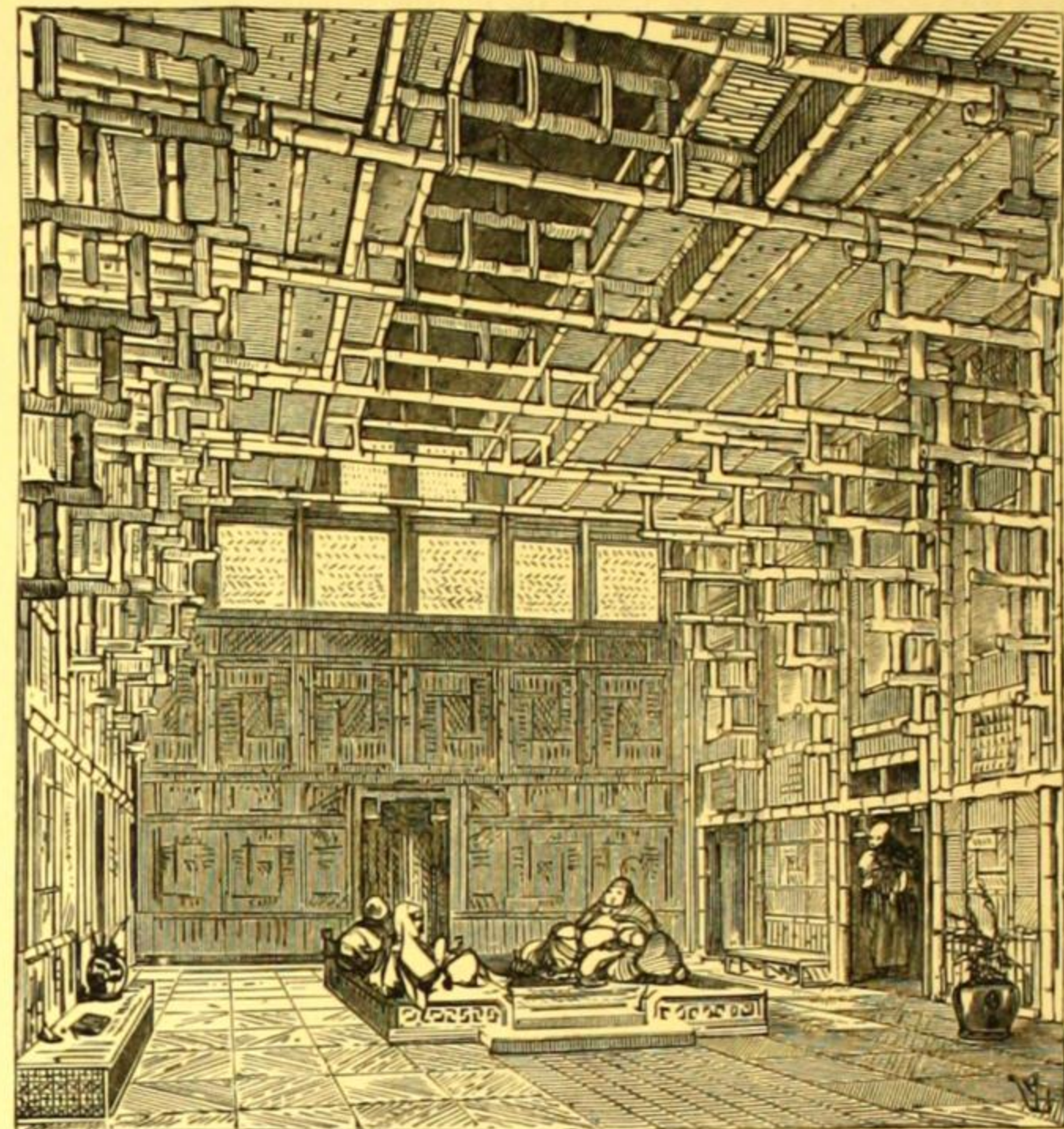
Great roofs, made of thick bamboos, bent and covered with reeds very ingeniously disposed, sheltered the interior from the rain and heat; for these coverings were thick. Close mats, made likewise of reeds, enabled the openings to be hermetically closed during the night, and covered the floor. The building rested on a base consisting of large stones, perfectly fitting, though irregular. The whole was painted outside and inside with lively colors, among which yellow and green predominated. On being introduced into the principal room, whose aspect was cheerful, and whose agreeable temperature contrasted with the oppressive heat of the outer air, Epergos examined with curiosity the arrangement of the bamboos which formed the lofty ceiling, lighted by openings pierced above the entrance and on the side opposite (fig. 12). His examination would have



PORCH OF THE HOUSE.—FIG. 11.

been continued had not the fat Fau invited his guests to seat themselves on thick mats which covered a sort of platform raised in the middle of the apartment. He let down his own ponderous weight upon a heap of bags filled with aromatic herbs. Having taken breath—for the effort he had made to go as far as the door had impeded his respiration—he ordered his servants to bring some strong drinks; then addressing his visitors, said: "What brings you into the Celestial Country?"

"The wish to be of service to the noblest order of human beings," answered Epergos. "We have visited many countries, and it is here alone that we have seen beings who knew how to erect buildings which do not remind one of the dens of wild beasts or the most ordinary birds' nests. While we observe that in the depths of the sea the humble molluscs build themselves substantial dwellings adorned with bright colors, we have not been able to understand how the most intelligent



INTERIOR OF THE CHINESE HOUSE.—FIG. 12.

among animated beings should not have been able to make themselves shelters, or have possessed only mean abodes. We have been informed, however, that in these vast and fertile plains, watered by great rivers, lived people that were superior to the rest of mankind by their industry and their intelligence; but that these privileged beings, the kings of the earth, are subject to infirmities and evils of every kind. Skillful in the art of curing these evils, and able to give relief to those who are afflicted by these infirmities, we have come hither. Make use of us, then, and put our knowledge to the test."

"You see," returned Fau, "I can scarcely walk a few steps without gasping for breath."

"Hast thou always been thus afflicted?"

"No; I used to be vigorous and active; I feared neither wind nor rain nor sun; I slept soundly the whole night through; and food, however coarse, seemed savory to me. Now, I cannot sleep; or, if I doze I soon wake up, imagining that a heavy stone is weighing upon my chest. The most appetizing viands seem to me tasteless."

"And when thou wast in good health, didst thou inhabit this charming abode?"

"Oh! certainly not; I had neither house nor garden. I worked hard all day to obtain a dish of rice, which appeared to me a very small portion. Nevertheless, this persistent labor enabled me to acquire some little property. For a long time I traded on the river, living in a boat, buying and selling to such advantage that one day I found myself rich enough to purchase this domain. Since that time I have employed others to work for me, and have rested myself, hoping to enjoy the wealth so laboriously amassed. But health has gone from me, and the rest I anticipated in this house, built under my own inspection, is only a protracted torture."

"Certain drinks and herbs, whose virtues are known to us, will relieve thee; but first show us this house, for it is worth while to know whether it is not the cause of your affliction."

The small eyes of the fat Fau then rested upon Epergos and Doxius with so marked an expression of distrust that the first resumed :

"If you mistrust us, say so openly, and we will leave thee to thy misery."

"Stay," replied the Fau immediately ; "you shall see the house at your leisure, when you have eaten and drunk." Then the attendant brought a vessel filled with a warm beverage, and some spiced cakes.

"This," said Epergos, after tasting one of the cakes, "is scarcely fit even for people in health, but would soon bring thee to death. Instead therefore, of this aromatic beverage, send for pure water. In order that the remedy that we shall give thee to-night may be effectual it is necessary for thee to abstain all day from anything but clear water."

Fau was scarcely capable of showing his domain to his visitors. The steward of his household was commissioned to conduct them everywhere. Epergos was able, at last, to examine at his leisure every corner of this abode, except the room where the wife and daughter of his host were shut up. It was one of those which opened on the large room. At every step Epergos uttered an exclamation. The bamboo framing supporting

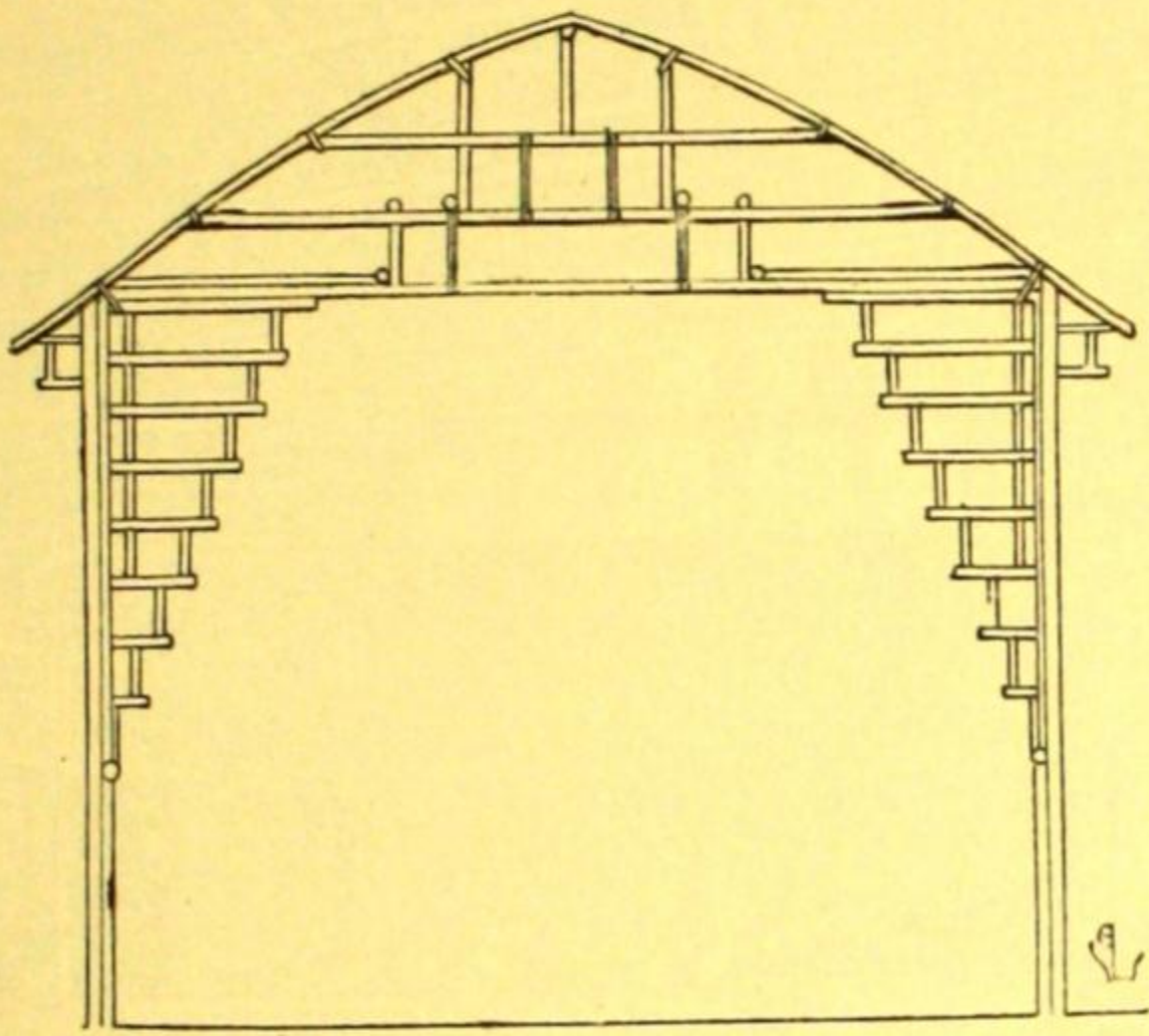


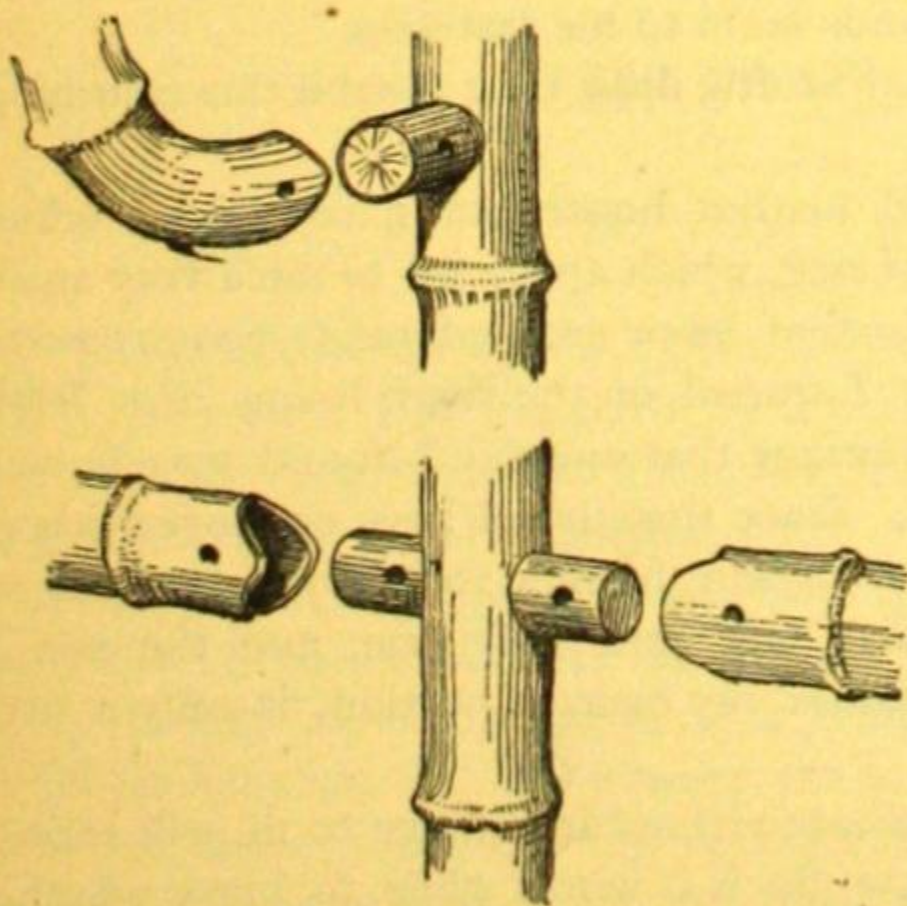
DIAGRAM OF THE CHINESE STRUCTURE.—FIG. 13.

the roofing of the principal apartment was the chief subject of his remarks (fig. 13).

"See," said he to his companion, "how with materials apparently so weak these men have succeeded in making a large roof as light as it is strong! How cleverly these brackets are managed! How freely does the air circulate in these rooms to prevent the discomfort caused by the heat of the climate!"

But Doxius scarcely raised his eyes, and appeared to take but little interest in all that Epergos showed him. The framework of the structure consisted entirely of bamboos of various thicknesses, intersecting and bracing at the same time in the simplest and strongest manner.

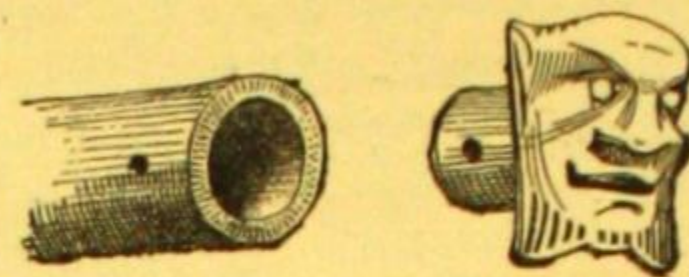
Seeing how all the parts of this house held together, Epergos asked himself how it was that all human beings had not discovered combinations so naturally suggested, and requiring so little intellectual effort. He studied with particular attention some of the bamboo framings presented in figure 14. To connect these canes at right angles the builder had put



BAMBOO FRAMING.—FIG. 14.

crosswise, through one of them, a cylindrical piece of wood, which fitted, as a tenon would do, into the cylindrical cavities of the bamboos to be framed together; these pieces were secured by pegs. He saw that the light canes which composed the balustrades of the portico were joined according to the same method, and he perceived that the rudely-carved heads which finished the ends of the horizontal pieces of the porch outside were merely a kind of cork fitted into the cylindrical cavities of those pieces (fig. 15).

Reflection, however, suggested to Epergos that for the origination of the idea of so framing these canes of various length and thickness, the first condition was the possession of the materials. But no vegetable



ORNAMENTATION OF THE BAMBOO ENDS.—FIG. 15.

growth of this kind was to be found among the mountains inhabited by the Aryas, for example, and if they possessed them, the climate of those altitudes was too severe to allow of such structures affording a shelter. In these vast and humid plains, on the contrary, these open-work habitations were the most suitable ones. He communicated these reflections to Doxius, who did not fail to insist upon it that all would be for the best, and in its place in the world, if he, Epergos, did not constantly interfere to disturb the established order of things.

To this Epergos made no reply, and their host at that moment sent to invite them to partake of the evening meal.

The wife and daughter of Fau had then come out of their room and were standing behind the master, who was squatting down on mats, his arms resting on a kind of small bamboo tressels artistically worked. Before him was placed a low, wide shelf, covered with fine matting, on which were arranged bowls, bottles of glazed earthenware, and a quantity of small articles unknown to the visitors. In the middle a large open vessel contained steaming rice, with which were mingled pieces of fish. As soon as the strangers had been brought in and seated on mats arranged by the servants, the latter hastened to fill the bowls by means of long ladles. The master, taking two small sticks, which he used with dexterity, despite his obesity, rapidly conveyed the rice to his mouth. Epergos and Doxius had great difficulty in imitating his example, and were obliged to use their fingers to empty their bowl. Next they served each of the party with a warm beverage in delicately thin vessels. Then they brought fish cooked with herbs, and roasted birds. But the visitors had satisfied their hunger.

"Now is the time," said Epergos to Fau, "when it will be well to begin the curative process that is to restore thy health. Leave all these viands to thy servants and let us talk, if it is agreeable to thee. We have admired thy habitation and thy gardens; but when one possesses such an abode one is little disposed to leave it. Dost thou ever go out?"

"How can I?" answered Fau; "I have scarcely strength to take a few steps in my garden."

"To-morrow morning, at sunrise, take twenty steps; thou wilt take thirty the day after, eating but little; forty the day after that, not eating more; and so for some days in succession; and at the end of twenty days thou wilt be in a condition to make an excursion outside. I saw a boat moored at the portico; well, thou wilt get into it and impel it thyself, having a servant to help thee when thou art tired. Gradually restore to thy body the habit of exercise and work which it has lost; this is the only means of recovering health."

Fau fixed his small black eyes on Epergos. "Is it to mock me that thou hast come to my house?" said he; "thou art, then, no magician! I am an old fool for having listened to thee. Away with thee! If thou hadst not eaten in my house I would make thee repent of thy impertinence."

"So," said Doxius, when he and his companion had quitted the house, "thou hast gained nothing for thy pains here; and now thou art gone, things will remain as we found them."

"I have not lost my time," replied Epergos; "I have left here words of truth. If the fat Fau does not profit by them himself, art thou sure that his wife, children and servants will forget them?"





Chas. Hart, Lith. 36 Vesey St. N.Y.

EXAMPLE OF COLORS FOR A FRAME COTTAGE

FROM A DESIGN BY

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, N. Y.
ARCHITECTS

SHOPPELL'S MODERN HOUSES

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MISCELLANEOUS NOTES

FOR the benefit of new subscribers we repeat a very brief statement of the organization and purposes of the Co-operative Building Plan Association. To commence by removing misapprehensions, this Association is not a financial institution; it neither loans nor asks the loan or deposit of money; it has no stock to sell; it is *not* a Building Association; it does not undertake construction of buildings. It is simply what its name indicates, a Building *Plan* Association—an architectural business so organized that it supplies full architectural services at very reasonable rates to all who choose to patronize it. This is called Co-operation for want of a better term. At the present time the business is in the form of a mercantile firm, but it is proposed to incorporate it soon, to give it a permanent character that will further augment and perpetuate its usefulness.

The extent of the patronage of this office assures us that the business is based on sound principles. Started less than five years ago, it now employs fifty architects, draughtsmen and correspondents, and sends out a larger number of drawings and specifications than any other architectural office.

The reason is, that it supplies a necessity on the most accommodating terms. Before this business was established it was very difficult, if not impossible, to get full architectural services for a price that the public considered low and reasonable. The architect who made the drawings and specifications for one client only could not do the work on a small house (say a \$1,500 house) for less than \$100; on larger work he wanted five per cent of the estimated cost. While these fees were not unfair, but were, in fact, well worth their cost, it is indisputable that the public considered them too high, and the consequence was that most of the houses of moderate cost were built from inferior designs, and lacked the beauty and unity, convenience and economy of arrangement that comes from the employment of architects. Our fees, at about one quarter the regular rates, effectually met the necessities of the situation.

ON the 15th of March, 1886, our main offices were removed to 191 Broadway, corner of Dey St., New York (the Mercantile National Bank Building). As we retain the offices at 24 Beekman Street also, letters addressed to or calls at either place will receive equally prompt attention.

WE have secured the services of Mr. J. C. Brown, a well-known authority on construction and practical matters relating to building, inducing him to retire from an extensive building business to give our office the benefit of his special knowledge.

MODERN construction differs greatly from old methods. Material is economized by using smaller timbers, but so applied that the strength is increased. There is not so much mortising and expensive cutting of timbers, but a more scientific application of the principles of construction, and more use of iron and steel, which are now so cheap.

"THE Habitations of Man," continued in this number, was begun in No. 1, and will be concluded in No. 4 (the end of the first volume). Its author, the late M. Viollet-Le-Duc, was a man of real genius; his fame as an architect and a writer is world-wide. We print it to lend variety to our publication. It seems to interest our readers very much. We may mention that its only previous publication in English was in the form of a \$5 book, the plates and copyright of which we purchased from Messrs. Osgood & Co. for the purpose of reprinting it here.

BEFORE commencing the study of plans it is a good preliminary preparation to measure the sizes of different rooms with which one is most familiar, and get their dimensions firmly fixed in the mind. Then the statements of sizes on the Plans will appear very plainly by comparison.

WE came across an amusing criticism of our business recently—viz., that we were likely to secure a monopoly of the architectural work of the country. Nothing could be more absurd; there can be no monopoly of art. The only reason that can be ascribed for the large business with which we are favored is that we give a good dollar's worth of services for every dollar spent with us, and the medium afforded by our publications makes it easy to do business with us.

THE costs given in this publication are the *actual* costs of structures, just such as will be secured by buying the materials and having the labor performed by days' work. With the assistance of the Working Drawings, Specifications, Bill of Quantities, and all the aids furnished by this office, this way of building, particularly for houses of moderate cost, is altogether the best, where some time and attention can be given to it. We cannot give a contractor's price, for that ranges all the way from ten to fifty per cent in addition, being governed entirely by the profits which different builders think they ought to make.

THE designs in this book are not "studies"—flights of the imagination sketched out by some dreamer, and apt to be wholly impracticable. On the contrary, they represent actual structures that have been built, many of them under our own superintendence.

THE movement of city people toward the suburban towns and villages for residences should be regarded with great satisfaction, for many reasons. In the city a high rental must be paid for quarters which, had not the habits of life accustomed us to its disadvantages, or dulled our senses to anything better, would be regarded as little better than prison quarters, so far as space, air and light are concerned.

Good health cannot be retained where there is not an abundant supply of pure air and sunlight; these are denied to three quarters of the population of our large cities. The cramped, close living and sleeping rooms in the "flats" and tenements in which city people

must live—unless they are possessed of considerable means—are bound to be hot in summer and close and illy ventilated in winter; the scorched and wilting summer air of a city, reflected from baked flagstones and brick walls, certainly does not invite one to live out of doors, where comparatively pure air is found.

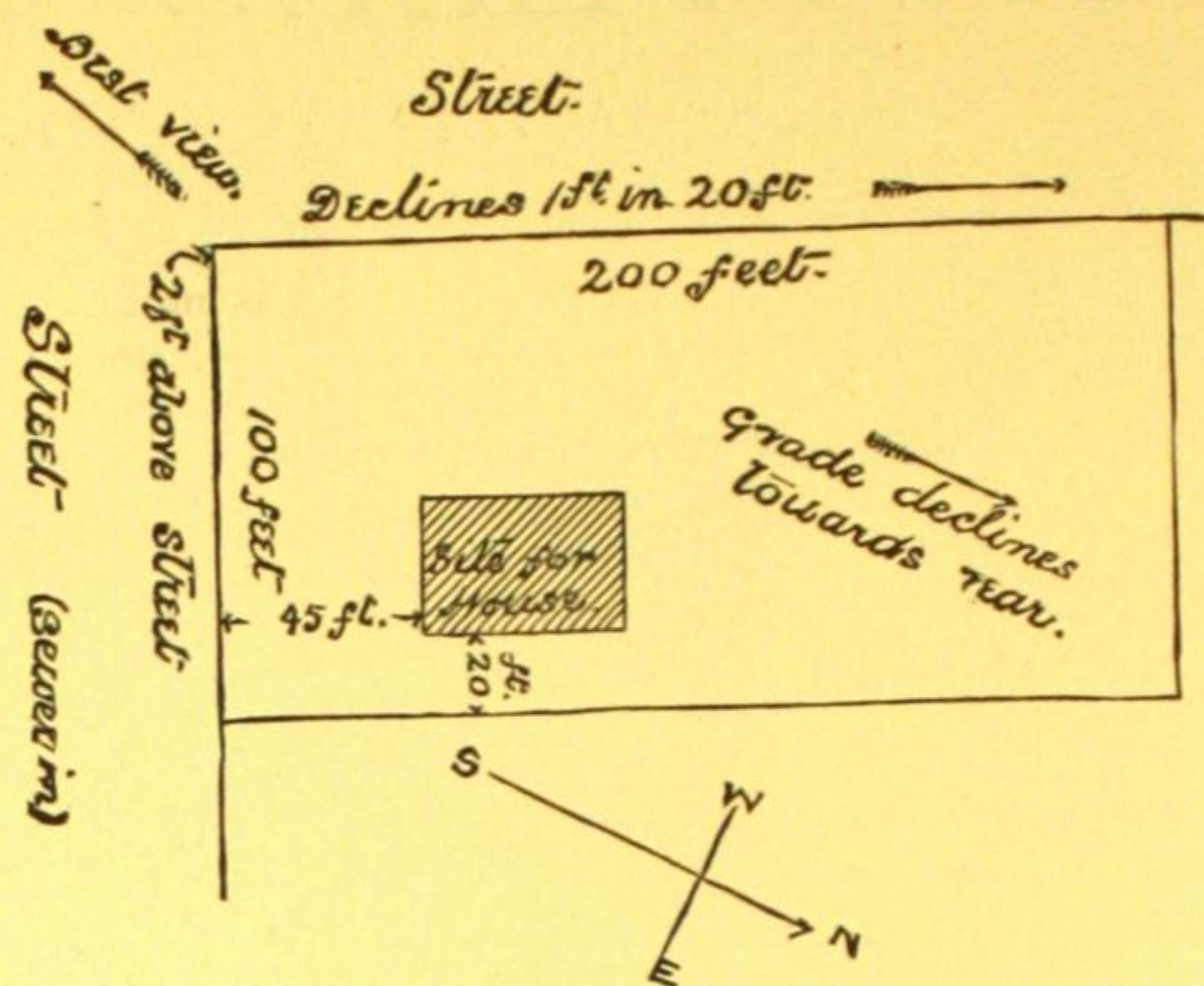
Suppose the man of small means rents a house in the country convenient to the city; he will have no difficulty in finding such a place, or, if he does, let him build one. He pays less rent; he secures larger and cleaner accommodations; he has elbow room, plenty of pure air and light in summer and winter; he is lord of his own house, and doesn't have three or four other families in his house, or possibly on the same floor with him—greater privacy, quiet and rest; he has his little garden, which he can cultivate, and his children can live in the open air during the summer-time and will grow up healthy and vigorous, and escape many of the temptations and vices of the city; his living will probably cost him less; he will be happier and healthier.

There may be some disadvantages to state upon the other side of the question, but it takes a great many of them—and serious ones—to outweigh the benefits and advantages stated above, and which are only a few out of many.

THE tract of land referred to in our last number, on which we propose to erect a number of exhibition houses, consists of 30 acres, lately owned by the Hon. Conrad N. Jordan and James Bunn, Esq., and is located in the village of East Rockaway, on the south side of Long Island. East Rockaway has many advantages. It is quite accessible; it is near Long Beach; it is right in the track of improvement and rapid settlement, which commenced at Far Rockaway a few years ago, and is now working its way around Hempstead Bay in the direction of East Rockaway; it offers no inducements to noisy excursion crowds, being the very antipode of Rockaway Beach in this respect; it is a very healthy place; it affords boating, bathing, fishing, hunting and fine drives; it is favored with cool ocean breezes in summer, and a very equable climate in winter; it is not too far and not too near—just far enough from the din, smoke, noise and crowds of the great city; it is only thirty to forty-five minutes' railway ride (according to train taken), with low fares. We have no lots for sale, therefore we can speak enthusiastically without being suspicioned of trying to start a real-estate "boom." Our sole purpose is to erect a number of our most popular houses in order to demonstrate by our own construction and at our own expense the best means of doing the work, the best materials, and the utility of all the latest appliances and improvements. On account of office work that taxes our time and strength to the utmost this season, we will not be able to prosecute this experiment with much energy. We will build two or three houses this season. Next year we hope to put up a dozen or more.

IN ordering designs for new and original work the client should give us the following particulars: State the sum to be expended; give prices of material and labor prevailing in the neighborhood; is the construction to be of wood, brick or stone, and what material is preferred for foundation; what the building is to be used for; number of floors wanted, number of rooms on each floor, intended use of each

room and height of stories in the clear; whether interior is to be finished in hard wood; what is required as to heating, hot and cold water, gas, bath, and water-closets; what is the water-supply; can the drain be connected with a street sewer, or is a cesspool required, and make a rough drawing, showing size, shape and grade of ground, like this, for example:



Upon receipt of these particulars, we study the design and make preliminary sketches of the floor plans and elevations. These we send to the client for alterations, corrections and suggestions. When they are returned to us, we make the alterations suggested, so far as our judgment recommends, and send the sketches again to the client for his final approval, if necessary. Finally, when the sketches show just what is wanted, we make FULL WORKING PLANS, giving detail drawings for all exterior and interior work, and write up the SPECIFICATIONS. If requested, we prepare, also, a complete BILL OF QUANTITIES of all materials required for the building.

The following is our schedule of prices for new and original work:

Full Working Plans, including Detail Drawings and Specifications, for a building to cost \$2,000 or under, \$40.

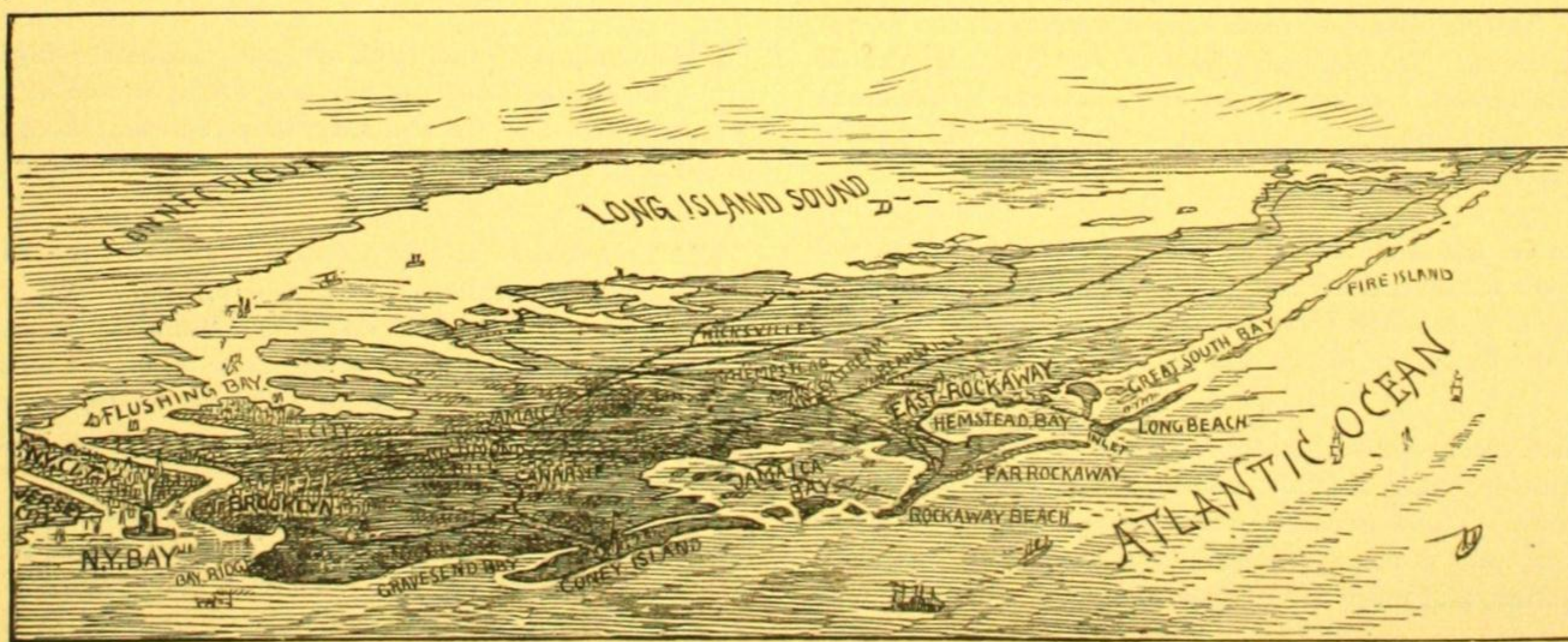
Complete Bill of Quantities for the same, \$10.

Full Working Plans, with Detail Drawings and Specifications for a building to cost over \$2,000, two per cent of the cost of the work.

Complete Bill of Quantities for the same, one half of one per cent of the cost of the work.

Visits of inspection within twenty miles of New York, \$10. At a greater distance, as per agreement.

Consultation fee, \$10. This does not apply to simple inquiries as to change of prices, practicability of modifications, or any questions requiring but little time and consideration to answer. It does apply to interviews of considerable length, where the merits and practicability of new plans are fully discussed, and to correspondence that covers the same ground.



BIRD'S-EYE VIEW OF THE SOUTH SIDE OF LONG ISLAND, SHOWING LOCATION OF EAST ROCKAWAY

WORKING PLANS, DETAILS, SPECIFICATIONS, &C.

See notes below about Alterations and Special Designs.

WE have been asked why we do not give full Working Plans, Drawings of Details, Specifications, &c., in this book. We answer that to do so would reduce the number of designs in a book of this size to three or four. Most people want to see the plans and descriptions of a large number of houses, to decide which they like best. Besides, our Working Drawings (the Details are shown full size) are on such large sheets that it is impossible to reduce them to book or paper size without losing much of their value. It is important, also, that the owner should be in correspondence with the architects to have everything explained that he does not understand, and to advise him during the progress of the work.

A Modern House *cannot* be constructed without the aid of

WORKING PLANS, DETAIL DRAWINGS AND SPECIFICATIONS.

Much of the distinguishing beauty of a Modern House comes from correctly carrying out the Details of Cornices, Verandas, Windows, Doors, Gables, Trim, Mantels, Staircase, Colors, &c., &c. Builders not familiar with these Details cannot construct them without exact Drawings and Specifications.

By the practical co-operation effected by our books bringing our designs before thousands of people, we are enabled to supply these Drawings, &c., at *one quarter* the rates usually charged by architects. Our Drawings, &c., are more complete than are usually furnished; our figures and estimates are more reliable because they are continually proved by actual building.

When Drawings, &c., are used (insuring against mistakes and waste of both material and time), the Modern House costs no more, and often less than the old-fashioned structure; for the architect has not only improved the arrangement of rooms, and made the Modern House beautiful, but he has studied economy and insured its lower cost.

Many people think it an unnecessary expense to invest in Plans, &c.; that their builders can draw up Plans or follow rough sketches of their own. *This is a great error.* It would be real economy to

pay even five times as much as our charges for proper Drawings, &c. Without them mistakes are sure to occur, and to rectify a single mistake often costs more than the architectural services.

Again, by our Specifications the builder is bound to put in good qualities of material and workmanship; when not carefully specified in every particular there is sure to be misunderstandings and trouble as to the thousand-and-one things that enter into the construction; the result is always loss to the owner.

Beside the indispensable aids of Plans, Details and Specifications, there is the utmost value in having

A BILL OF QUANTITIES,

which gives the true quantities of all the materials required, and enables the owner to make all of the purchases of materials, if he prefers, and to build the house by days' work.

In addition to the foregoing we furnish

A COLOR SHEET,

which gives a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, &c. This sheet not only instructs the painter, but enables the owner to do his own painting, if he prefers.

We also send an extra sheet containing Detail Drawings of an approved method of building cheap, durable and firm foundations, particularly useful for small cottages, where it is necessary to keep the cost as low as possible. The same sheet shows drawings of an approved cistern with filter. Also, duplicate blank forms of

BUILDING CONTRACTS

ready for use in case the owner wishes to build by contract.

The reliability and thoroughness of our work is attested by hundreds who have built from our Drawings and Specifications. Please see a "Page of References" in another place.

PRICE LIST OF PLANS, SPECIFICATIONS, ETC.

UPON receipt of price annexed we will send by mail or express, charges prepaid, the Working Plans, Specifications, Detail Drawings, Bill of Quantities, the Extra Detail Sheets on Colors and Foundations, and Building Contracts for any of the designs mentioned below. Remit to The Co-operative Building Plan Association, 191 Broadway (P. O. Box 2702), New York City, N. Y. If preferred, we will send C. O. D.

No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.
No. 245.—	\$12 00	No. 268.—	\$30 00	No. 290.—	\$40 00
" 246.—	12 00	" 269.—	30 00	" 291.—	40 00
" 247.—	20 00	" 270.—	40 00	" 292.—	40 00
" 248.—	20 00	" 271.—	40 00	" 293.—	40 00
" 249.—	20 00	" 272.—	40 00	" 294.—	50 00
" 250.—	15 00	" 273.—	35 00	" 295.—	50 00
" 251.—	25 00	" 274.—	35 00	" 296.—	100 00
" 252.—	22 00	" 275.—	40 00	" 297.—	60 00
" 253.—	20 00	" 276.—	35 00	" 298.—	65 00
" 254.—	25 00	" 277.—	35 00	" 299.—	60 00
" 255.—	25 00	" 278.—	25 00	" 300.—	80 00
" 256.—	20 00	" 279.—	30 00	" 301.—	60 00
" 257.—	28 00	" 280.—	30 00	" 302.—	90 00
" 258.—	25 00	" 281.—	40 00	" 303.—	100 00
" 259.—	30 00	" 282.—	45 00	" 304.—	125 00
" 260.—	22 00	" 283.—	30 00	" 305.—	125 00
" 261.—	22 00	" 284.—	35 00	" 306.—	150 00
" 262.—	22 00	" 285.—	40 00	" 307.—	125 00
" 263.—	28 00	" 286.—	45 00	" 308.—	125 00
" 264.—	30 00	" 287.—	45 00	" 309.—	20 00
" 265.—	30 00	" 288.—	50 00	" 310.—	30 00
" 266.—	30 00	" 289.—		" 311.—	

NOTE ABOUT ALTERATIONS

ANY internal changes required, such as shifting partitions to make rooms larger or smaller, adding closets, building fireplaces in place of flues, &c., can be clearly indicated to the workmen by the owner himself, when the large Working Plans are spread out before them. Therefore, if the alterations are unimportant, the Working Plans and Specifications as per price list above are quite sufficient. Where the desired changes alter the external dimensions and, consequently, the appearance of the elevations, it is generally advisable to have us make the changes in the Working Plans and Specifications.

For altering plans we charge extra, but do not set a price for same, as we cannot tell how much work is involved until we know what the alterations are. Upon receiving a description of the alterations required, which should always be accompanied with a diagram, no matter how roughly drawn, we will make a price according to the amount of work involved.

ABOUT SPECIAL DESIGNS

IF none of our designs, or modifications of them, suit the intending builder, we are glad to make original designs to meet their requirements, or work out and put in proper shape any rough drawings of their own. See Miscellaneous Notes, page 74.



VIEW OF A HALL AND STAIRCASE

THE HALL AND STAIRCASE

THE narrow, cold and cheerless staircase hall will soon be a thing of the past. The hall is now made a useful and beautiful feature of every good design.

It should be square rather than long and narrow, thus making it a room rather than a passage.

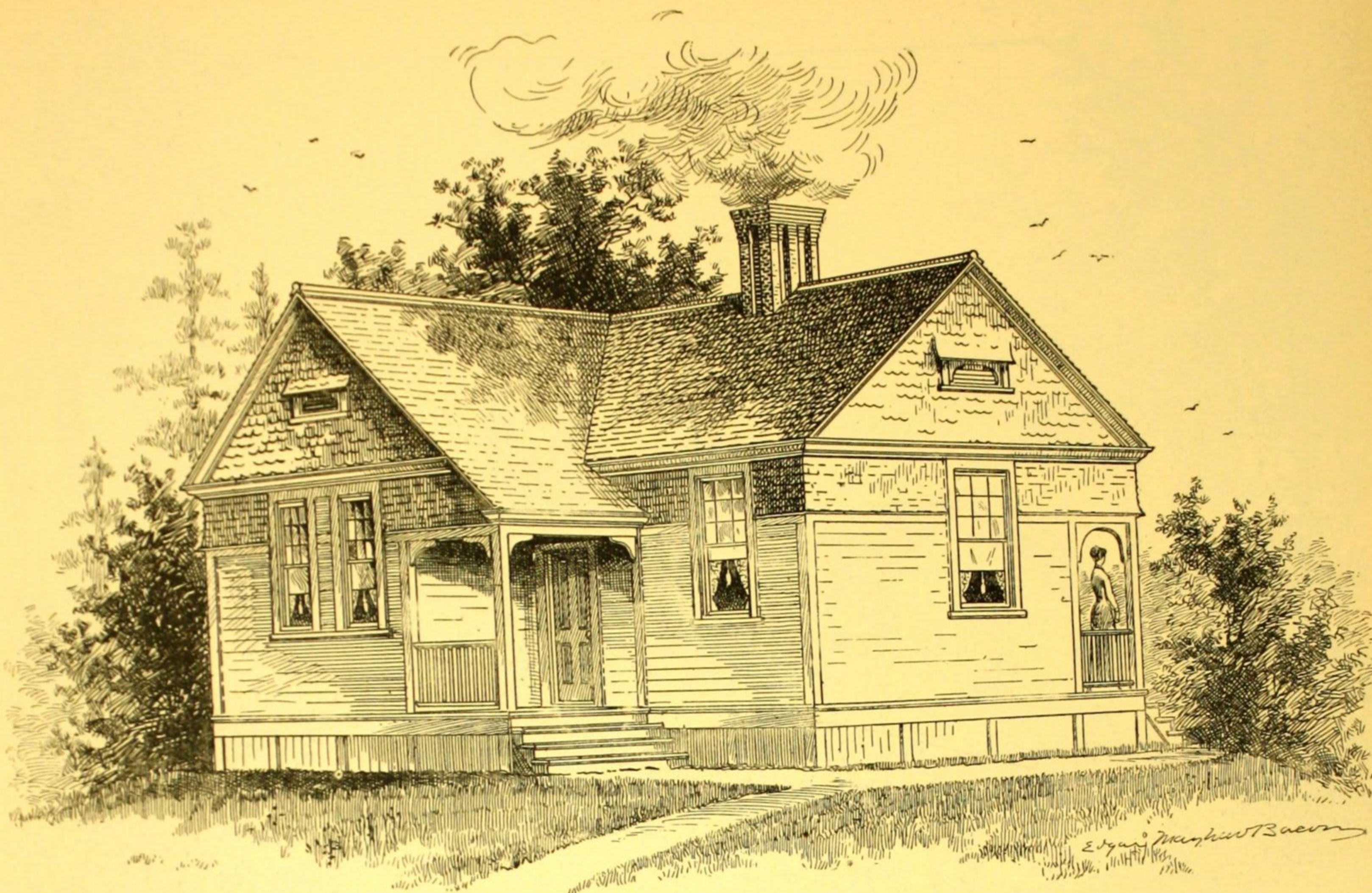
It should have a fireplace, not only for the sake of comfort and beauty, but for the reason that a fireplace in the lower hall ventilates the whole house, more or less. The impoverished air from adjoining rooms and from the upper floors (bad air is heavy and descends) is attracted to it and carried off.

It should have a beautiful staircase (not necessarily expensive), with risers not over seven inches, treads not less than ten inches, and at least one platform to afford a rest and make the ascent easy. Winding steps should never be built where they can be possibly avoided.

It should display some stained glass, if stained glass is wanted. The hall does not require full light; a subdued light is better.

It should have a hat and coat closet.

It should be protected from cold and draughts by a vestibule or storm doors during the winter season.



DESIGN No. 245. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 245*

SIZE OF STRUCTURE: Front, 32 ft., 6 in. Side, 25 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft., 6 in.

MATERIALS: Foundation, posts; First Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$700, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants.

* The illustrations and descriptions of our designs preceding this number—viz., designs from No. 1 to No. 167 (inclusive)—are found in our large book, "How to Build, Furnish and Decorate" (Price, \$5), and designs from No. 168 to No. 244 (inclusive) in "Shoppell's Modern Houses, No. 1" (Price, \$1).

The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A cellar is provided under the kitchen, with an outside entrance.

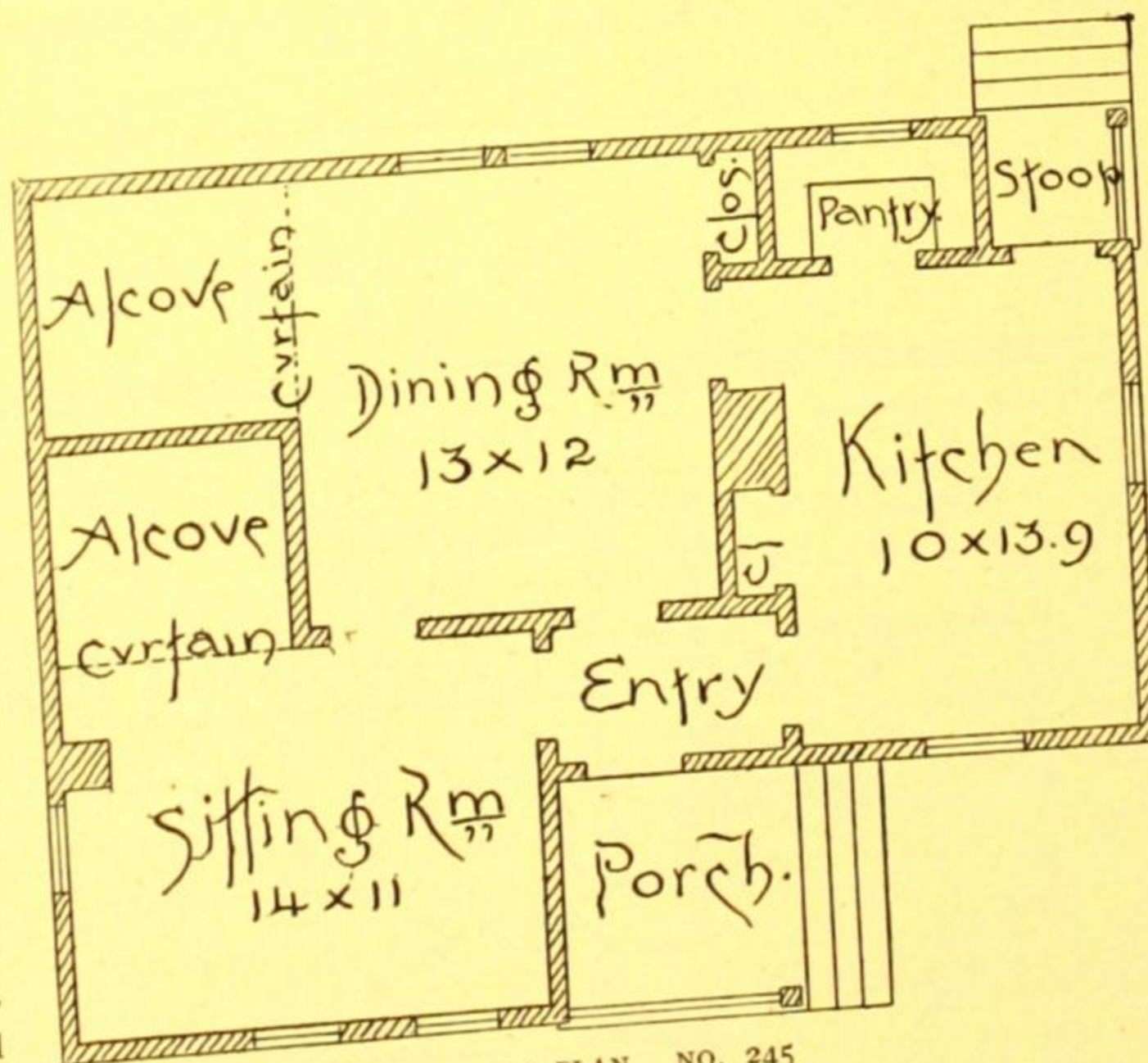
Store-room over ceiling, reached by a scuttle.

The leading features of this design are the alcoves, intended for the reception of beds, separated by curtains from the main rooms. During the day the closed curtains conceal the beds, and they are not the least intrusive on the living-rooms; at bedtime, when everything is put away and in order, the curtains are drawn back for the night, and we have, practically, two large bed-rooms.

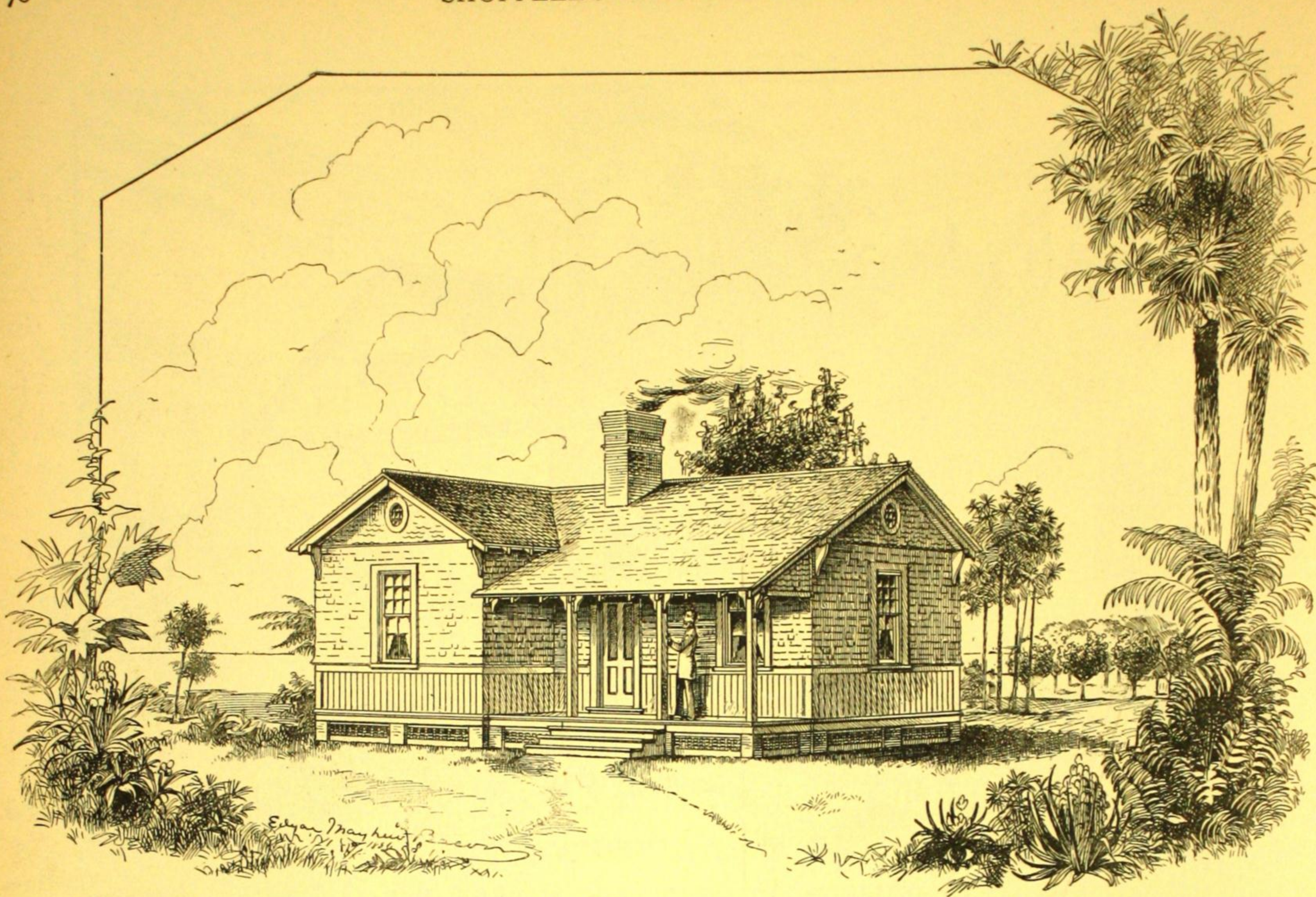
Many people of refinement and good taste must commence with small cottages if they would live in houses of their own. We feel sure that this plan will be very suggestive to them.

We say *commence* with small cottages. There always seems a tide in the affairs of men who stop paying rent that leads on to fortune. Larger houses are among the probabilities; the small ones will meet with ready sale, as there are many who wish to start at that point.

Suggestions for this design were contributed by a lady who takes much interest in these matters—Miss Nellie Bailey, of Illinois.



FLOOR PLAN. NO. 245



DESIGN No. 246. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 246

SIZE OF STRUCTURE: Front, 35 ft. Side, 23 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.

MATERIALS: Foundation, brick piers; First Story, shingles; Gables, shingles; Roof, shingles.

COST: \$500, complete.

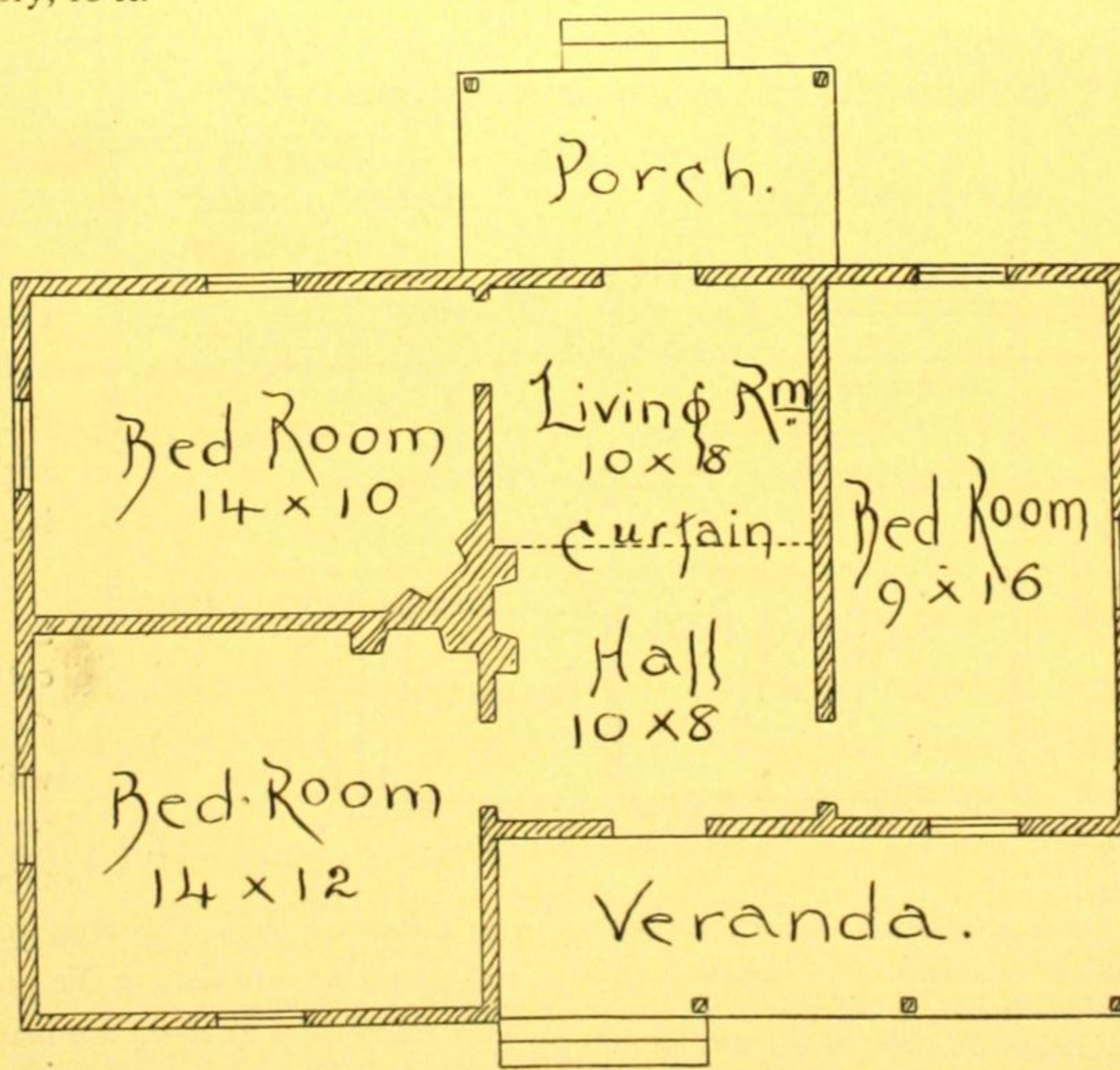
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



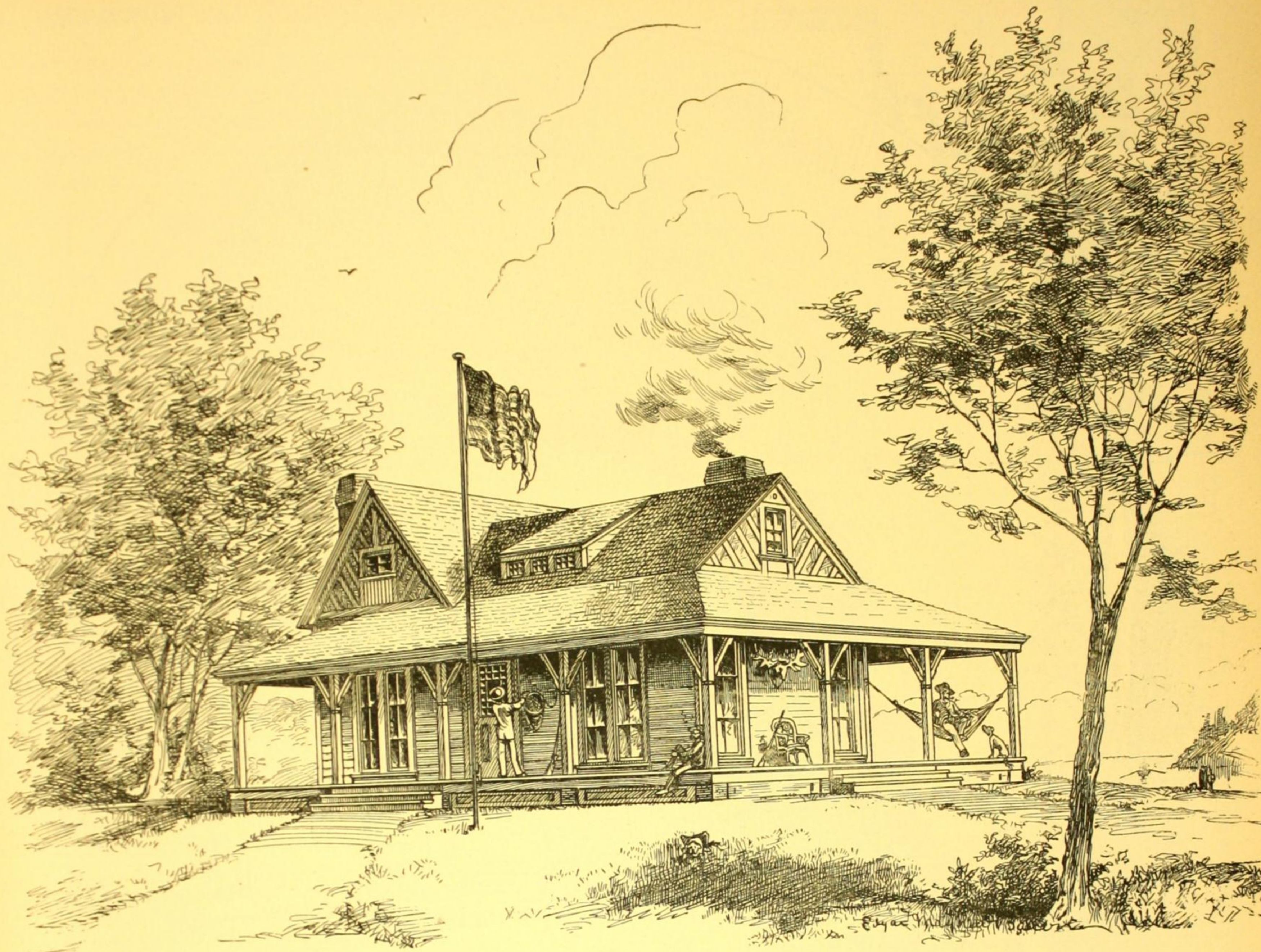
FLOOR PLAN, NO. 246

SPECIAL FEATURES.—Designed for and built in Florida. No cellar. The kitchen is a detached cabin in the rear.

When the curtain is drawn, the living-room and hall make a dining-room 10x16—quite a hospitable space for so small a cottage. While the table is being prepared for meals in the rear part of the hall, the curtain will separate it from the front part, where the family or friends are being entertained.

Adapted for the North, the smallest bed-room should be used as a kitchen, or a lean-to kitchen built where the back porch now is; also a cellar under half of the house. The lean-to would cost \$75; the cellar, \$50.

There is a fine circulation of air through the hall and living-room, making this a very desirable plan for a warm climate or for a summer cottage anywhere.



DESIGN No. 247. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 247

SIZE OF STRUCTURE: Front, 36 ft., 6 in.; including veranda, 43 ft., 6 in. Side, 28 ft., 6 in.; including veranda, 35 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 7 ft., 6 in.

MATERIALS: Foundation, wood posts; First Story, clapboards; Gables, half timbered; Roof, shingles.

COST: \$1,400, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

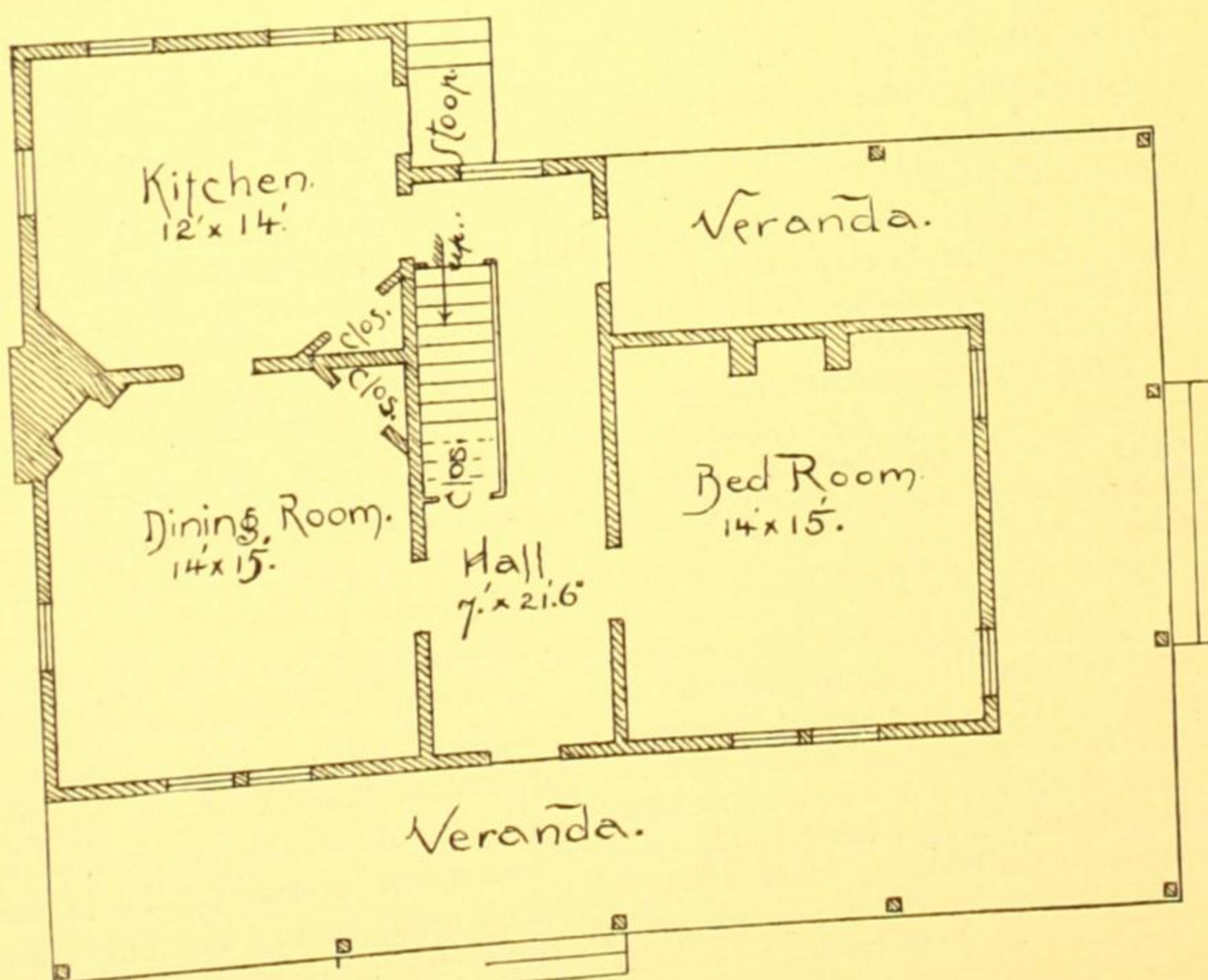
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

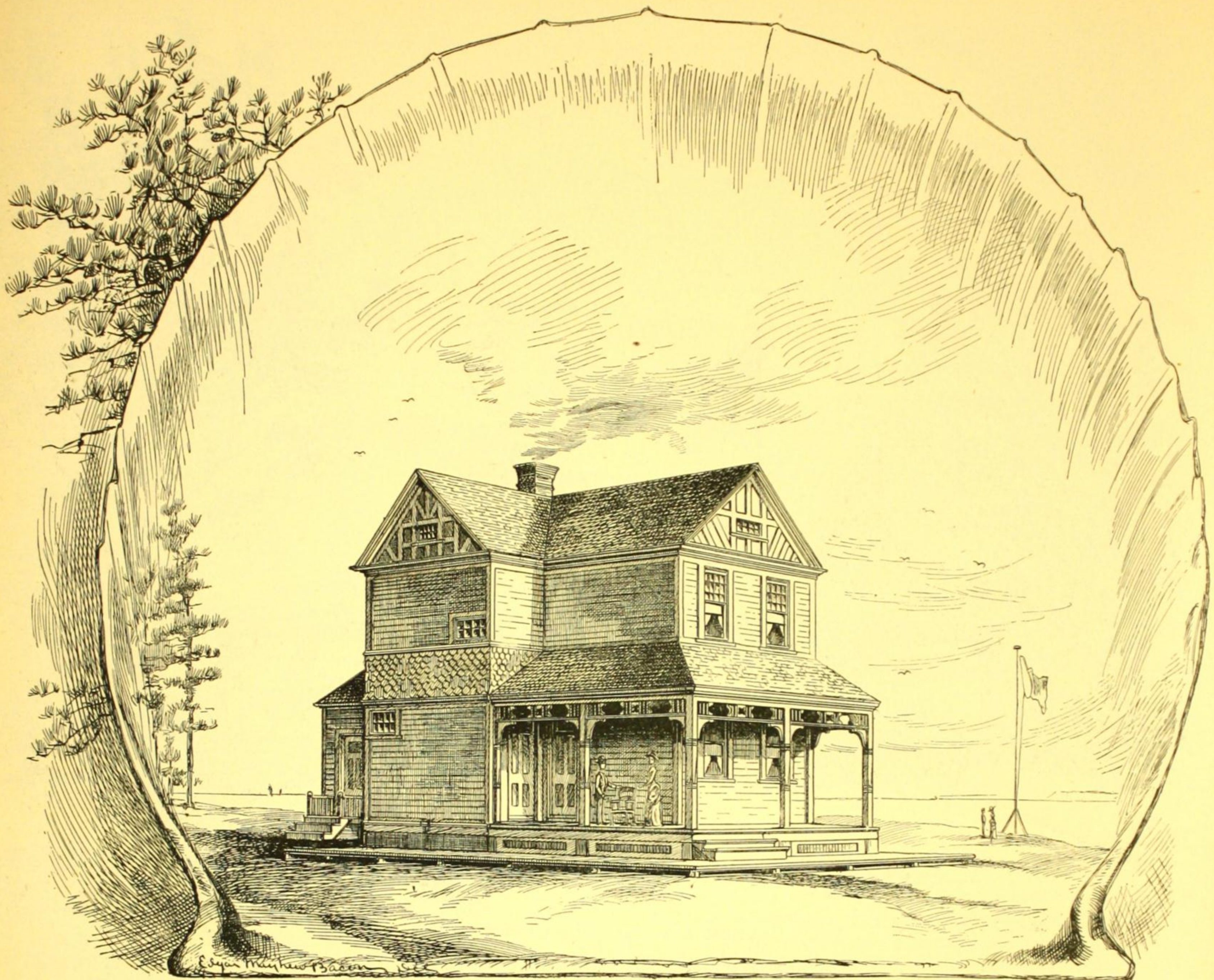
SPECIAL FEATURES.—Designed and built for a shooting lodge, there is no cellar, but one can be built easily under the kitchen part, with an outside entrance. With plank walls, the cellar would cost \$25; with brick walls, \$50.

The ample veranda and cool hall running through the centre make this a very desirable design for a summer cottage.

Three rooms and storage space in the attic.



FIRST FLOOR. NO. 247



DESIGN No. 248. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 248

SIZE OF STRUCTURE: Front, 21 ft., 6 in. Side, 40 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, clapboards; Gables, paneled; Roof, shingles.

COST: \$1,200, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase,

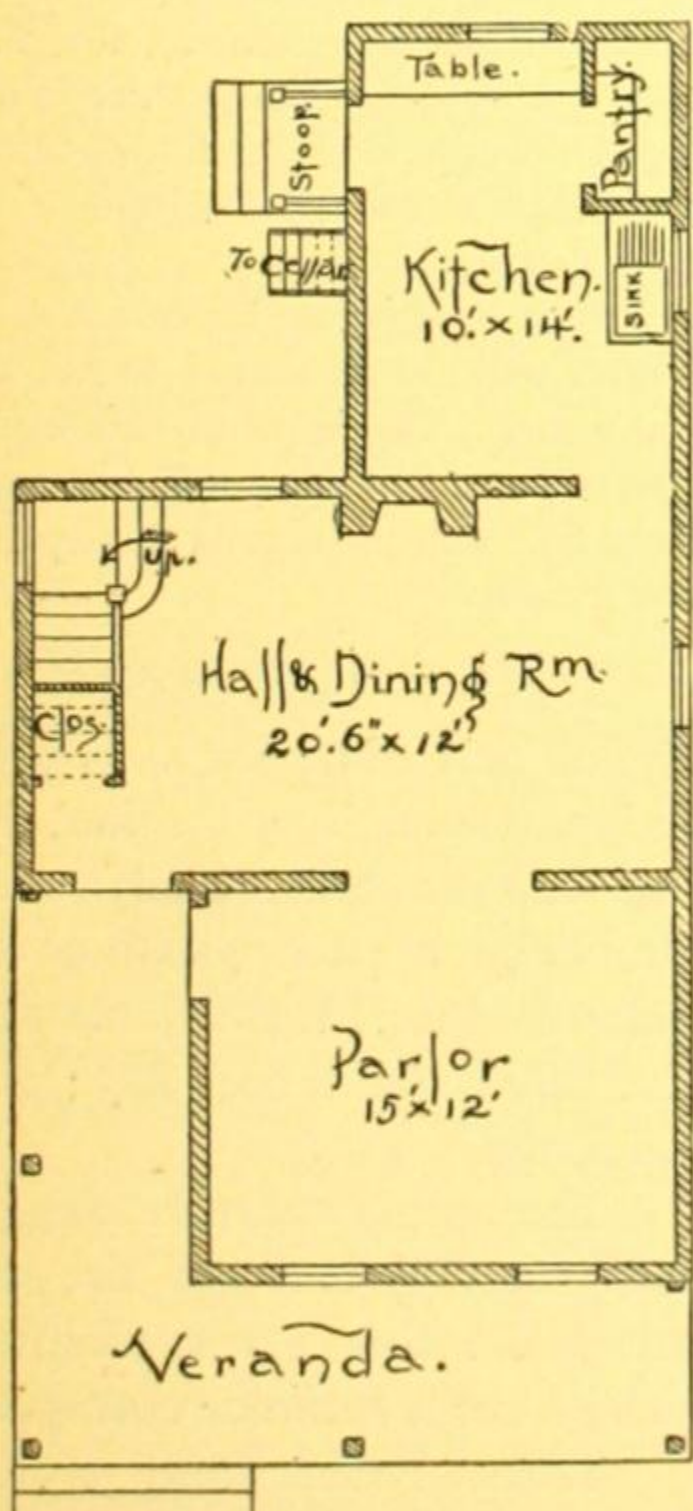
Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

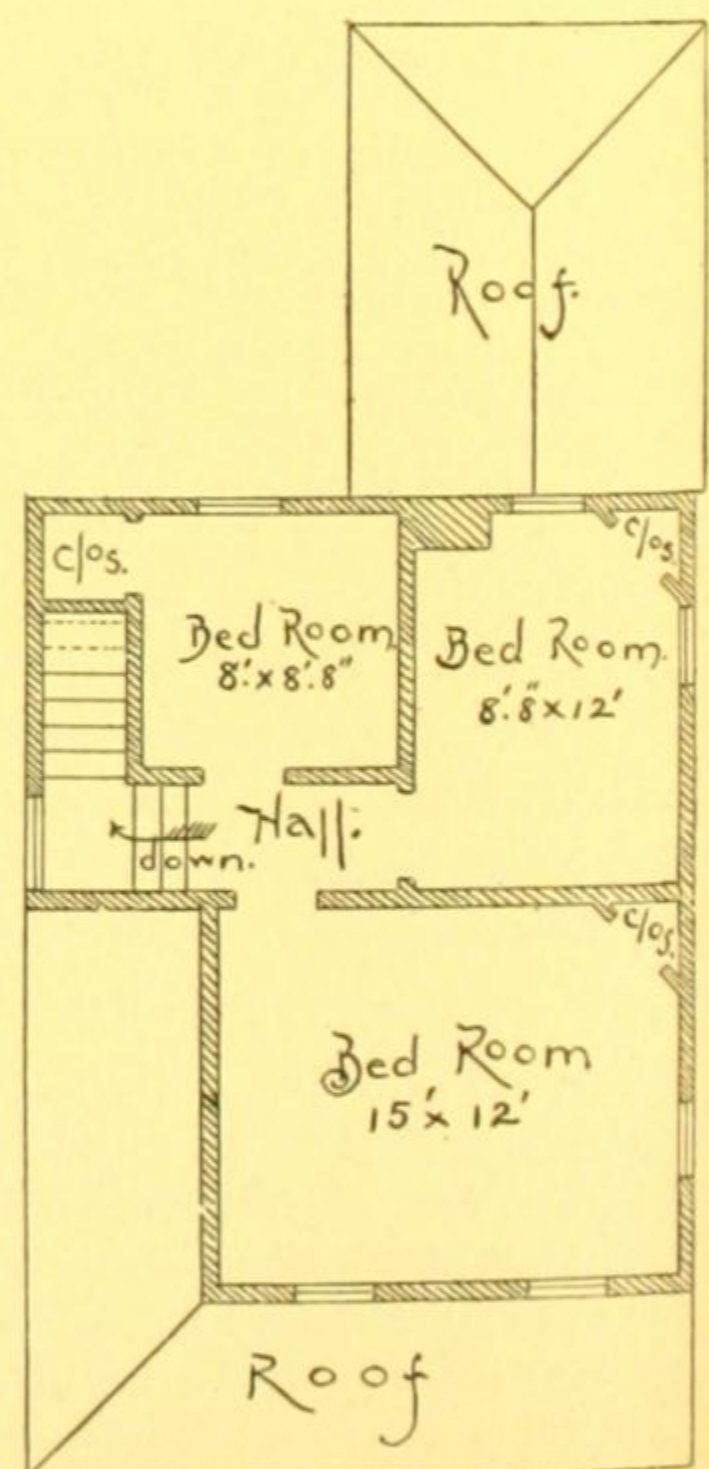
SPECIAL FEATURES.—Specially adapted for the seaside.

Small cellar under the kitchen only, with plank walls—a low-cost arrangement that is quite sufficient for a summer cottage, where an ice-box or a refrigerator is of more importance than a cellar.

The use of posts for foundations is a great economy. Posts make very good, lasting and firm foundations where no excavating is necessary.



FIRST FLOOR. NO. 248



SECOND FLOOR. NO. 248

DESCRIPTION OF DESIGN NUMBER 249

COST: \$1,300, complete.

This is simply a modification of the preceding design [Number 248] the change being a different location of the chimney and an additional chimney. The object is to provide sufficient heat for winter occupancy.

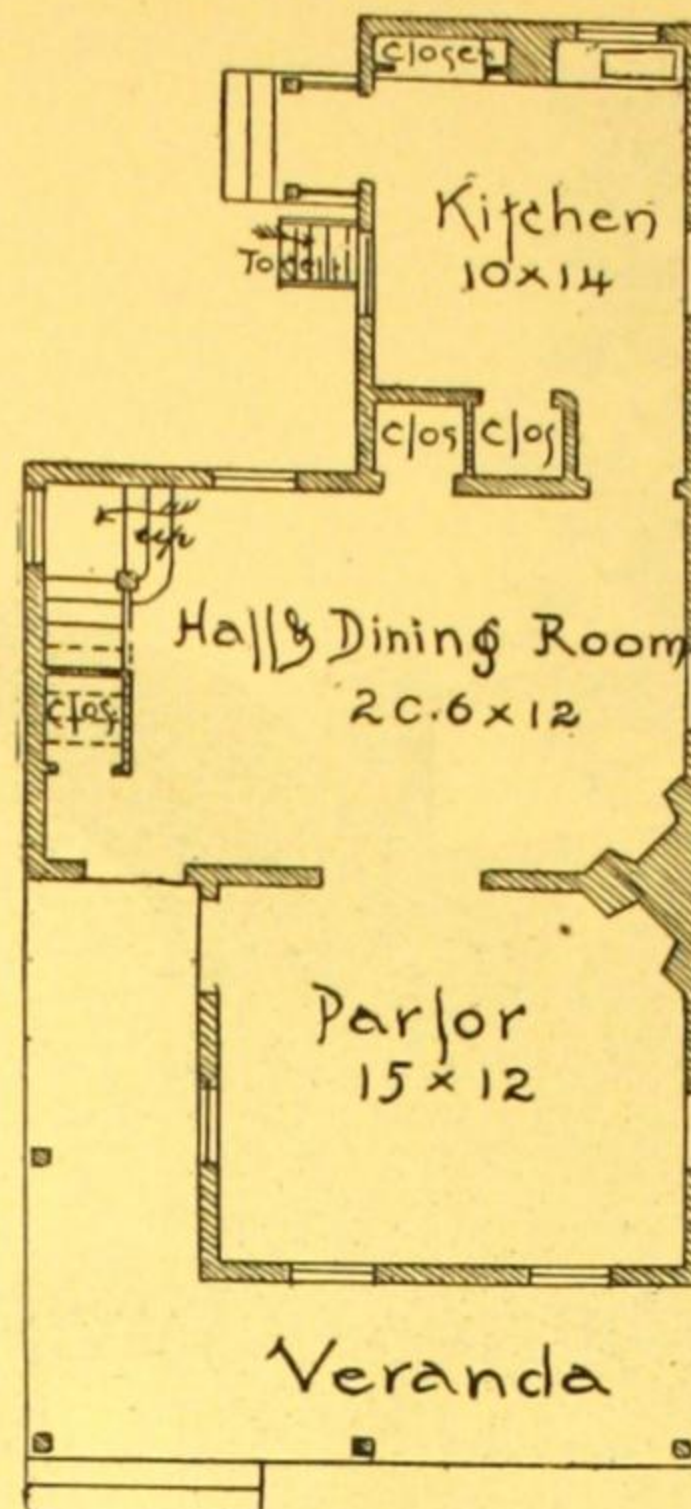
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

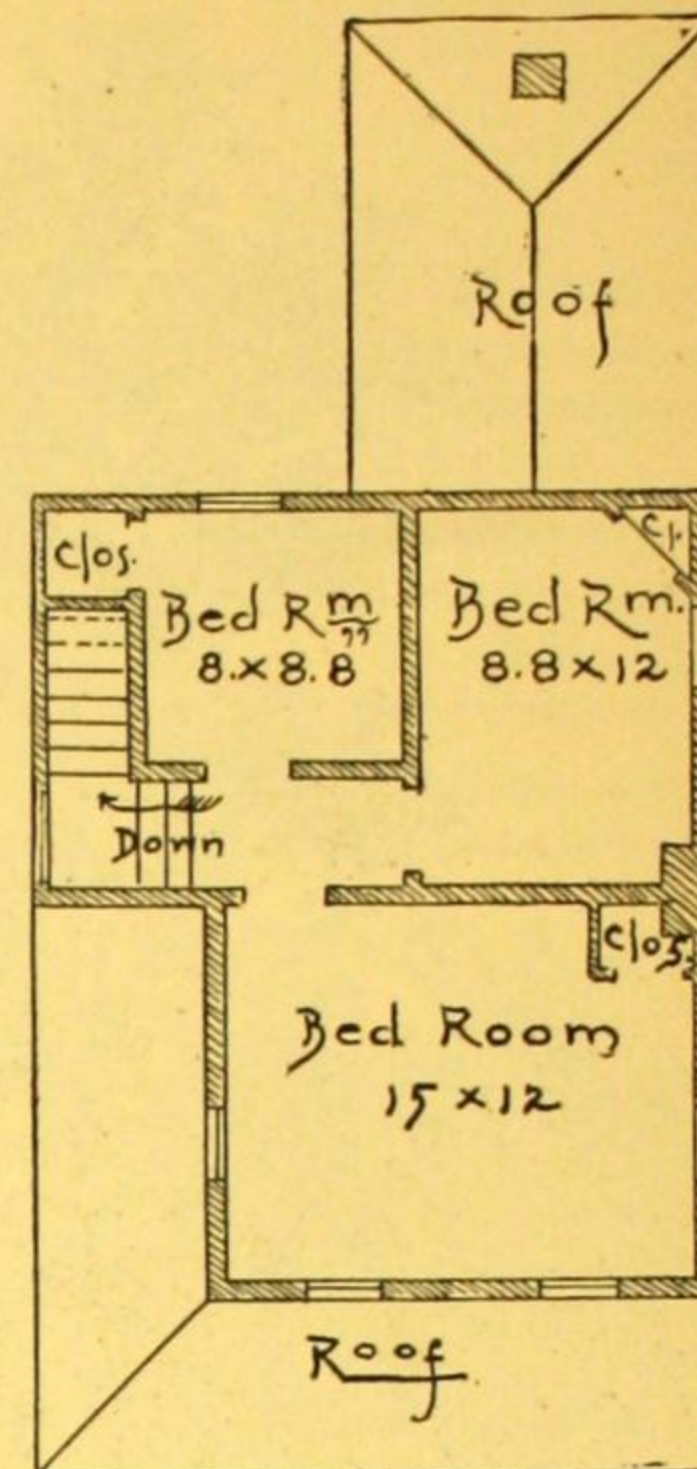
The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 249



SECOND FLOOR. NO. 249

DESCRIPTION OF DESIGN NUMBER 250

COST: \$1,300, complete.

This is another design, with an exterior appearance like Number 248. The plans are like Number 249, except that the front veranda is left off and a bay-window is added. This is intended for an all-year residence.

A cellar under the whole house, with walls and foundations of brick or stone, would cost \$200 additional.

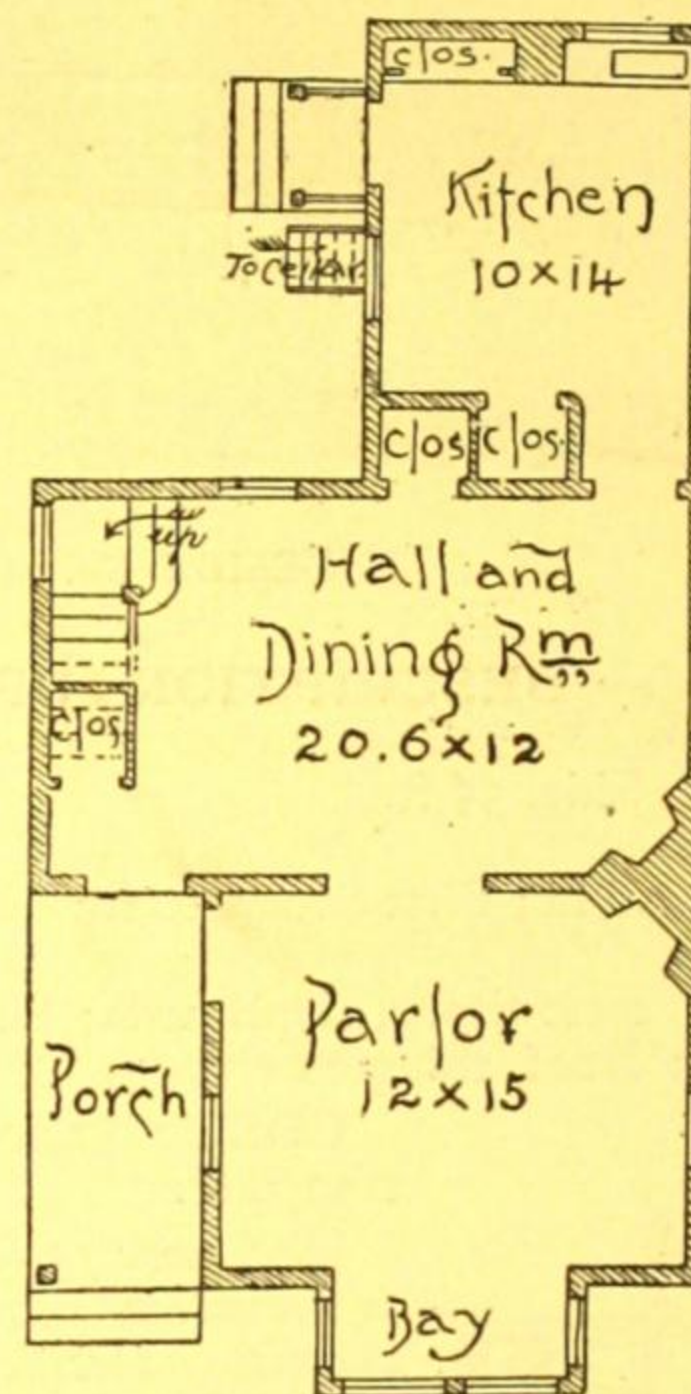
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

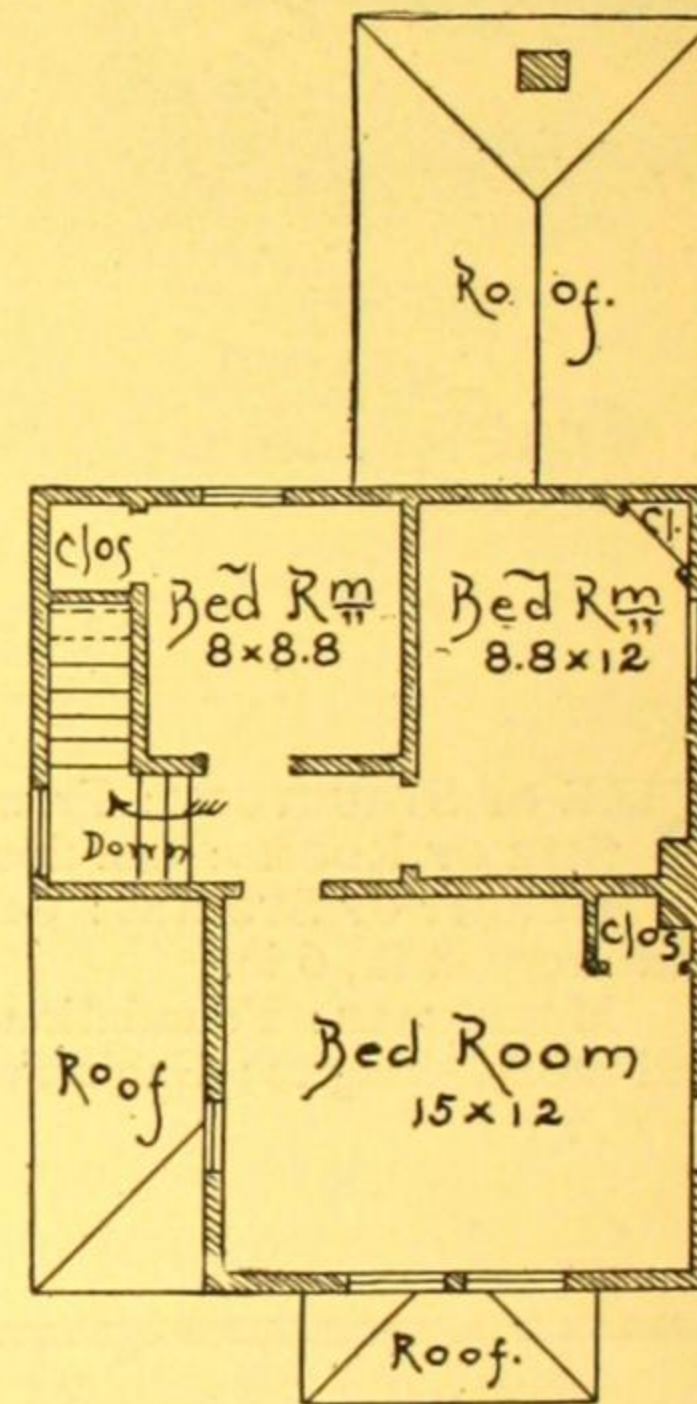
The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 250



SECOND FLOOR. NO. 250

DESCRIPTION OF DESIGN NUMBER 251

SIZE OF STRUCTURE: Front, 20 ft., 8 in. Side, 24 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 8 in.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts set in concrete, or brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$800, complete.

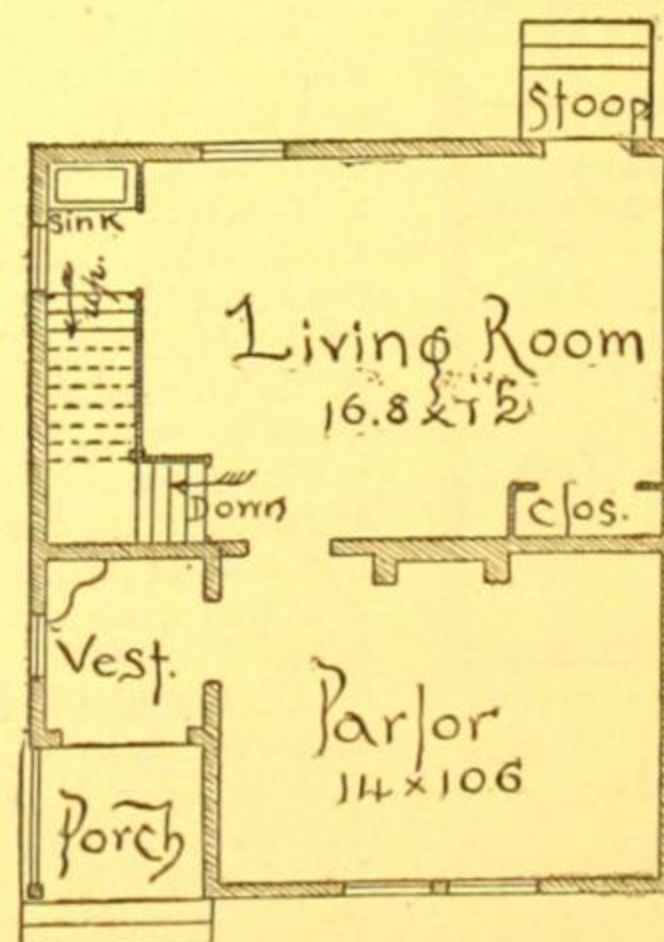
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The exterior somewhat in the same style as design Number 248, but more compact.

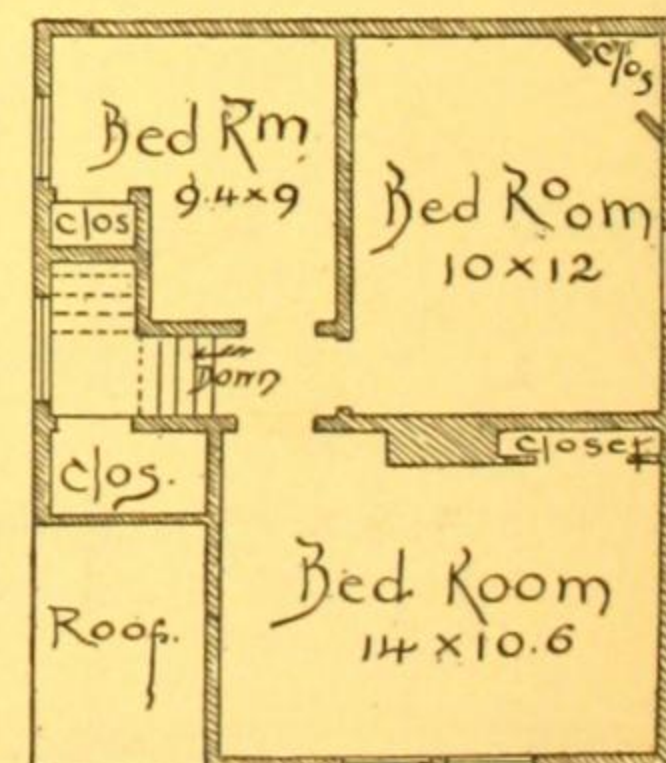
Cellar under half of the house.

A lean-to kitchen extension can be built at an additional expense of \$75.

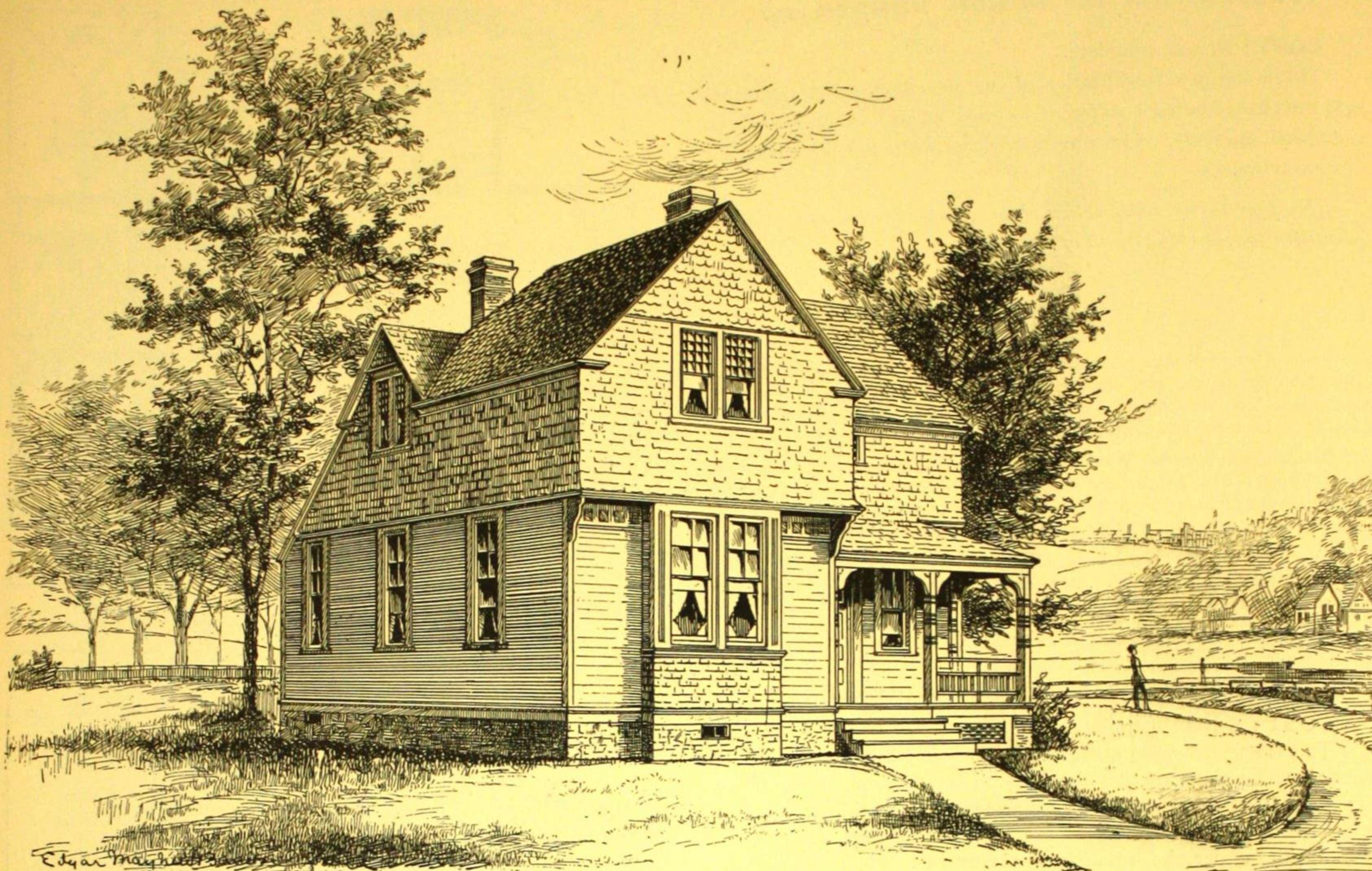
Except in the severest weather, a good fire in the kitchen stove will warm the whole house.



FIRST FLOOR. NO. 251



SECOND FLOOR. NO. 251



DESIGN No. 252. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 252

SIZE OF STRUCTURE: Front, 30 ft. Side, 35 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,000, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of

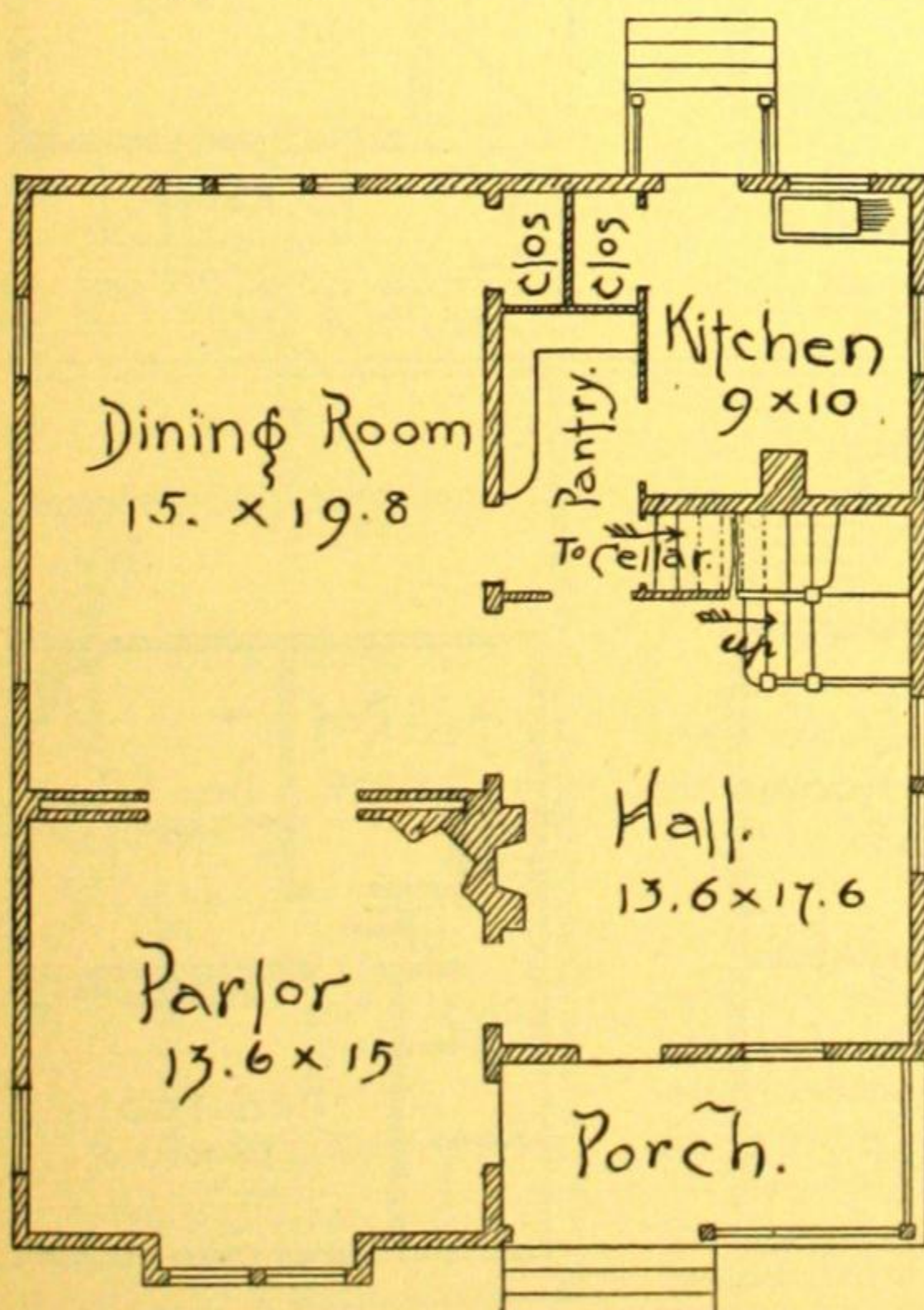
modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

SPECIAL FEATURES.—Cellar under the dining-room only.

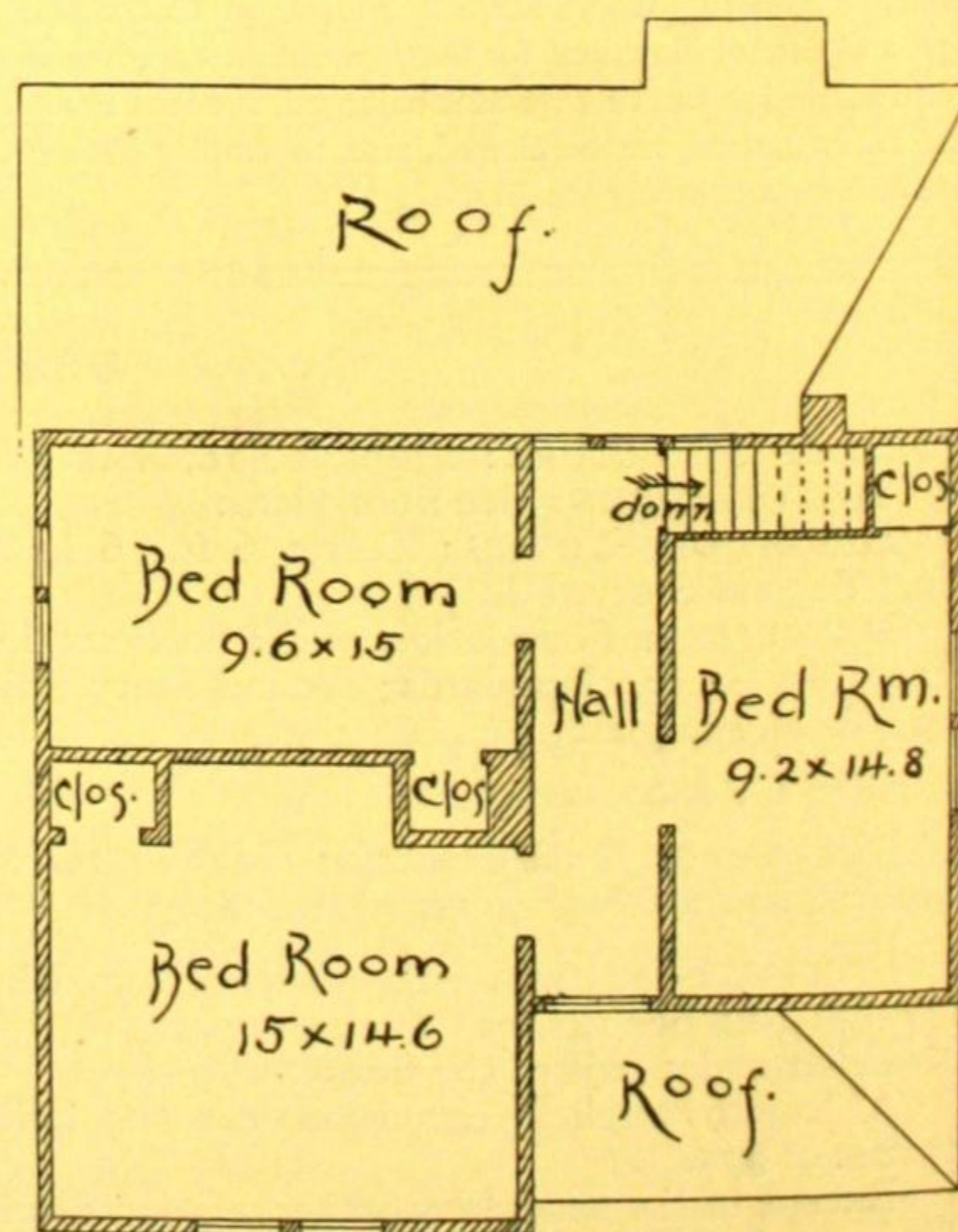
Fine, wide openings between rooms.

All the rooms on both floors are of good size, except the kitchen. There is the greatest diversity of opinion regarding the proper size of a kitchen. We are inclined to recommend small ones for small houses, well ventilated, like this one, where the draught from the window to the back door keeps it cool; with a large pantry and closets and every inch of space on the walls utilized for utensils. A small kitchen, well arranged, saves steps.

The hall has a fireplace and a pretty staircase: if it were named from its use, it should be called the sitting-room. One of the most sensible as well as one of the most fashionable features of modern houses is a square and ample hall.



FIRST FLOOR. NO. 252

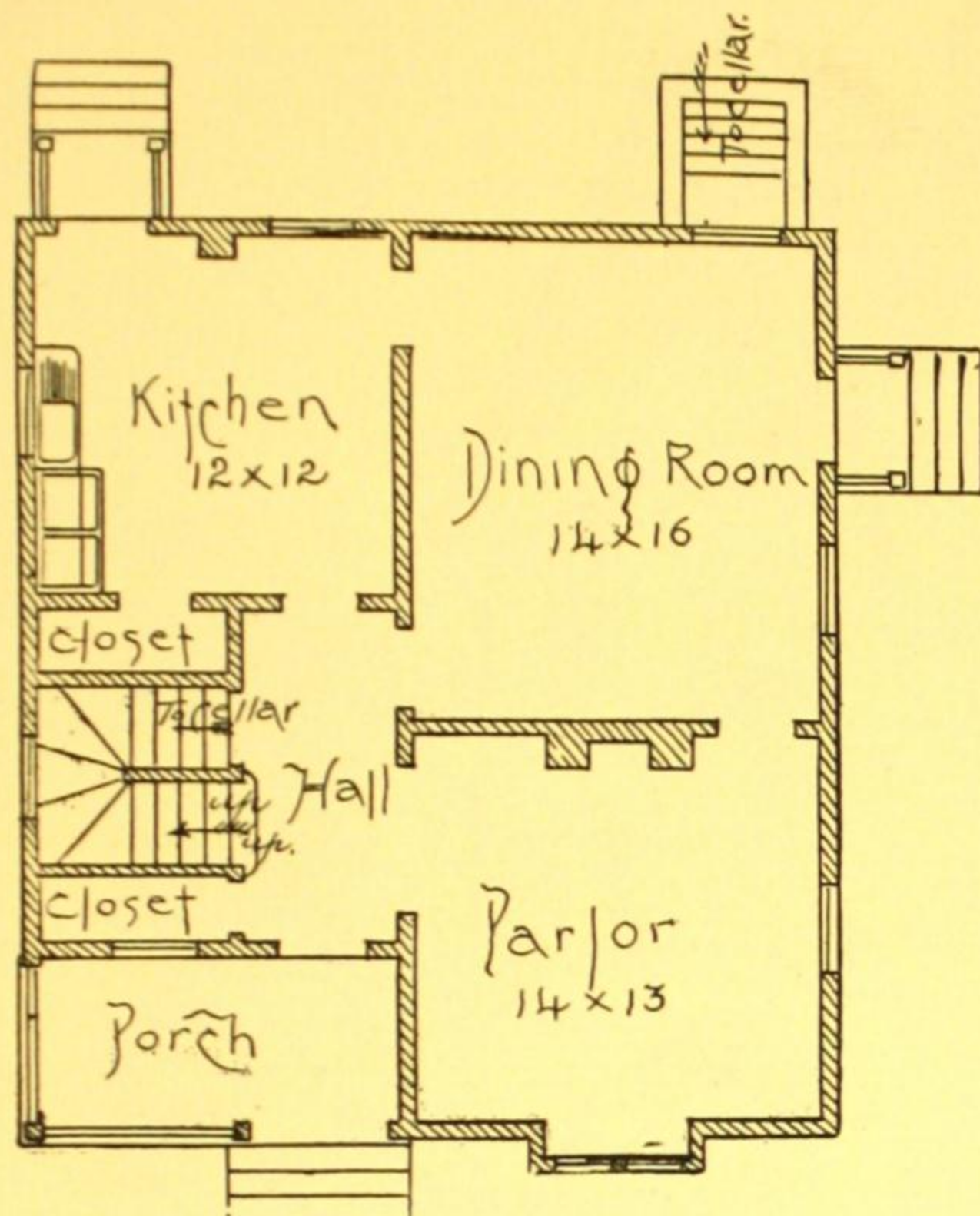


SECOND FLOOR. NO. 252

DESCRIPTION OF DESIGN NUMBER 253

SIZE OF STRUCTURE: Front, 27 ft., 6 in. Side, 30 ft., 6 in.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.;
 Second Story, 8 ft.
 MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.
 COST: \$1,800, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 253

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

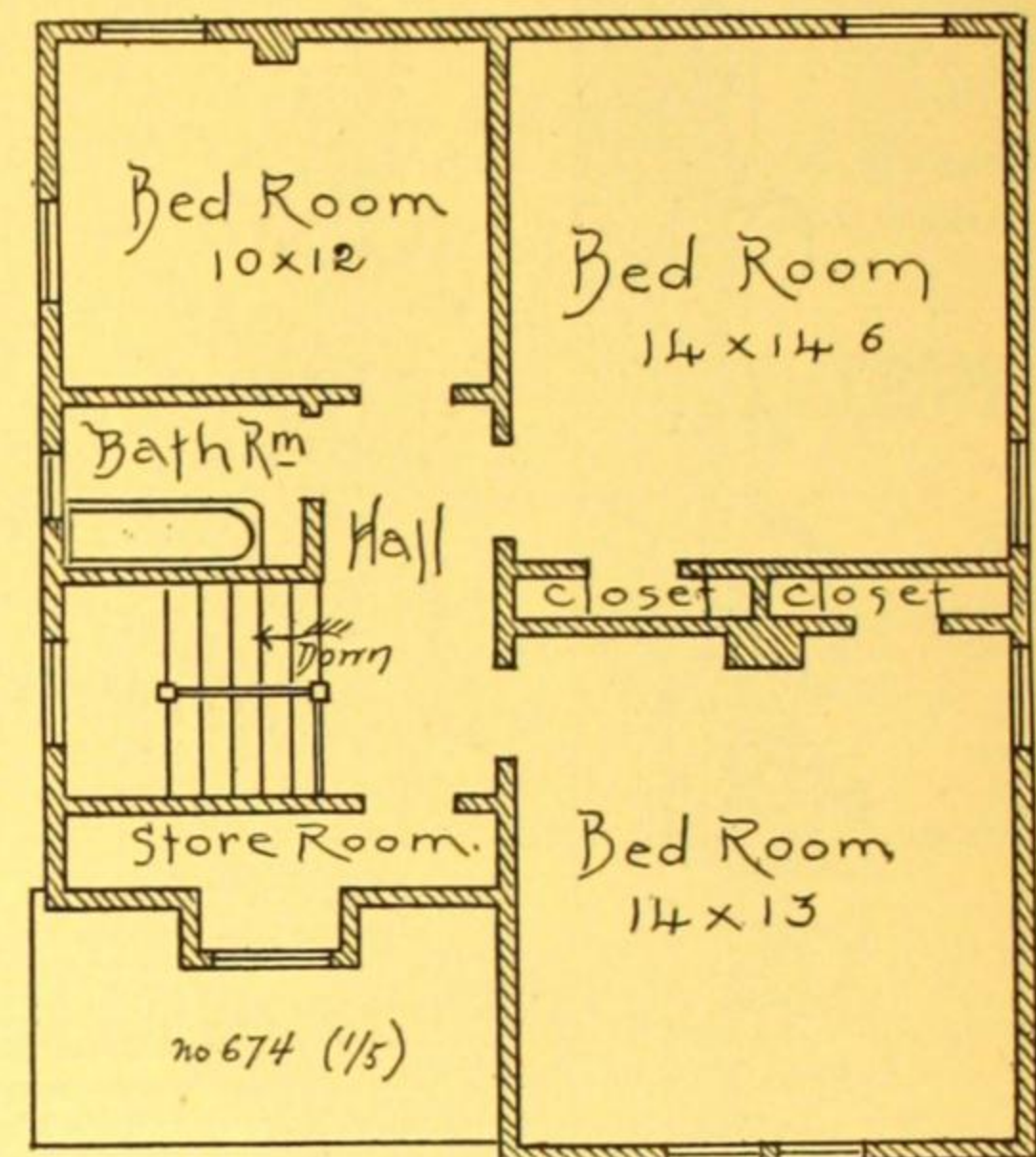
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior is similar in style to the preceding design, Number 252, but not so plain. The plans are reversed, and more room is given to the kitchen.

Cellar under the whole house, with both outside and inside entrance. Storage-room in the attic, reached by a scuttle. Plenty of closets. Bath-room.

These square designs utilize space to the best advantage.

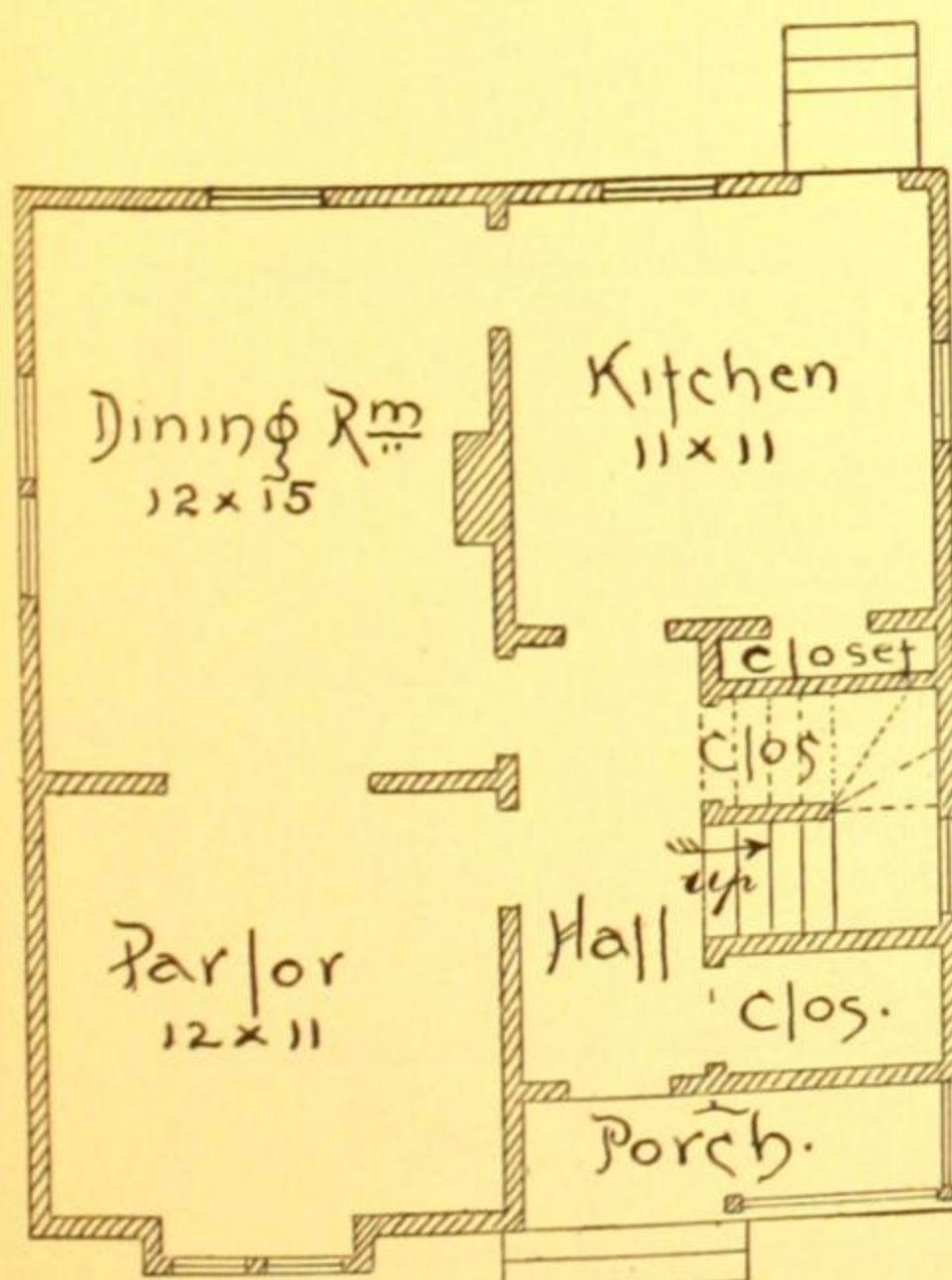


SECOND FLOOR. NO. 253

DESCRIPTION OF DESIGN NUMBER 254

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 27 ft., 6 in.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: First Story, 8 ft.; Second Story, 7 ft., 6 in.
 MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.
 COST: \$1,050, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 254

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern

houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

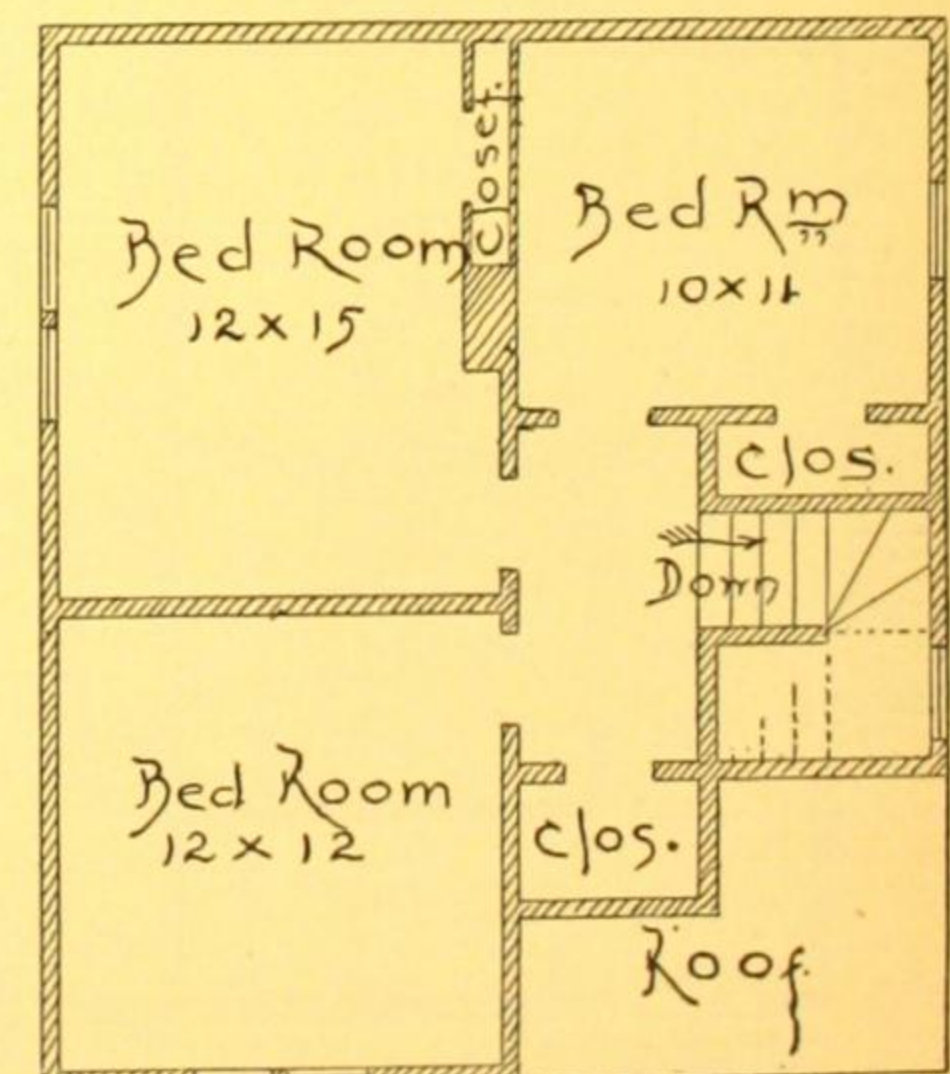
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior in the same style as Number 252.

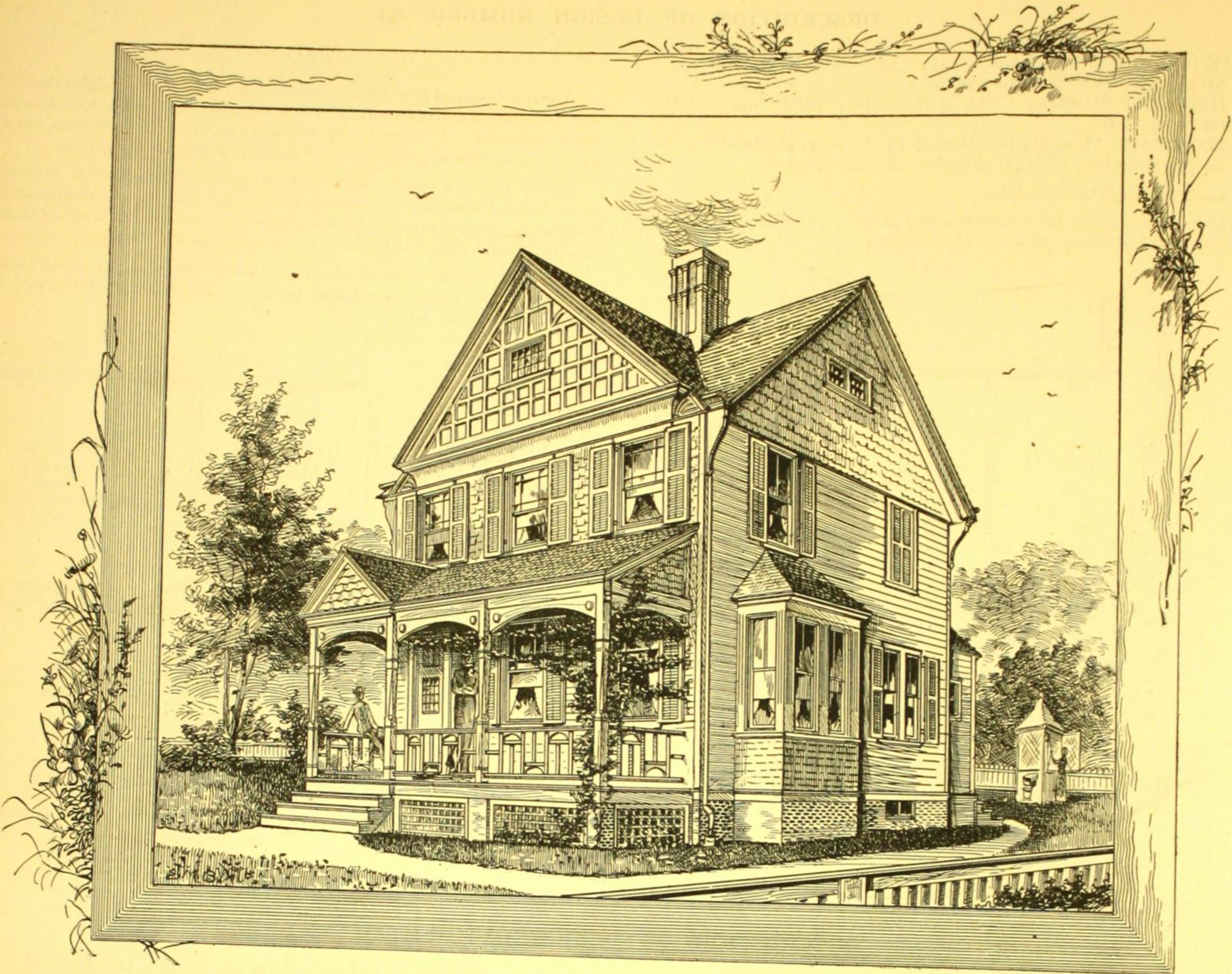
No cellar, but one can be provided under the whole house at an expense of \$150.

Ample closet room.

These small, square designs, that appear quite plain as shown by one color in this book, present a very different aspect when painted and stained. Different but harmonious body colors are specified for the first and second stories, still another color for the roof, another for the trim, another for the sash, doors and blinds. It costs no more to have a variety of colors, and when they are selected with good taste and applied properly the effect is very pleasing.



SECOND FLOOR. NO. 254



DESIGN No. 255. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 255

SIZE OF STRUCTURE: Front, 21 ft., 6 in., not including the staircase annex. Side, 36 ft., 6 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$1,600, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Cellar under the main house.

Two rooms can be finished off in the attic, to which a stairway is provided.

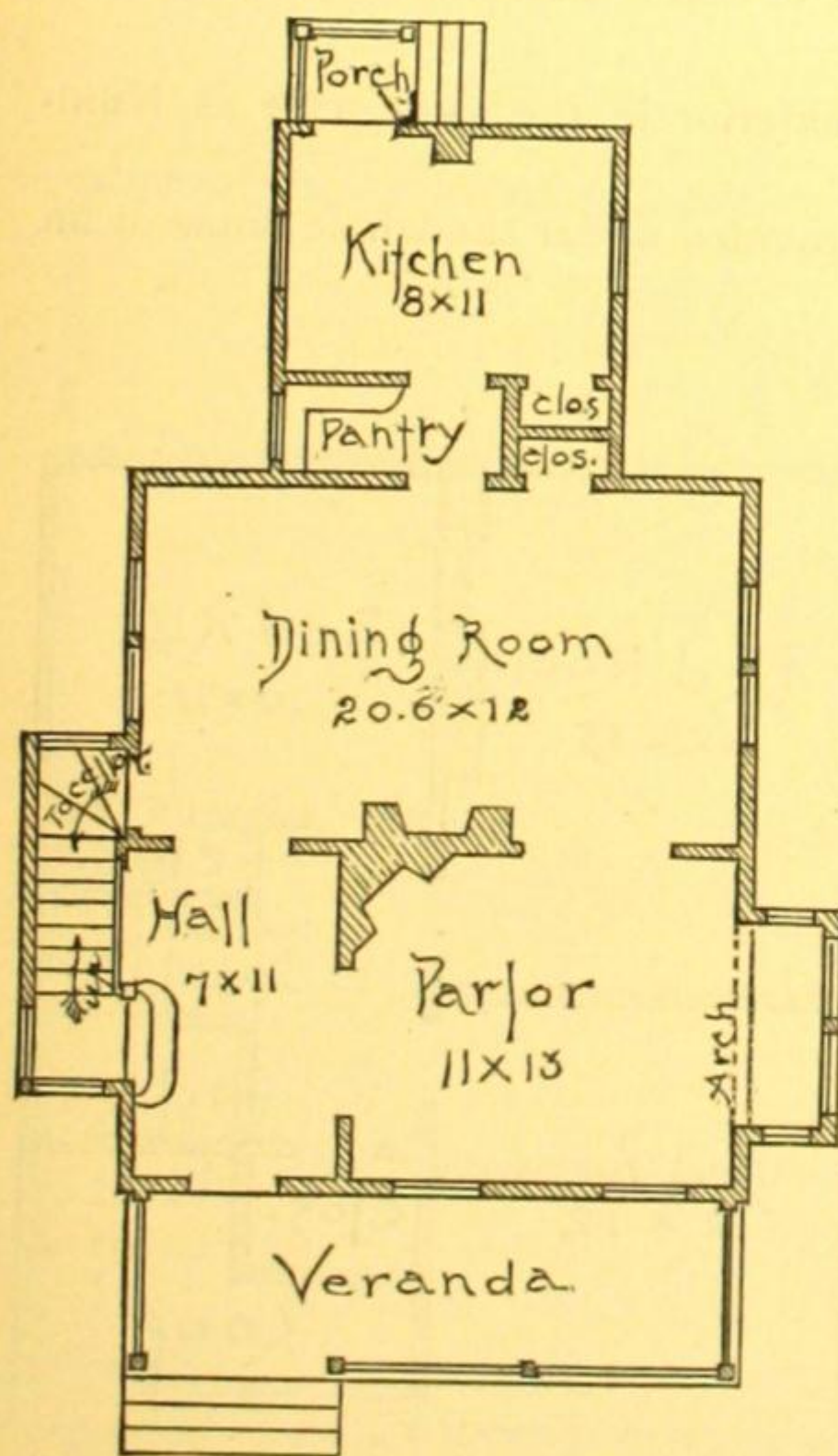
One large central chimney warms the whole house.

A very large dining-room and large openings between all rooms of the first story.

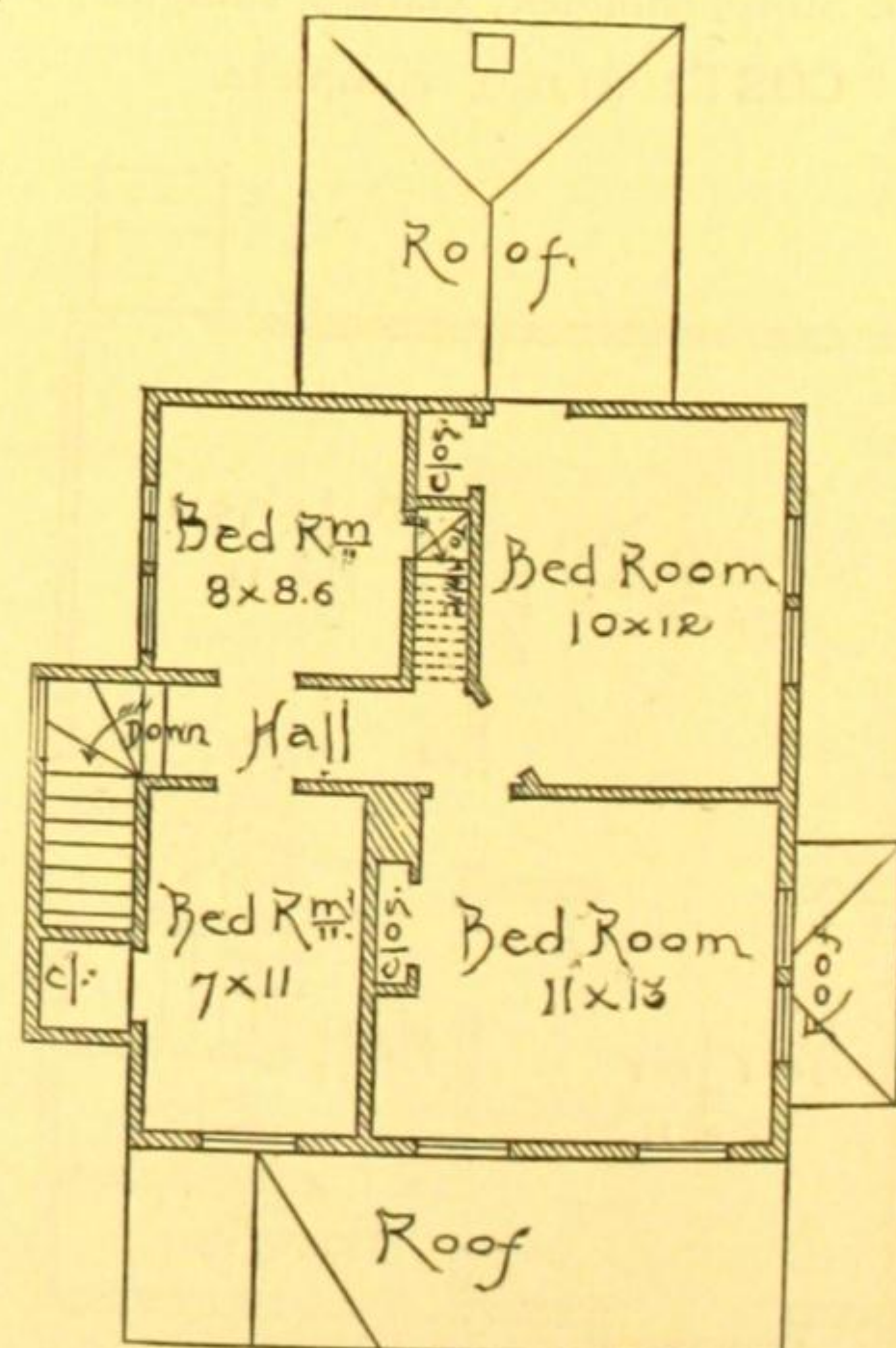
Side annex for the stairway on one side and a bay-window on the other. Large veranda.

Presents a beautiful appearance when painted.

Since we "invented" this design, two years ago, we believe that five hundred houses have been built from it. It is deservedly popular, as it provides ample and elegant room for a family of good size, and the cost is so reasonable. The cost stated is right, having been proven over and over again.



FIRST FLOOR. NO. 255



SECOND FLOOR. NO. 255

DESCRIPTION OF DESIGN NUMBER 256

SIZE OF STRUCTURE: Front, 23 ft.; including stairway annex, 26 ft., 8 in. Side, 28 ft., 6 in.; including veranda and pantry, 39 ft., 8 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 8 in.; Second Story, 8 ft.; Third Story, 7 ft., 6 in.

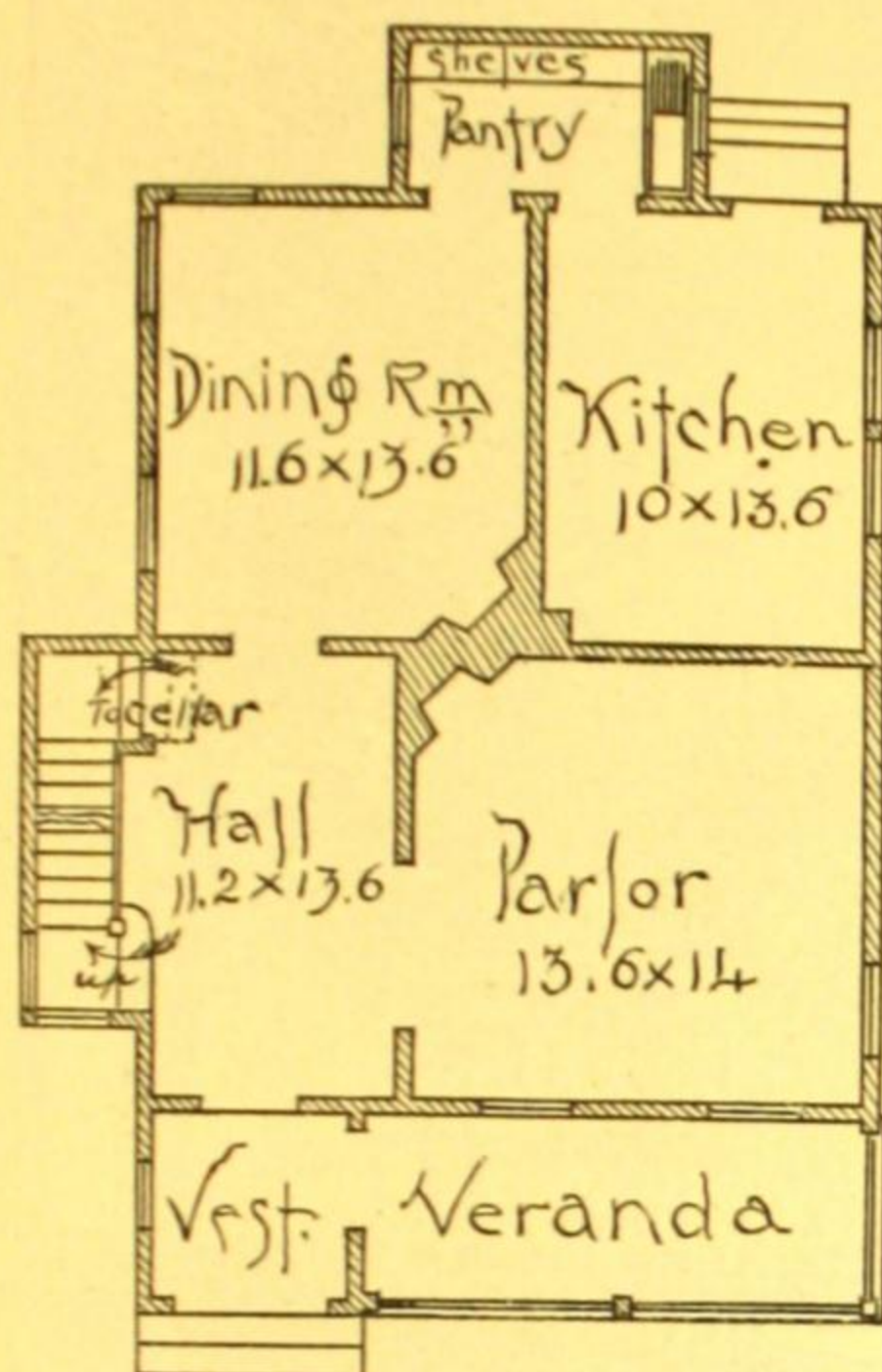
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, panelled and half timbered; Roof, shingles.

COST: \$1,600, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



FIRST FLOOR. NO. 256

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

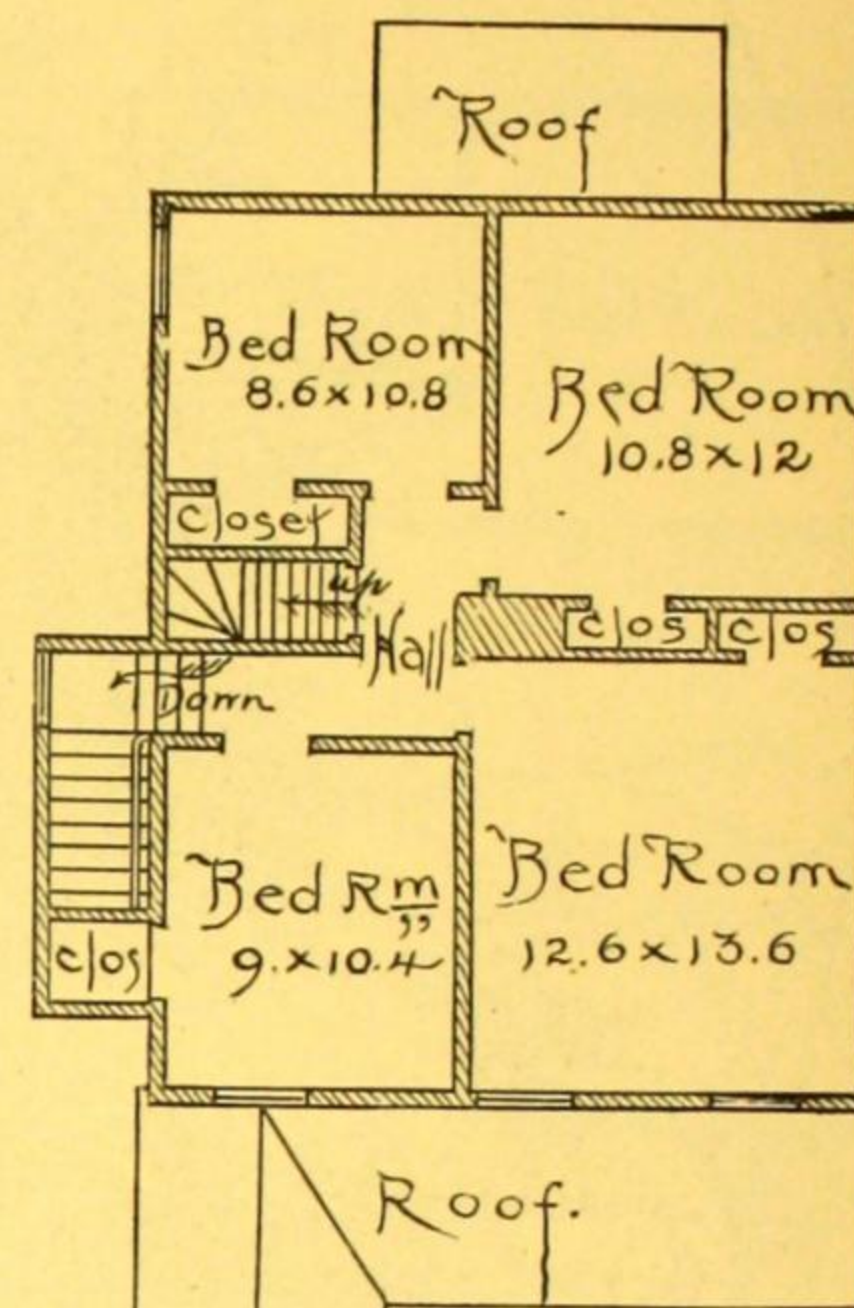
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—

The exterior in the same style as the preceding, Number 255. The plans are much the same; the bay-window is omitted, and the kitchen is kept in the main structure, but solidly shut off from the other parts of the house, communicating with the dining-room through a convenient pantry.

A vestibule on the veranda keeps out the cold.

Cellar under the whole house. Two rooms in the attic.



SECOND FLOOR. NO. 256

DESCRIPTION OF DESIGN NUMBER 257

SIZE OF STRUCTURE: Front, 19 ft., 4 in.; including stair annex, 22 ft., 4 in. Side, 27 ft., 6 in.; including veranda and pantry, 38 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.; Third Story, 7 ft., 6 in.

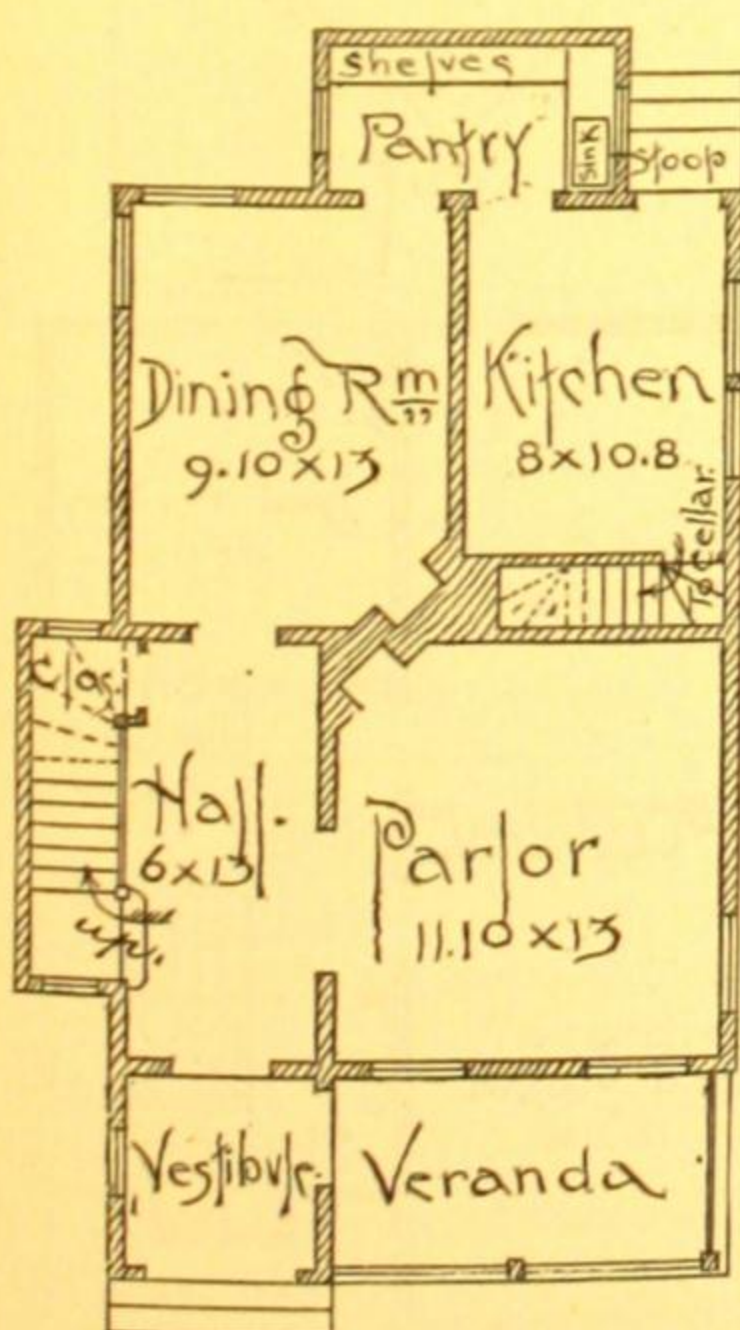
MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, panelled and half timbered; Roof, shingles.

COST: \$1,450, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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FIRST FLOOR. NO. 257

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

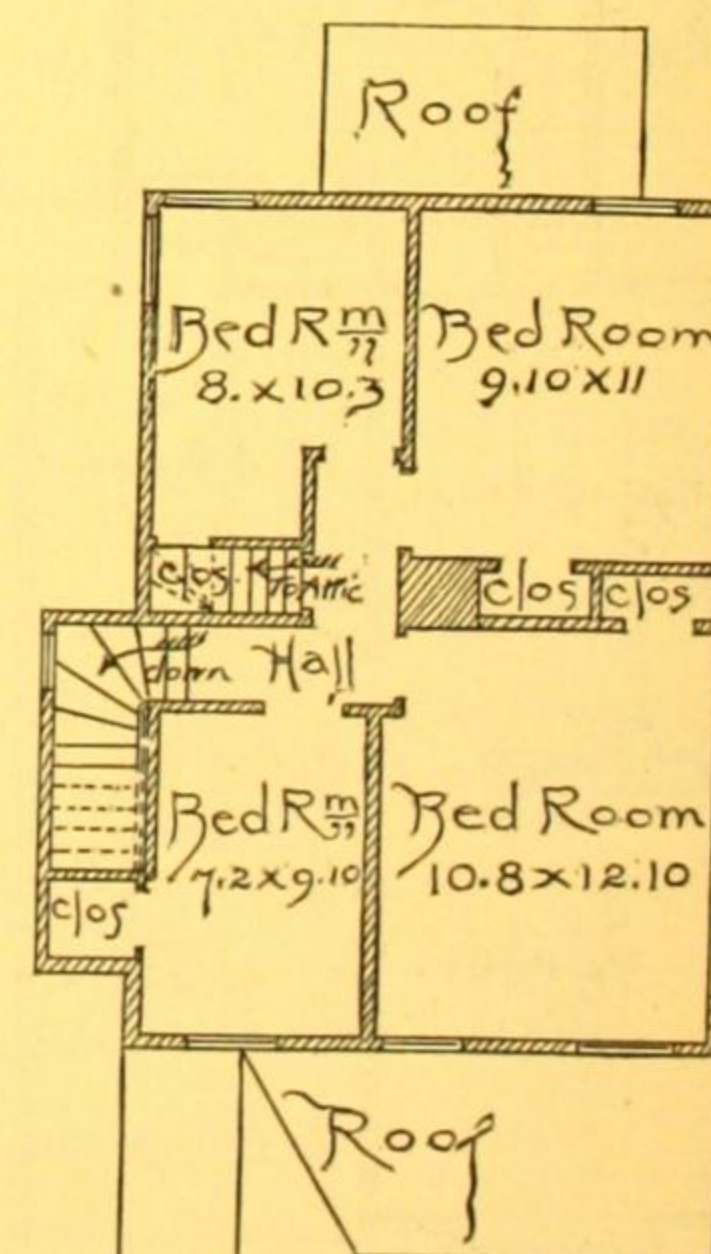
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Another design, with the same exterior appearance as Number 255. A kitchen extension like Number 255 would cost \$150 additional.

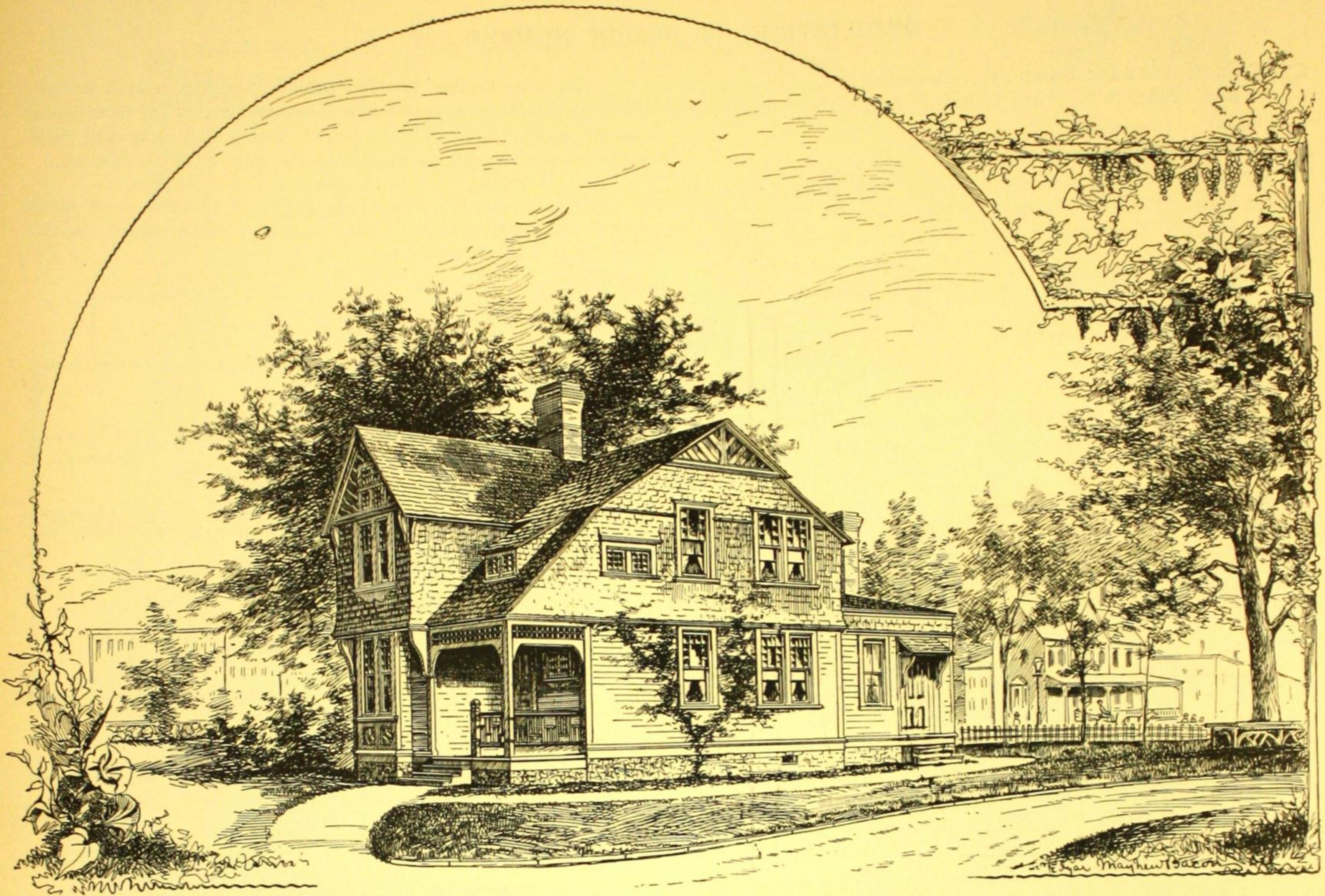
Cellar under the whole house. Two rooms in the attic.

The special feature of this design is that it can be built on a narrow lot, still leaving space for an alley-way to the rear.

The arrangement of rooms could not be more compactly designed. The effect of the recessed staircase with a square platform is exceedingly pretty. Stained glass is used in the small window on the stair-landing.



SECOND FLOOR. NO. 257



DESIGN No. 258. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 258

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 47 ft., 6 in.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timber and shingles; Roof, shingles, —kitchen roof, tin.

COST: \$2,200, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

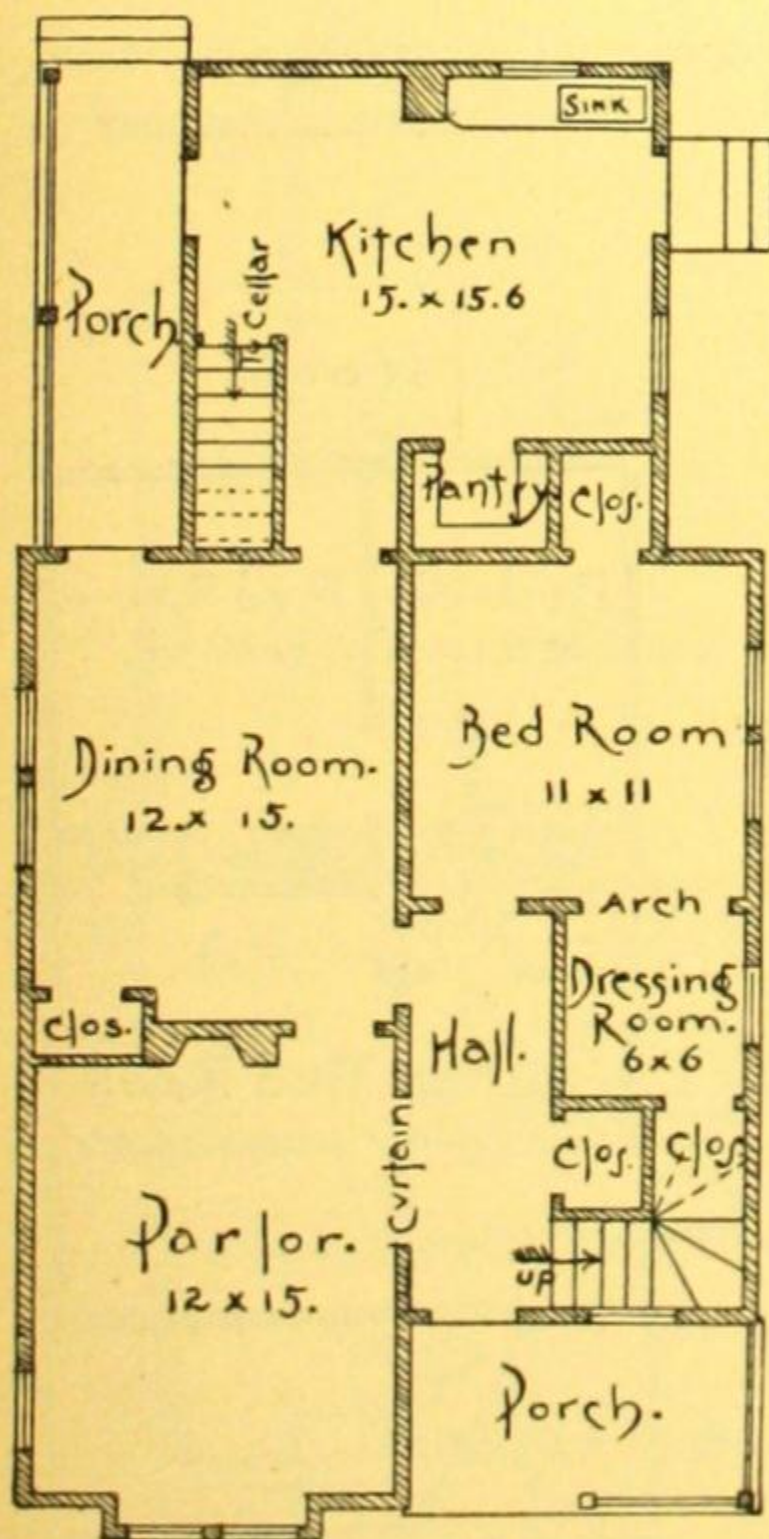
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES. — Cellar under dining-room only. Attic space good only for light stores, trunks, &c., and is reached by portable steps.

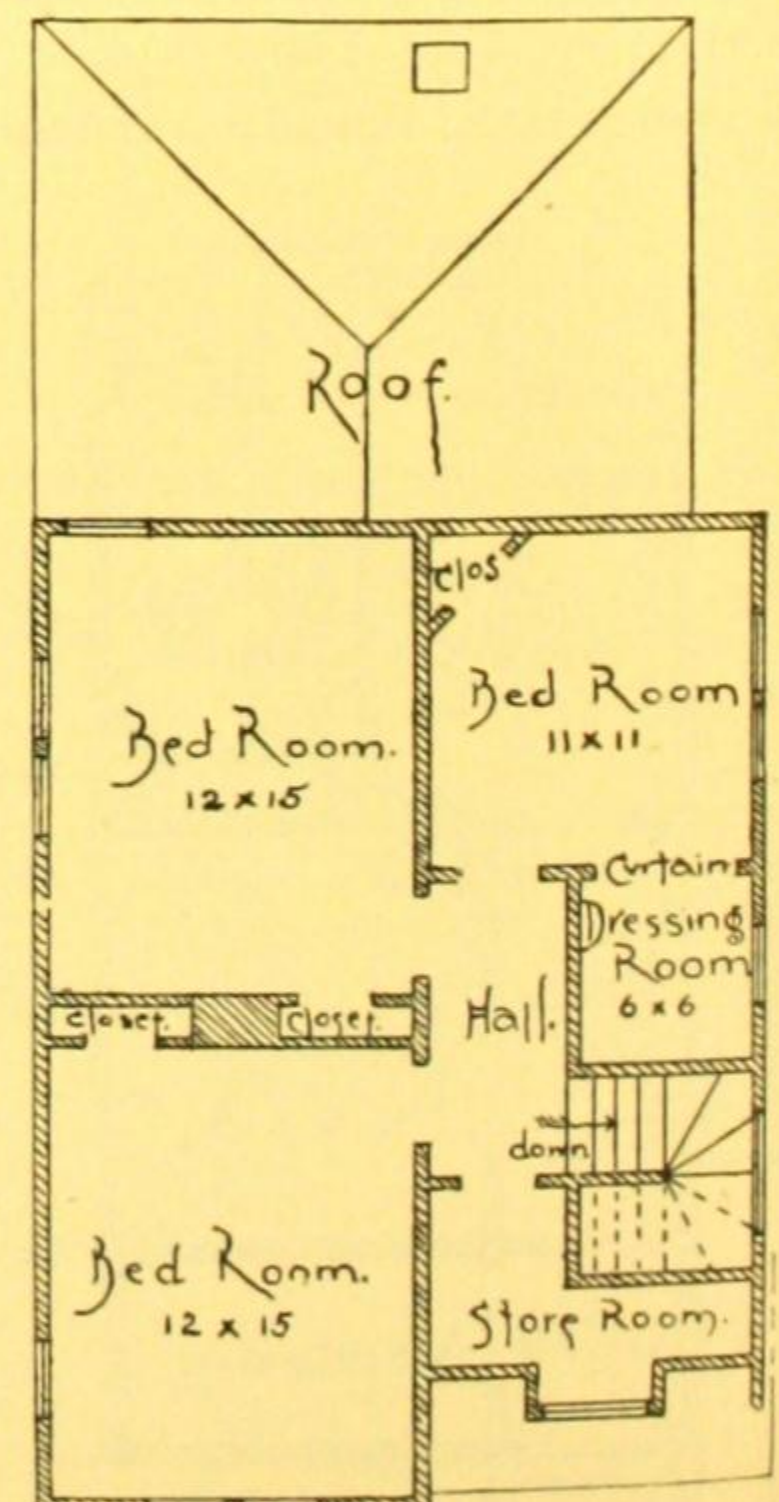
The ample closet room and the dressing-rooms are good features. Only those who have enjoyed the luxury of a dressing-room where all the paraphernalia of the toilet can have a place and be kept in place, can appreciate its convenience.

There is a pretty and quaint style about the exterior of this design that looks better in execution than in the drawing.

In considering the appearance of a house, as built, it should be borne in mind that the colors play an important part. Our perspective views, necessarily printed in one color, do not do justice to any of the designs, and in special cases like this fall far short of showing the true appearance of the structure.



FIRST FLOOR. NO. 258



SECOND FLOOR. NO. 258

DESCRIPTION OF DESIGN NUMBER 259

SIZE OF STRUCTURE: Front, 27 ft., 6 in. Side, 33 ft.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft.; Second Story, 8 ft.; Third Story, 7 ft., 6 in.
MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.
COST: \$2,000, complete, except kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

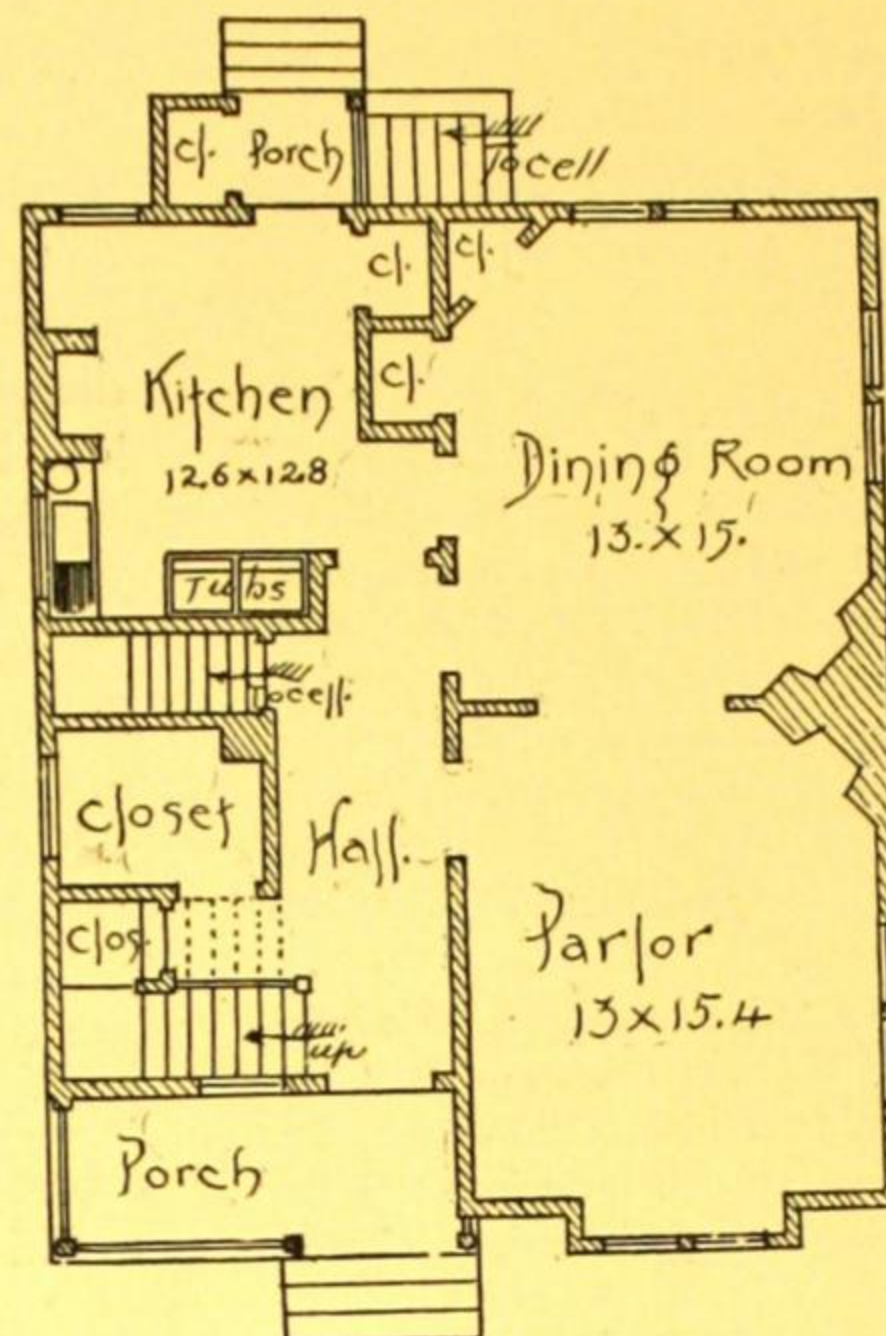
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

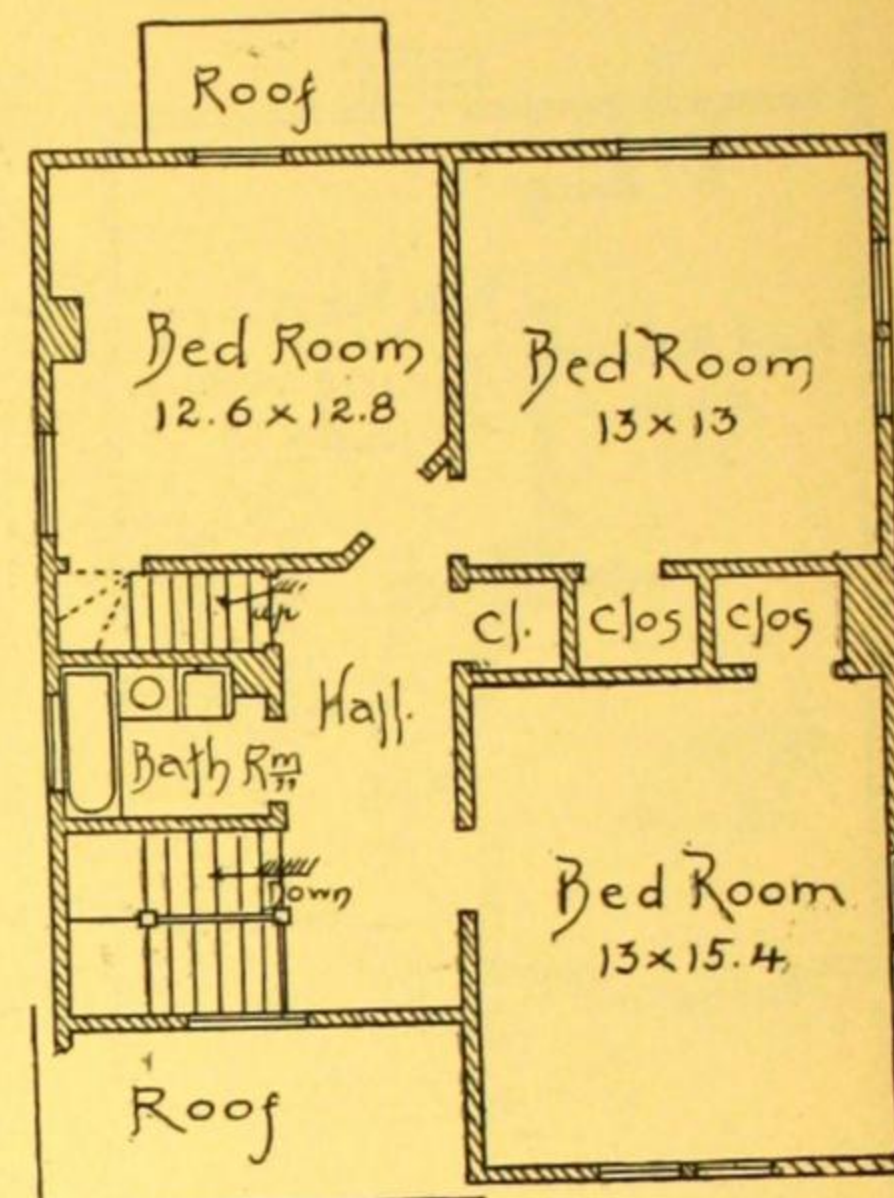
SPECIAL FEATURES.—The exterior is similar to but more compact in appearance than the preceding design, Number 258.

Cellar under half of the house, with good light and both inside and outside entrances.

Two good rooms in the attic.
 Folding-doors between parlor and dining-room. A curtain could be substituted with some advantage in the matter of cost and appearance. Curtains between rooms are not patronized to the extent that their usefulness, economy and beauty warrant.



FIRST FLOOR. NO. 259



SECOND FLOOR. NO. 259

DESCRIPTION OF DESIGN NUMBER 260

SIZE OF STRUCTURE: Front, 29 ft. Side, 41 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.
COST: \$2,700, complete, except kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

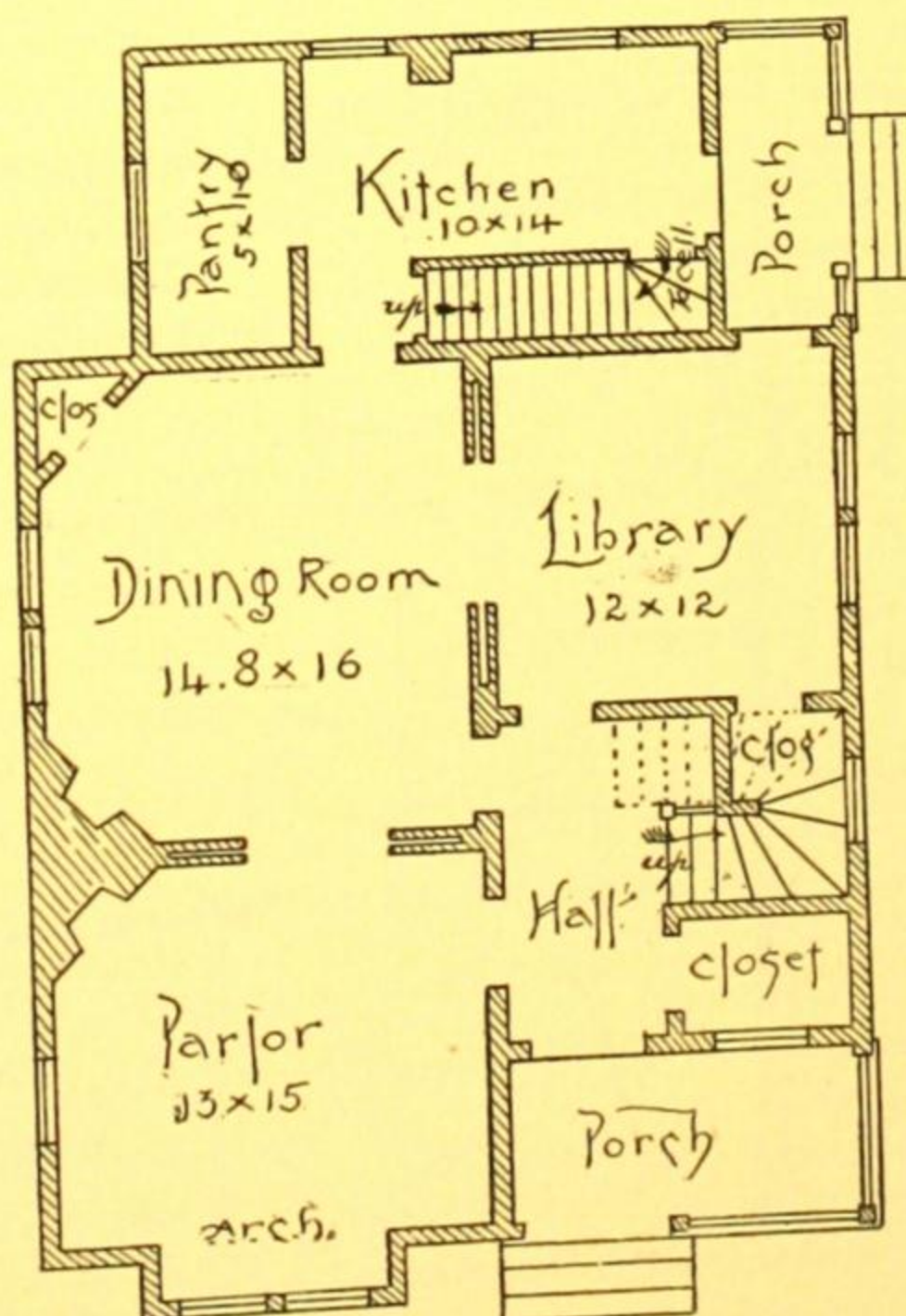
The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

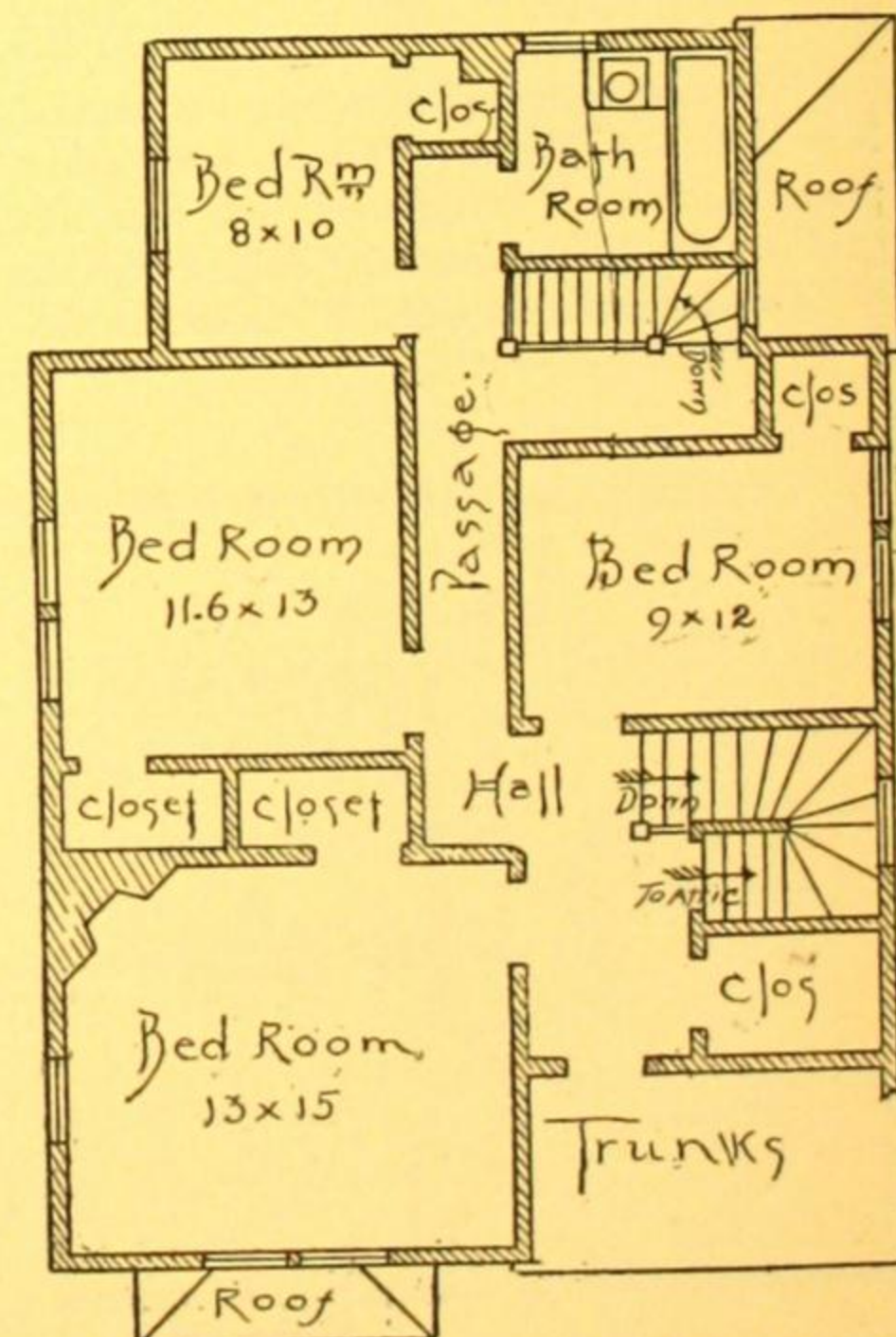
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Another design, with exterior similar to Number 258, but more compact in appearance.

The addition of kitchen extension a story and a half high adds considerably more room, and does not greatly increase cost.
 The sliding-door openings give spaciousness to the first floor.
 Cellar under the whole house. Back staircase from kitchen to second story.



FIRST FLOOR. NO. 260



SECOND FLOOR. NO. 260

DESCRIPTION OF DESIGN NUMBER 261

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 28 ft.

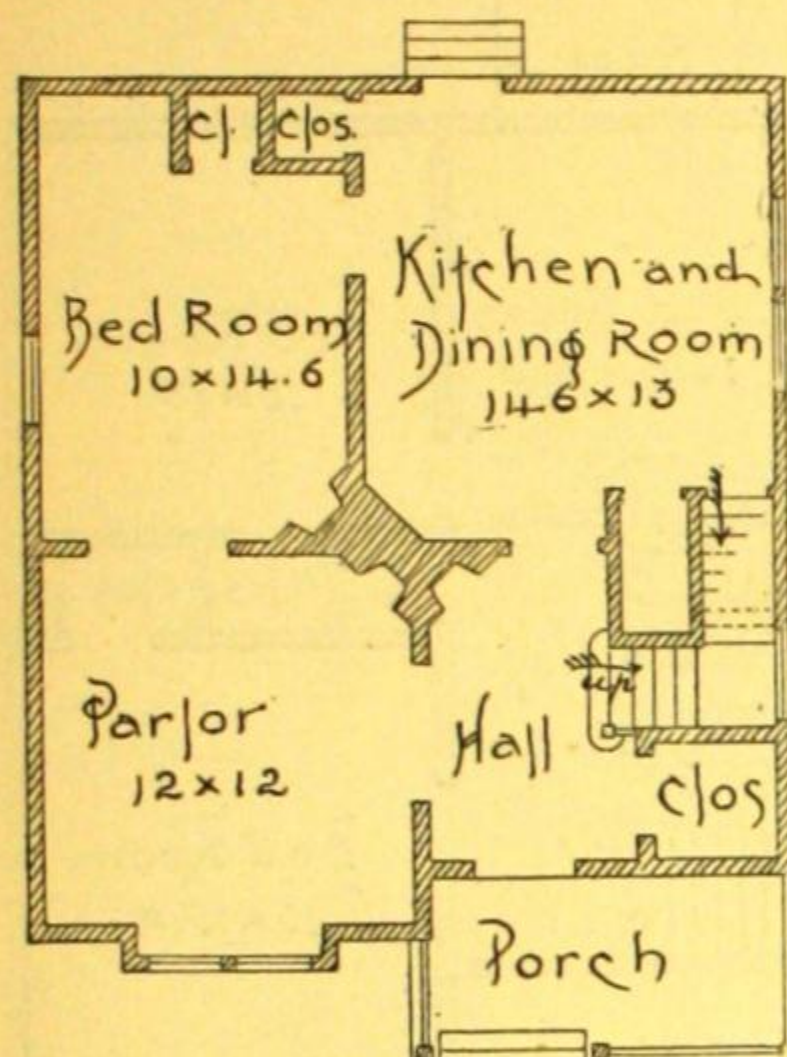
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$1,500, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 261

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses),

are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

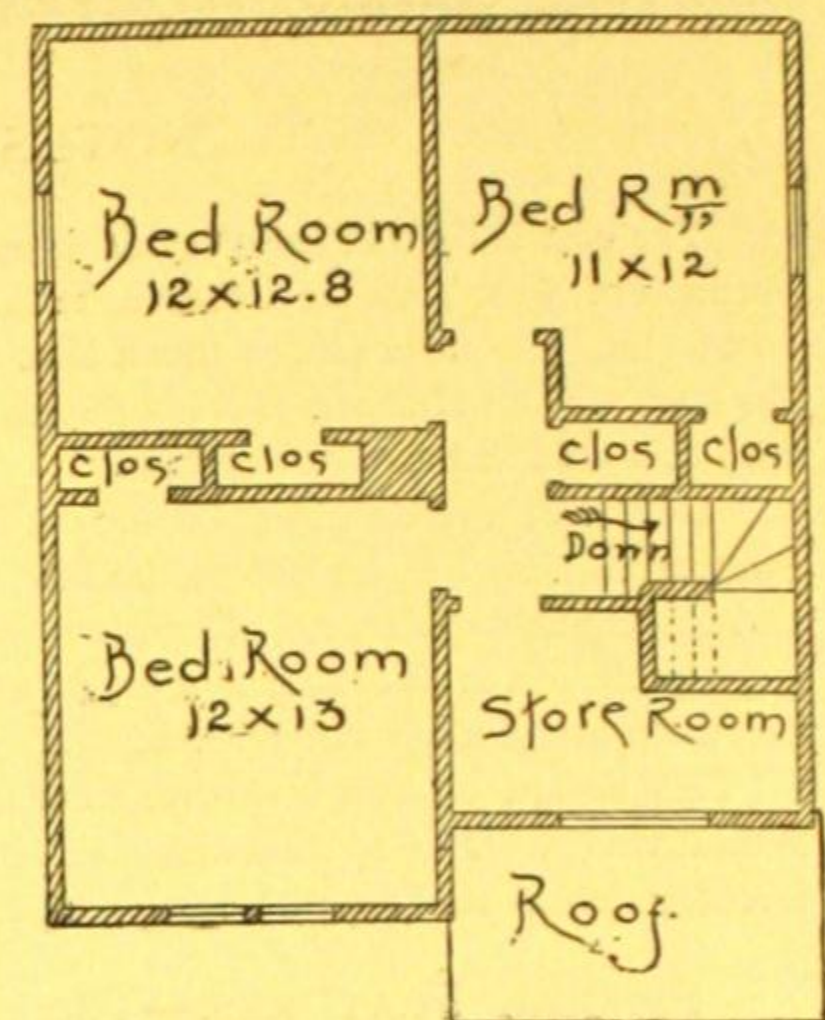
SPECIAL FEATURES.—This design has an exterior similar to Number 258.

Cellar under half the house.

By adding a kitchen extension, the bed-room in first story could be made a library or back parlor.

The best way of heating this house is from a furnace in the cellar. (The present way is by stoves.) If desired, we can indicate on the plans the proper location for furnace, pipes, &c.

Another good way of heating, quite sufficient except in the severest climate, is to put a Baltimore heater in one of the rooms on the first floor, which will heat that room and carry hot air to the hall on the second floor and into the bed-rooms when the doors are open. A fireplace in the hall and another room, and a stove in the kitchen would complete this scheme.



SECOND FLOOR. NO. 261

DESCRIPTION OF DESIGN NUMBER 262

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 27 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,650, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase,

are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Still another design, with an exterior similar to Number 258, but not so extended, and therefore more compact in appearance.

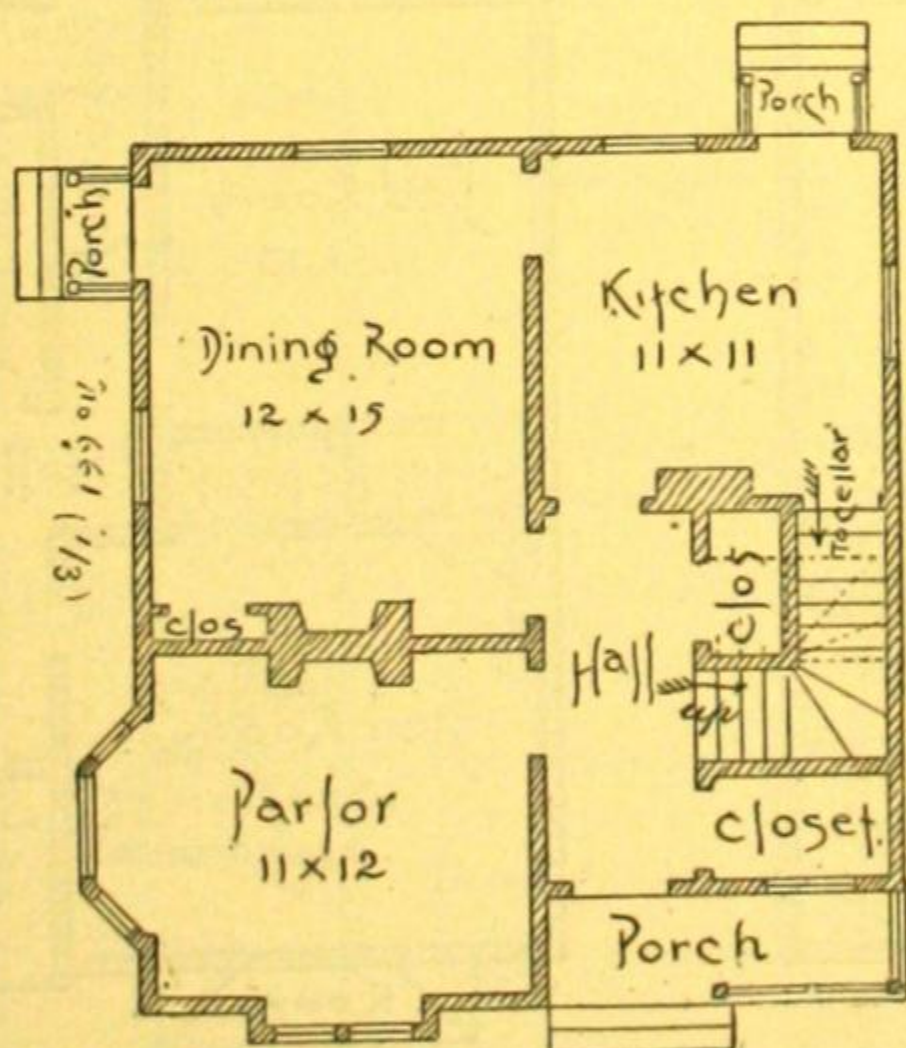
Cellar under the whole house.

Two bay-windows in the parlor.

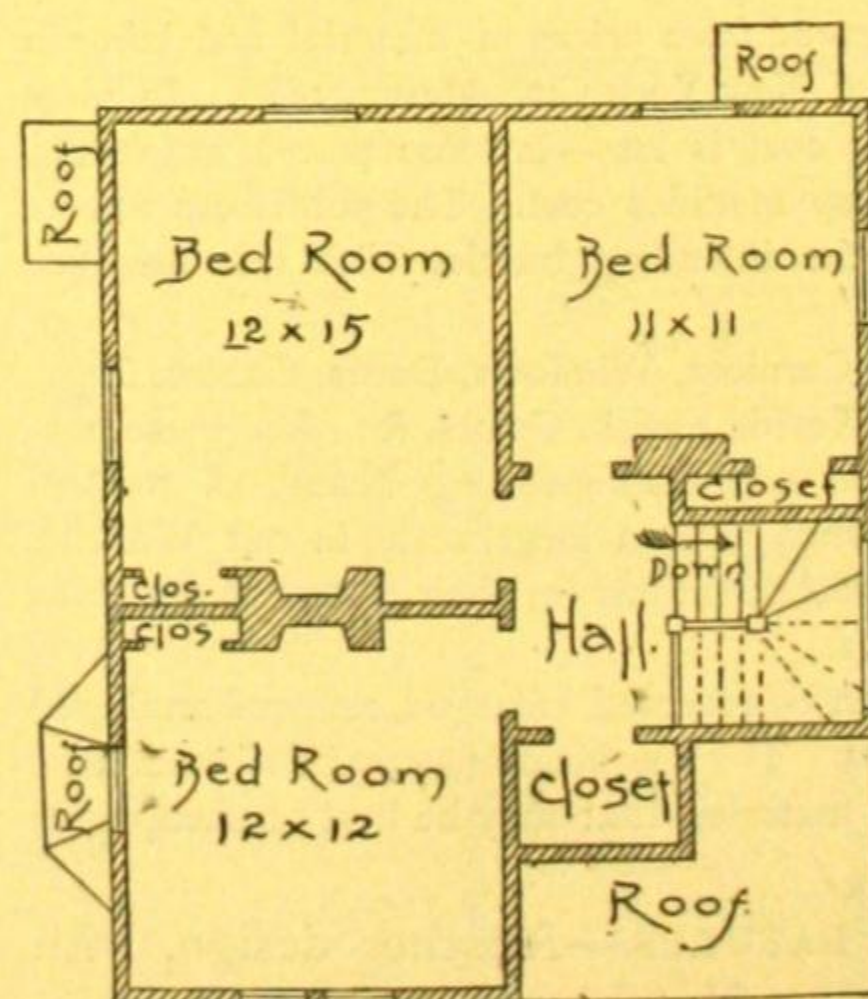
Outside entrances to dining-room and kitchen.

Every room provided with smoke flues, which makes it very convenient to use stoves; but the best way of heating it is by furnace or by fireplaces and heater, as described in the preceding plan.

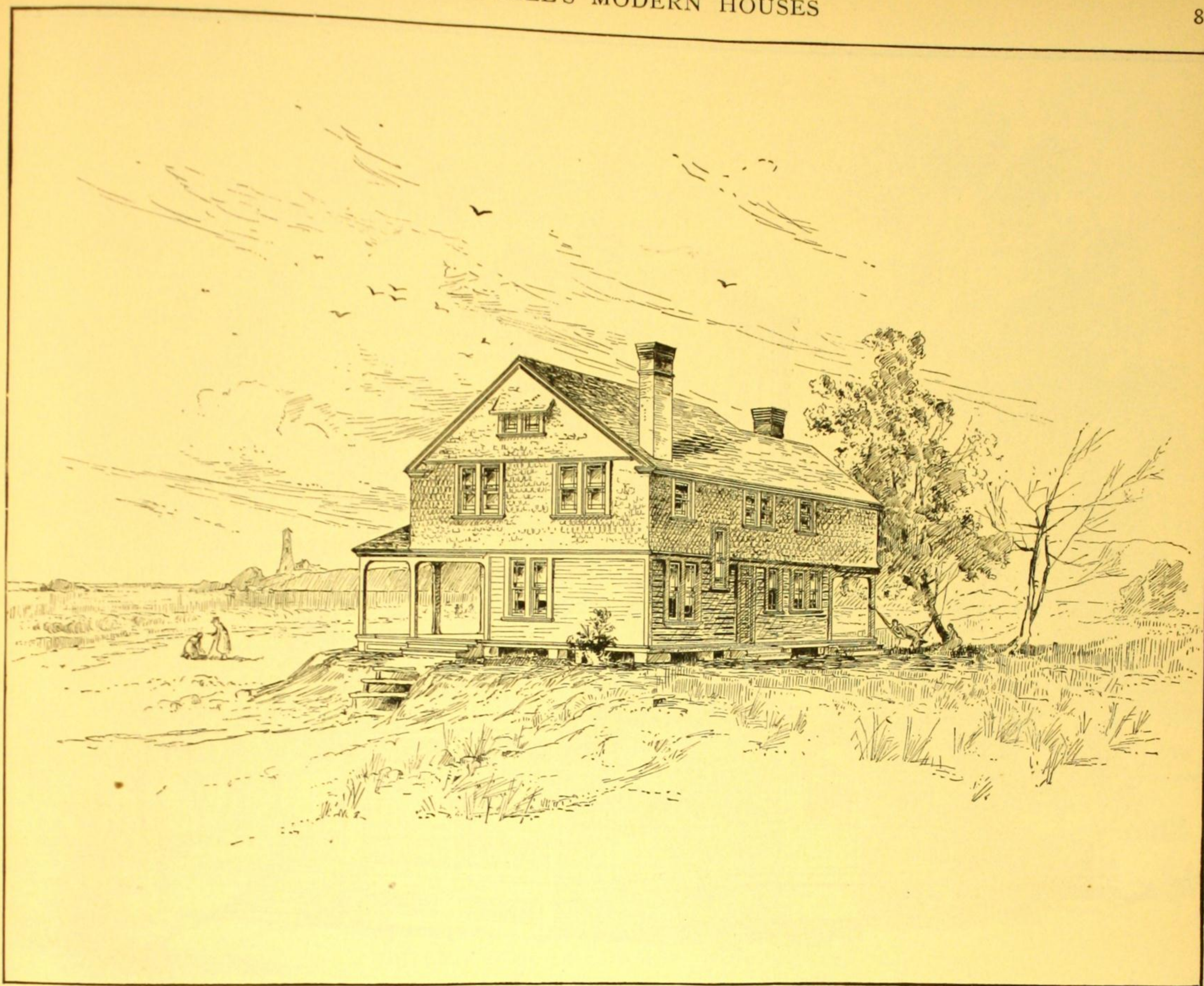
Houses of this size can be set on posts or brick piers, if no cellar is required, with a very considerable saving in cost.



FIRST FLOOR. NO. 262



SECOND FLOOR. NO. 262



DESIGN No. 263. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 263

SIZE OF STRUCTURE: Front, 35 ft., including porch. Side, 37 ft.; including fuel room extension, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft.; Second Story, open to the rafters.

MATERIALS: Foundation, brick piers; brick wall under cellar part only; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

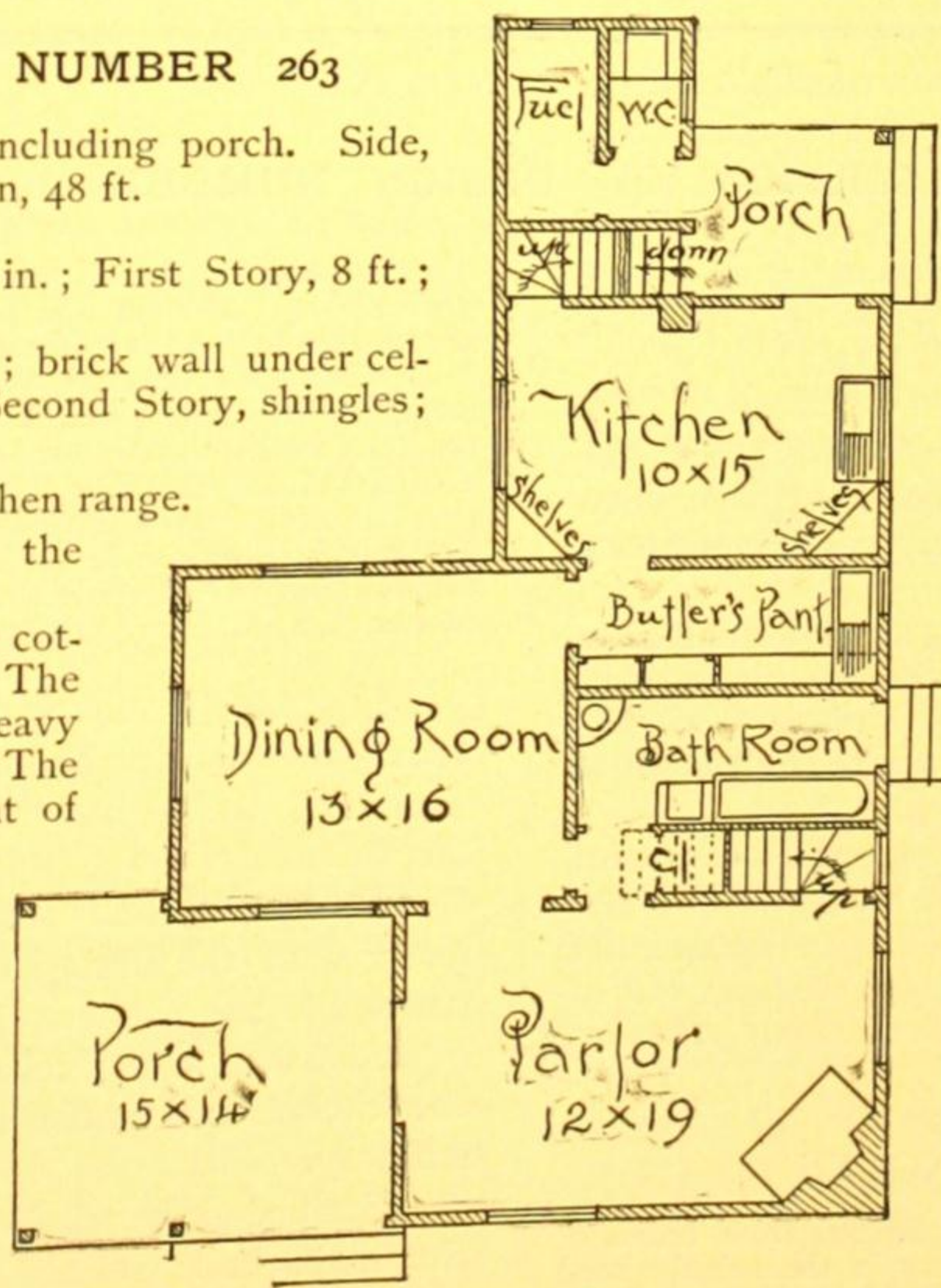
COST: \$1,500, complete, except kitchen range.

SPECIAL FEATURES.—Cellar under the kitchen only.

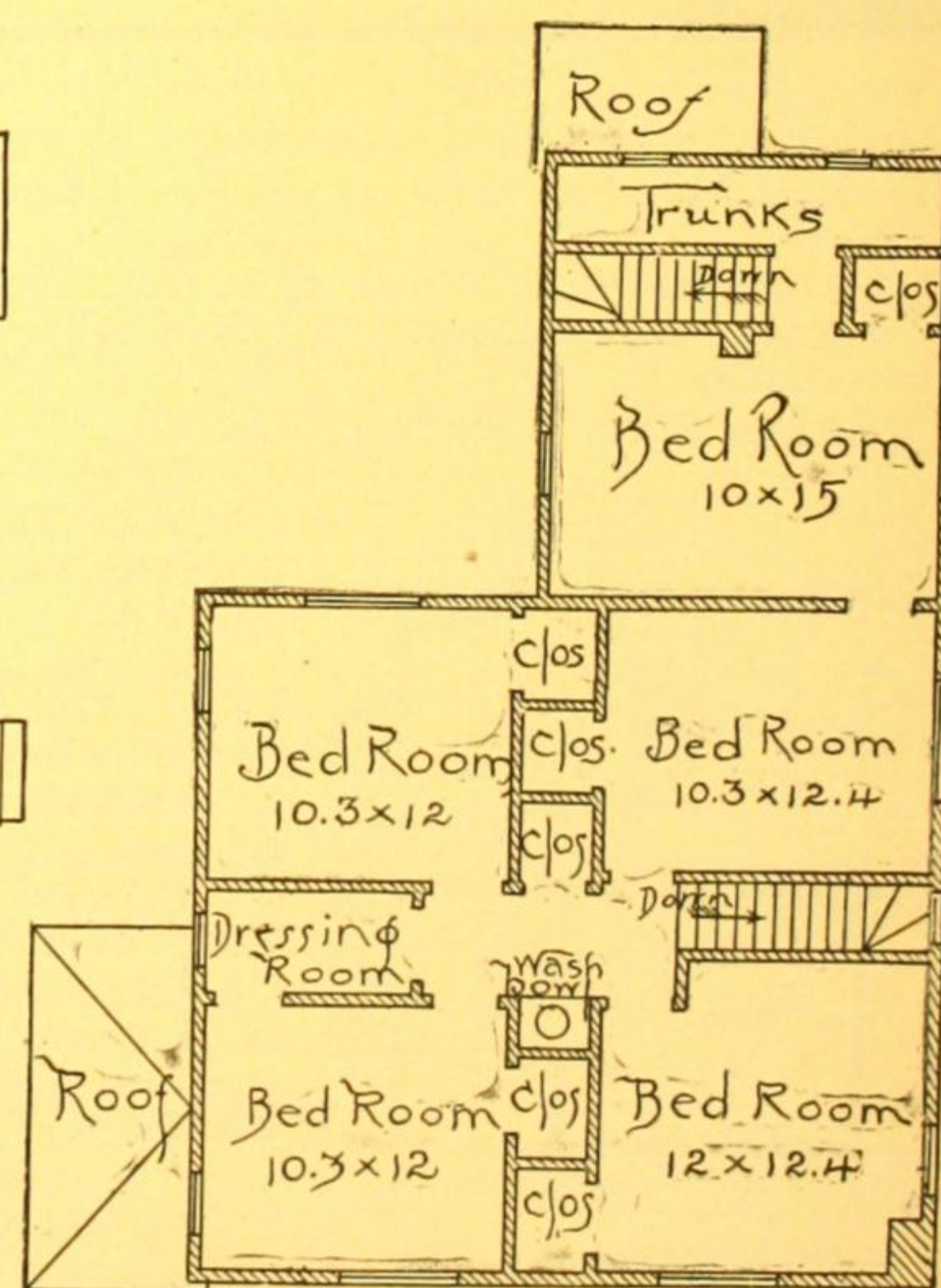
This design is for a summer seaside cottage. It is neither lathed nor plastered. The frame-work is covered on the inside with heavy paper, or "plaster board," as it is called. The second-story partitions extend to a height of eight feet, and as there is no attic floor, it leaves a fine, cool air space over all the bedrooms. An attic floor placed on the top of these partitions would secure greater privacy, and this can be done if preferred.

Properly stained and painted, it presents a very quaint and pretty appearance.

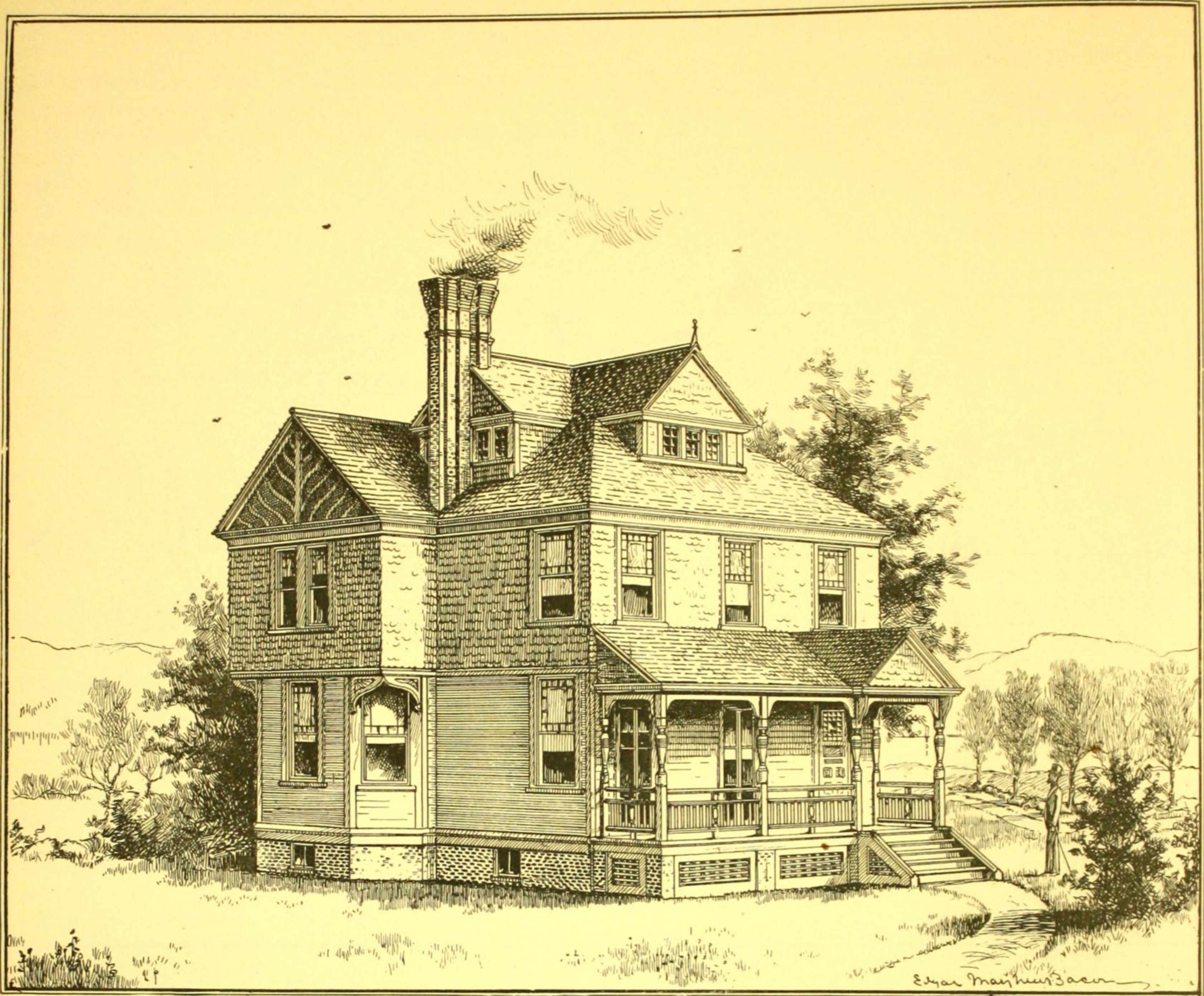
There is very little work for the mason, and none for the plasterer. The finish is plain but substantial, as is most becoming for the purpose, and no expensive labor is required anywhere.



FIRST FLOOR. NO. 263



SECOND FLOOR. NO. 263

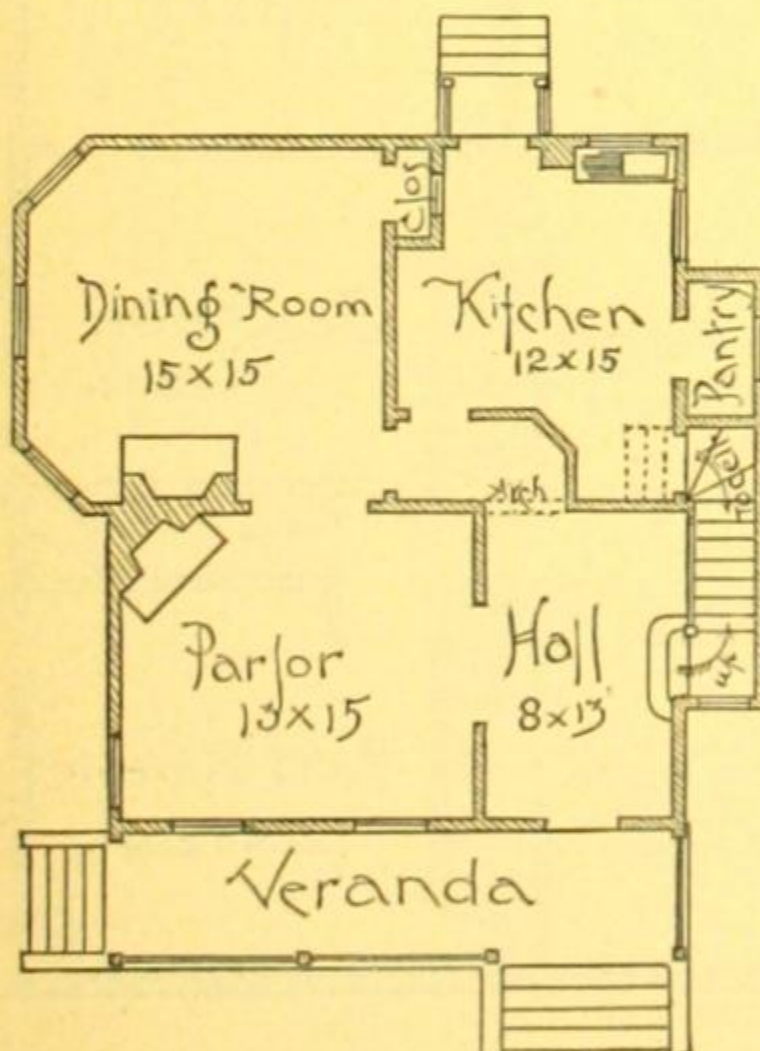


DESIGN No. 264. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 264

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; including stair annex and dining-room bay, 32 ft. Side, 29 ft., 6 in., not including front veranda.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 264

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 3 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timbered and shingled; Roof, shingled.

COST: \$2,000, complete, except mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most

other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

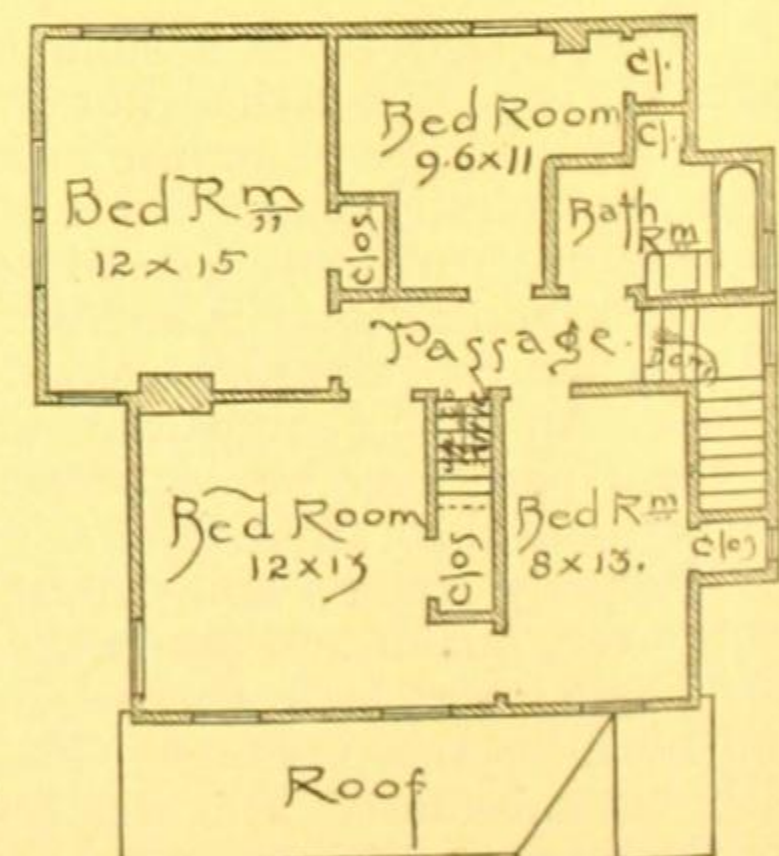
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house. Two large and well-lighted rooms in the attic.

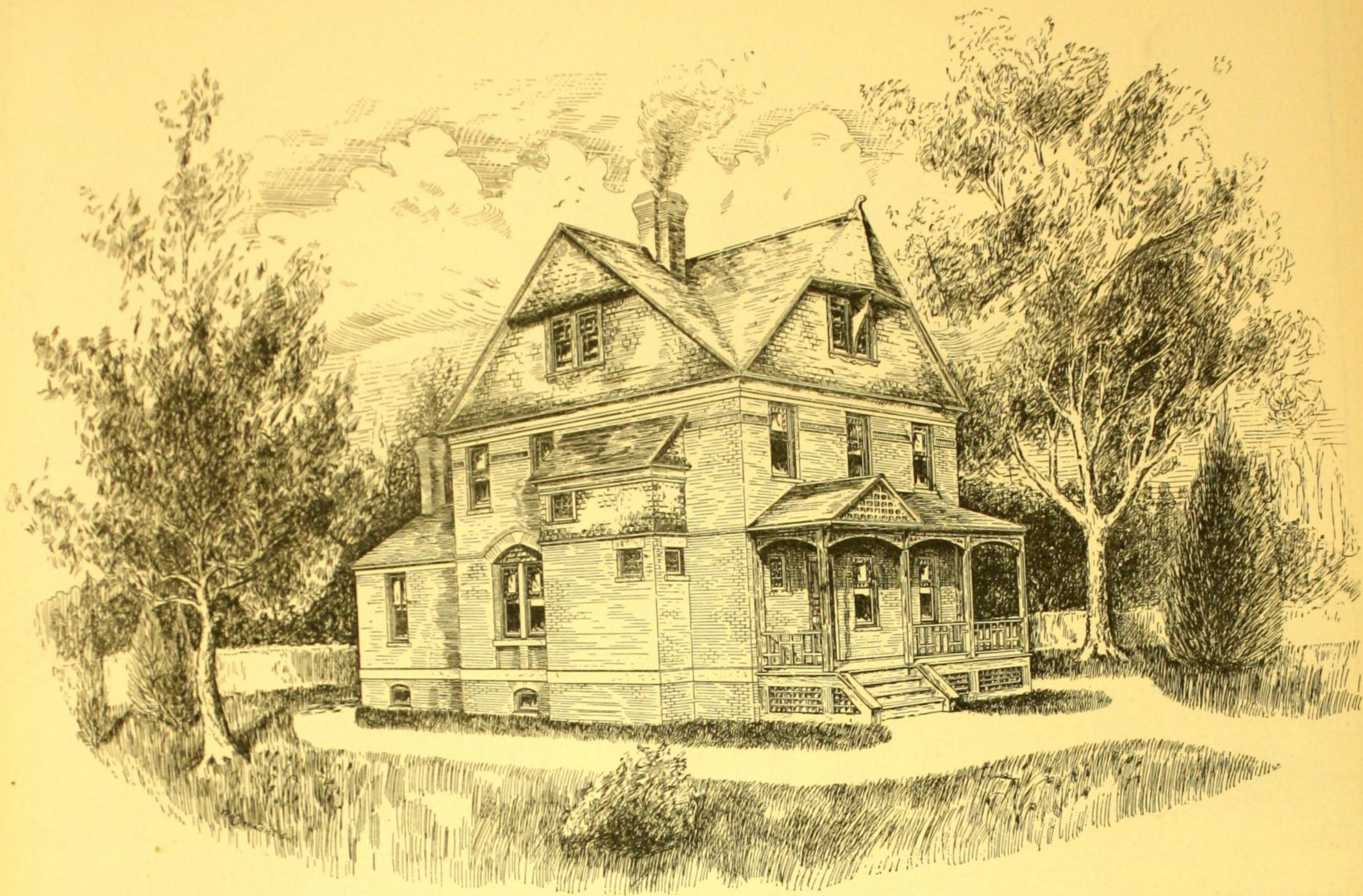
First story hall connects directly with the dining-room, the parlor and the kitchen.

Stairway to the cellar out of the kitchen and under the main stairway.

Stained-glass windows light the main hall; stained glass in upper part of the front door also.



SECOND FLOOR. NO. 264



DESIGN No. 265. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 265

SIZE OF STRUCTURE: Front, 25 ft.; with staircase annexed, 28 ft., 4 in. Side, 31 ft., and kitchen extension, 16 ft. Total depth, 47 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 6 in.; Second Story, 8 ft.; Third Story, 7 ft., 8 in.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Gables, shingles; Roof, shingles.

COST: \$2,800, complete, except mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies

cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

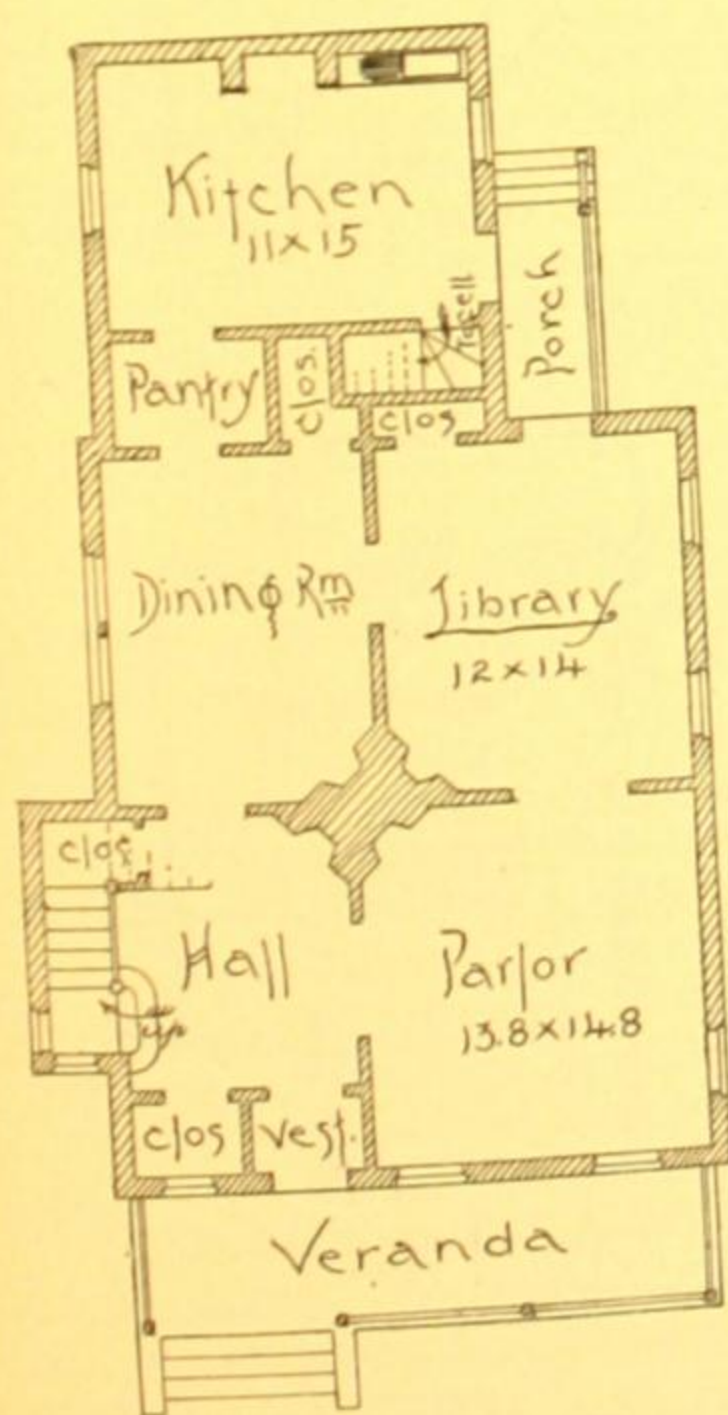
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is a modification in brick of the favorite design Number 255.

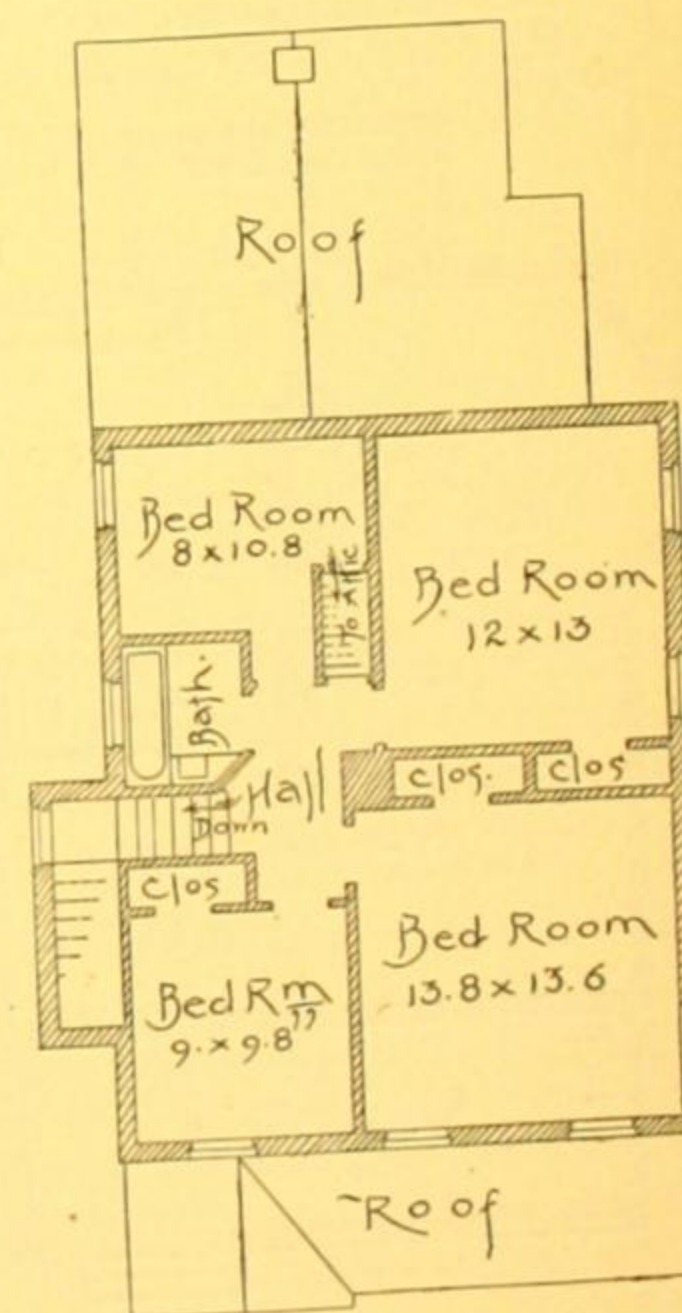
Cellar under the kitchen extension and half of the main house. Three good rooms in the attic beside storage space.

A fireplace in each of the four rooms in the first story.

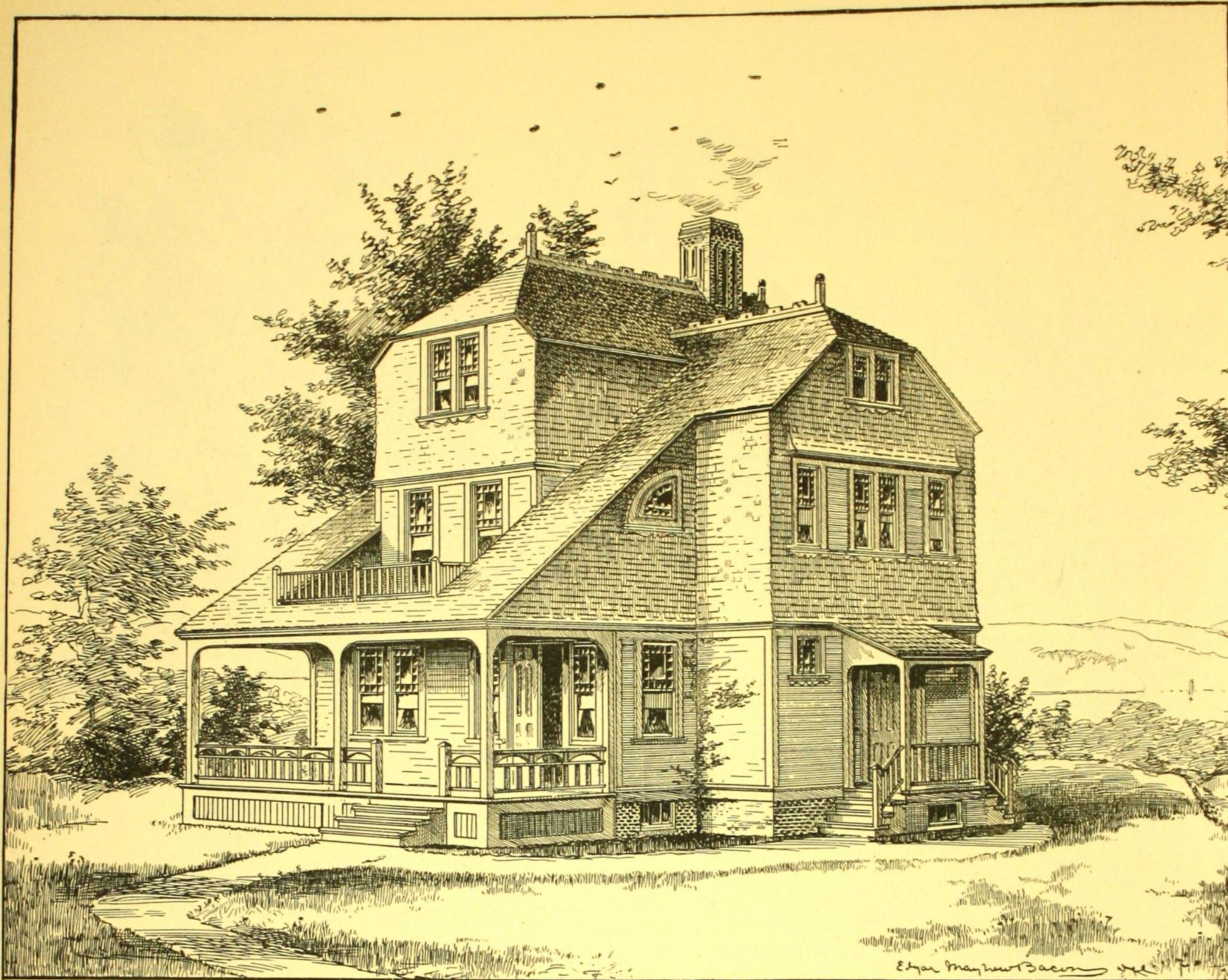
Heated by stoves or grates, but we will indicate location for furnace and registers if desired.



FIRST FLOOR. NO. 265



SECOND FLOOR. NO. 265



DESIGN No. 266. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 266

SIZE OF STRUCTURE: Front, 27 ft., 6 in.; including side porch, 33 ft. Side, 31 ft., 6 in.; including pantry and veranda, 47 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,700, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also

modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

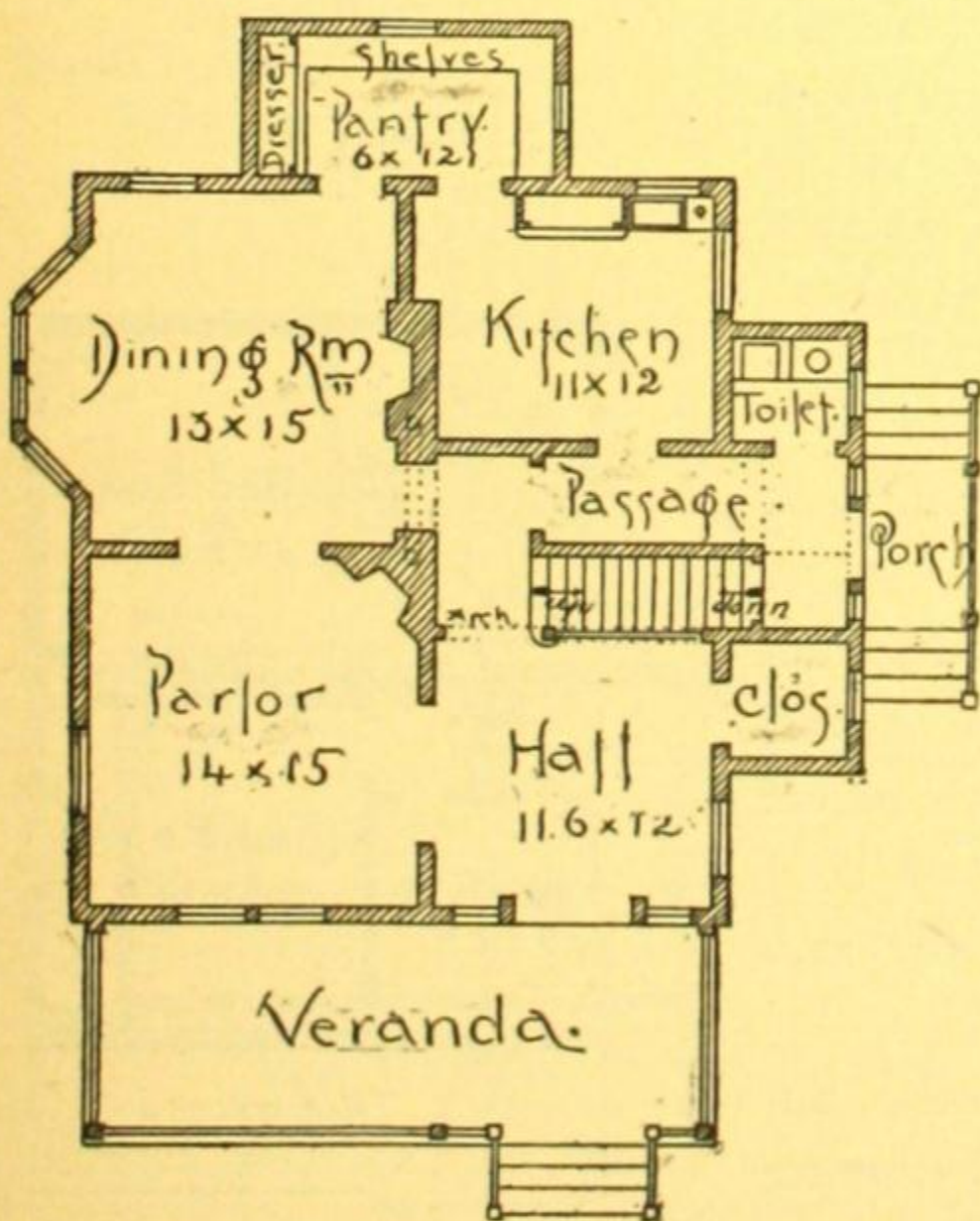
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under part of house only.

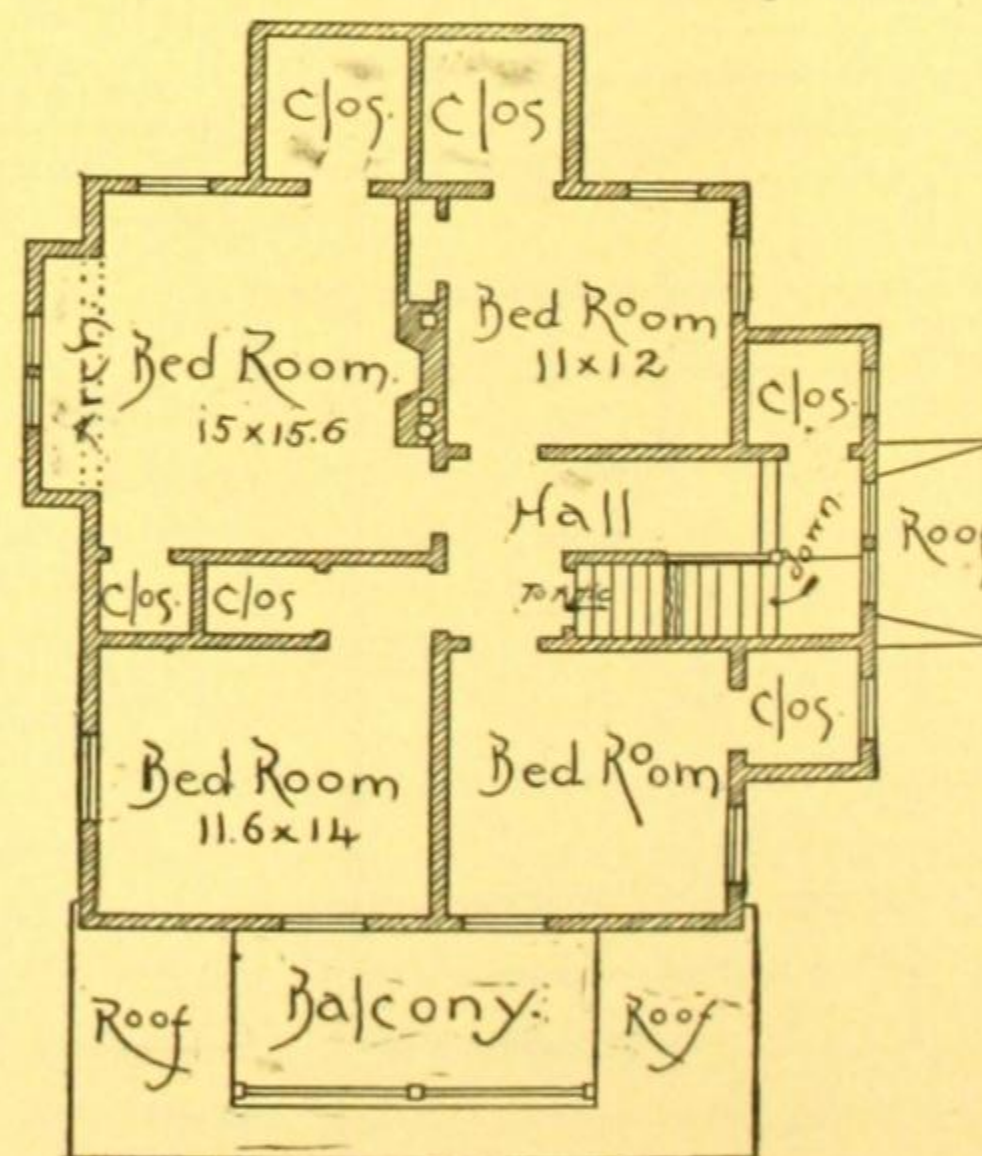
Two good rooms and plenty of store-room in the attic.

Toilet room on first floor, convenient to the stairway and to the side entrance.

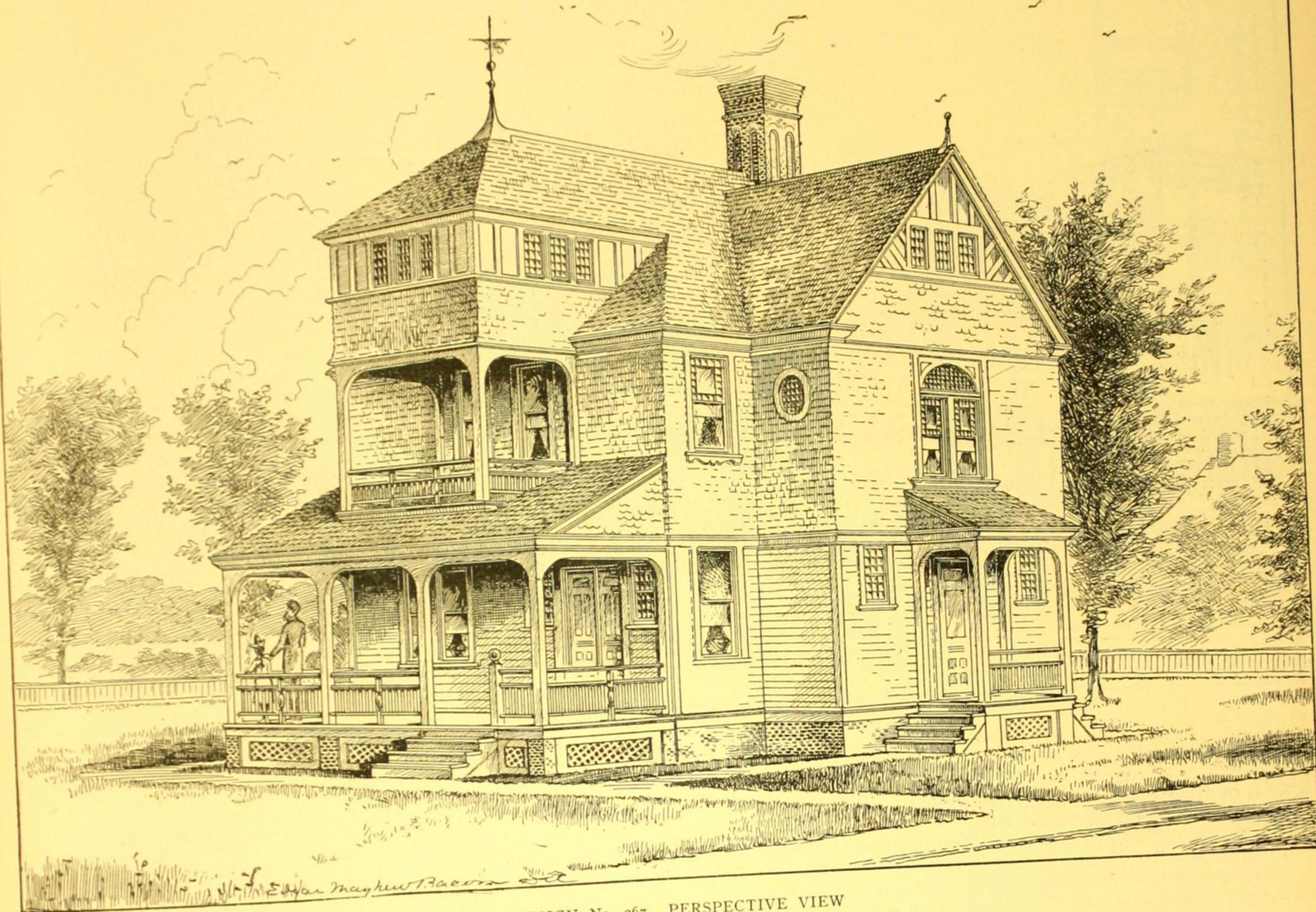
A good feature is the isolation of kitchen from the "living" part of house. The staircase, partly screened from the hall by an arch, is very pretty and attractive in execution.



FIRST FLOOR. NO. 266



SECOND FLOOR. NO. 266



DESIGN No. 267. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 267

COST: \$3,000, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

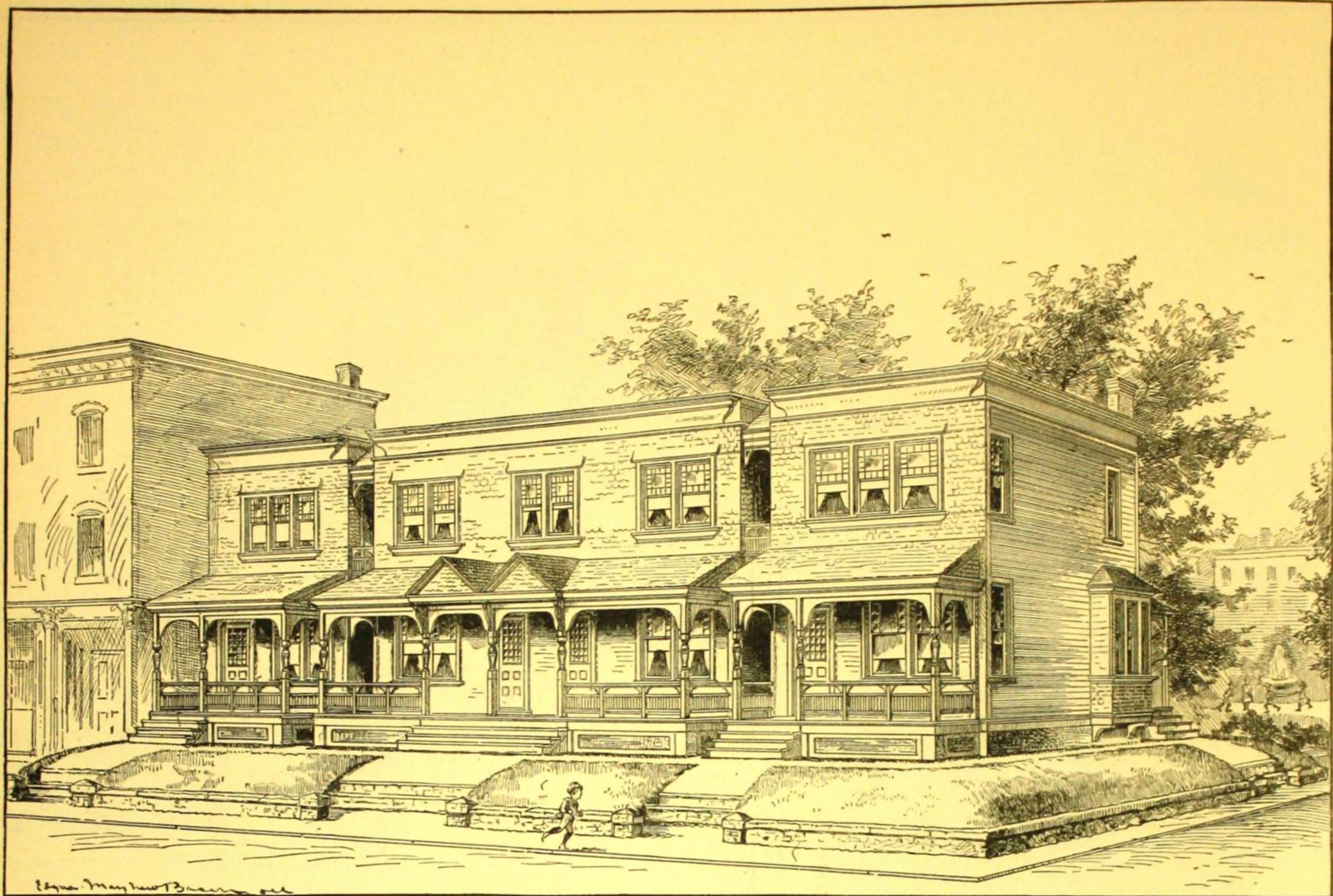
This is simply a modified exterior for the plans of Number 266. The balcony is covered and the front room in the attic enlarged, which is here large enough for a good billiard-room.

HINTS ON HEATING

LIGHT a fire in the sitting-room grate or stove and it will immediately commence to consume the air of the room, as well as the fuel: the fire must have a draught. As the air of the room is consumed, every cranny and window crevice, every door, even the little parting joints of the floors, contribute to the supply of air. The air thus contributed is cold, so we see that the lighting of our fire invited an attack from the freezing temperature that we wished to escape. This is quite observable when a fire is first lighted. For a few minutes the temperature is colder than before lighting. After a while the room may be so heated that the incoming cold air is seized and heated by the warm air before it has advanced far from the doors, windows and crevices. Then the room is comfortable—except near the fire, where it is too warm. Let the temperature be lowered a little, however, the cold air will advance; and retire again before a higher temperature. Thus it advances and retreats, but always keeps up a vigorous attack. The draughts and varying temperature cause colds and many disorders.

Take another method: Light a furnace fire in the basement, and send the hot air up to the sitting-room through a pipe. The hot air will immediately fly to the crannies and crevices, and seek to escape. It thus attacks and repels the cold air. The reason is, that there is no combustion going on in the sitting-room, and therefore no draught or consumption of air. The demand for air is in the basement, where it should be supplied to the furnace pure and direct from outside of the house.

These comparative examples, which many have observed for themselves, point very emphatically to the use of basement furnaces for heating. We could give them our unqualified approval (in conjunction with fireplaces to insure ventilation), if it were not for the devitalized air that often comes from overheated metal. We would like to see some manufacturer put into practical shape a clay-heating surface for ordinary furnaces. It has been thoroughly demonstrated that a fire-clay heating surface always gives off a pure and balmy air.



ROW OF VILLAGE HOUSES. DESIGN No. 268. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 268

SIZE OF STRUCTURE: Front, 75 ft. Side, 43 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards, except in front, which is shingled; Roof, tin.

COST: \$1,800 for each house complete, except kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some

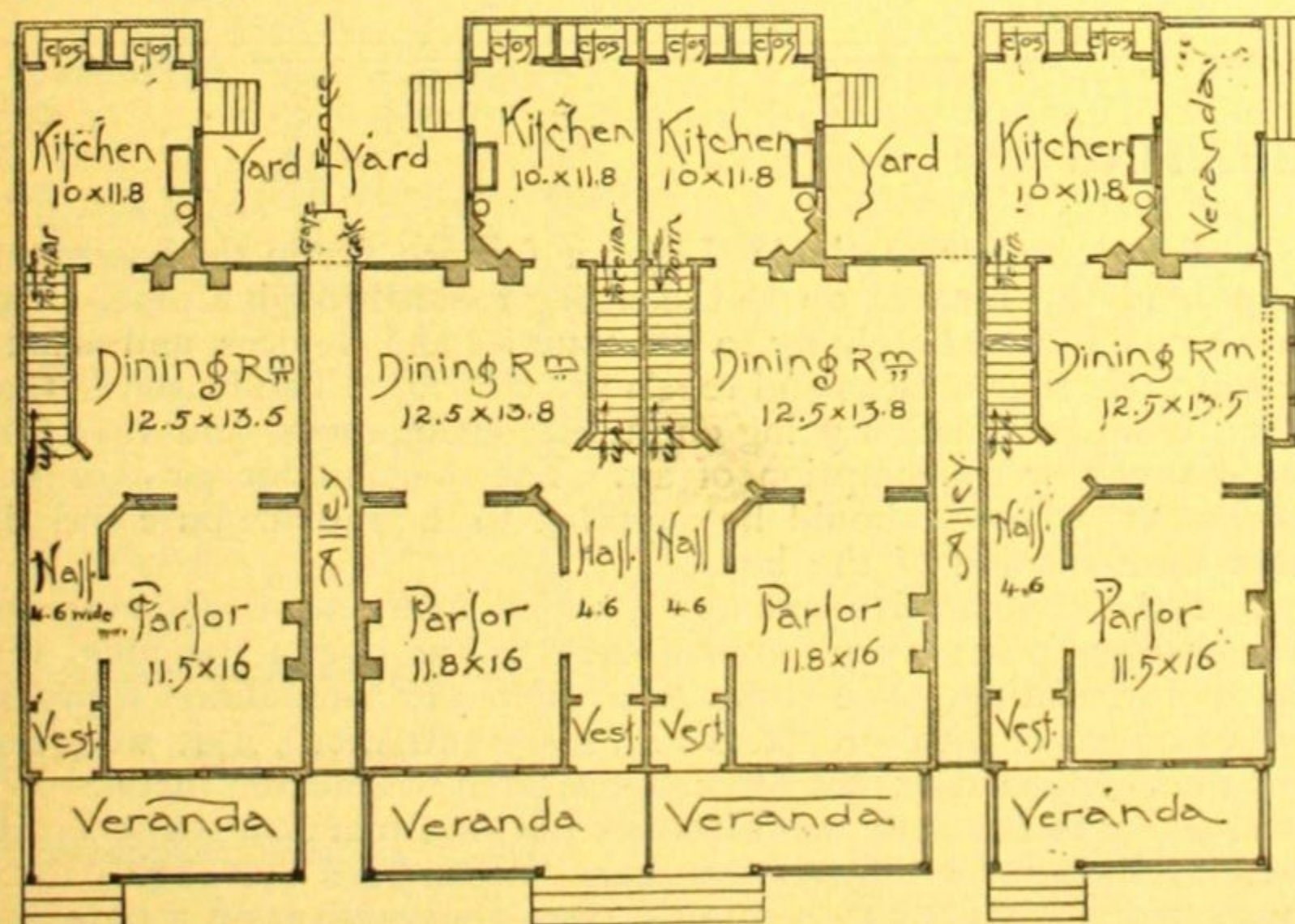
places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

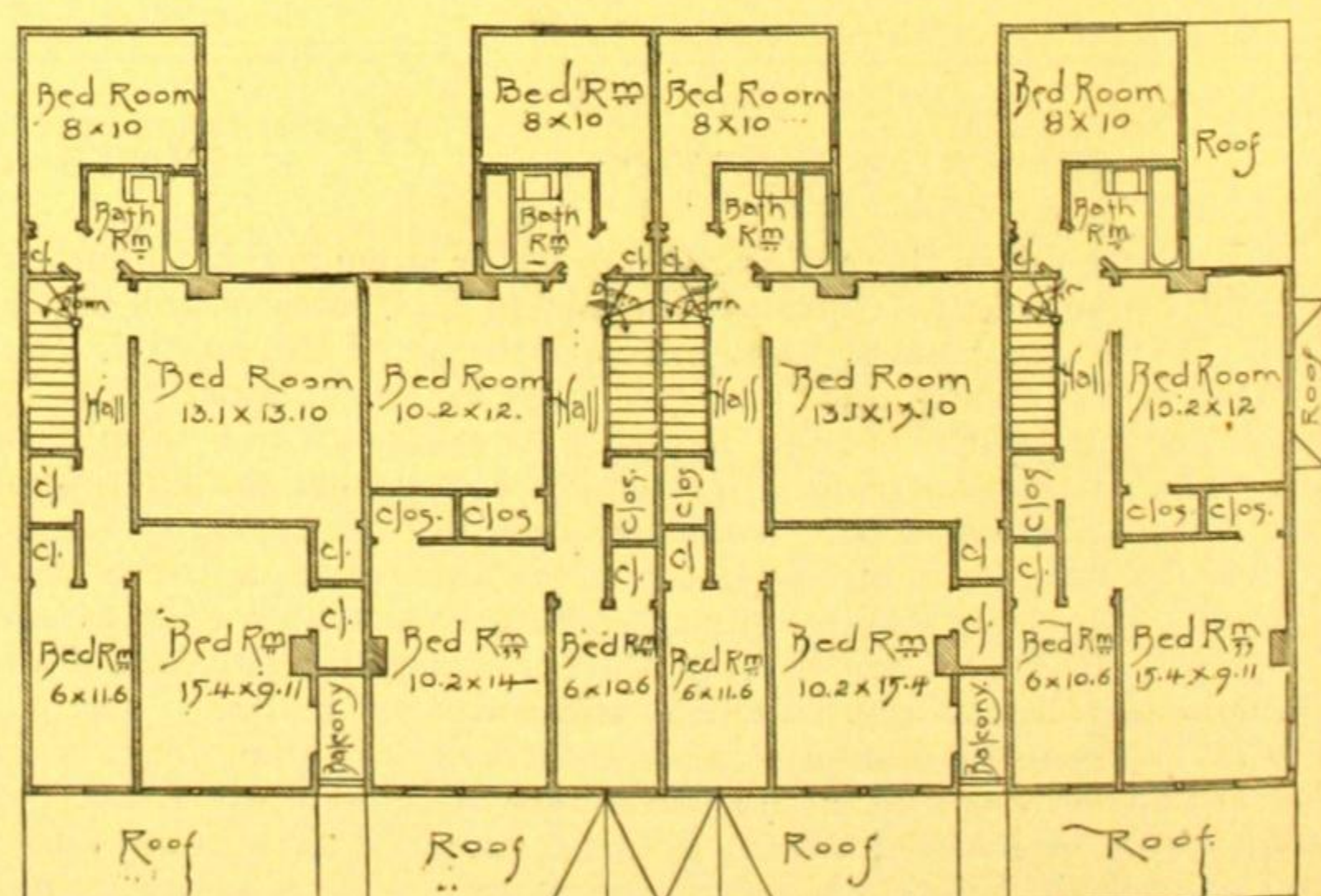
SPECIAL FEATURES.—Alley-ways, 2 ft. 8 in. wide, afford access to the rear doors and backyards of three of the houses. The rear door of the fourth or corner house is reached from the side street.

The second stories of two of the houses are enlarged by being built over the alley-ways.

The capitalist who builds houses of this size and class makes a good investment.

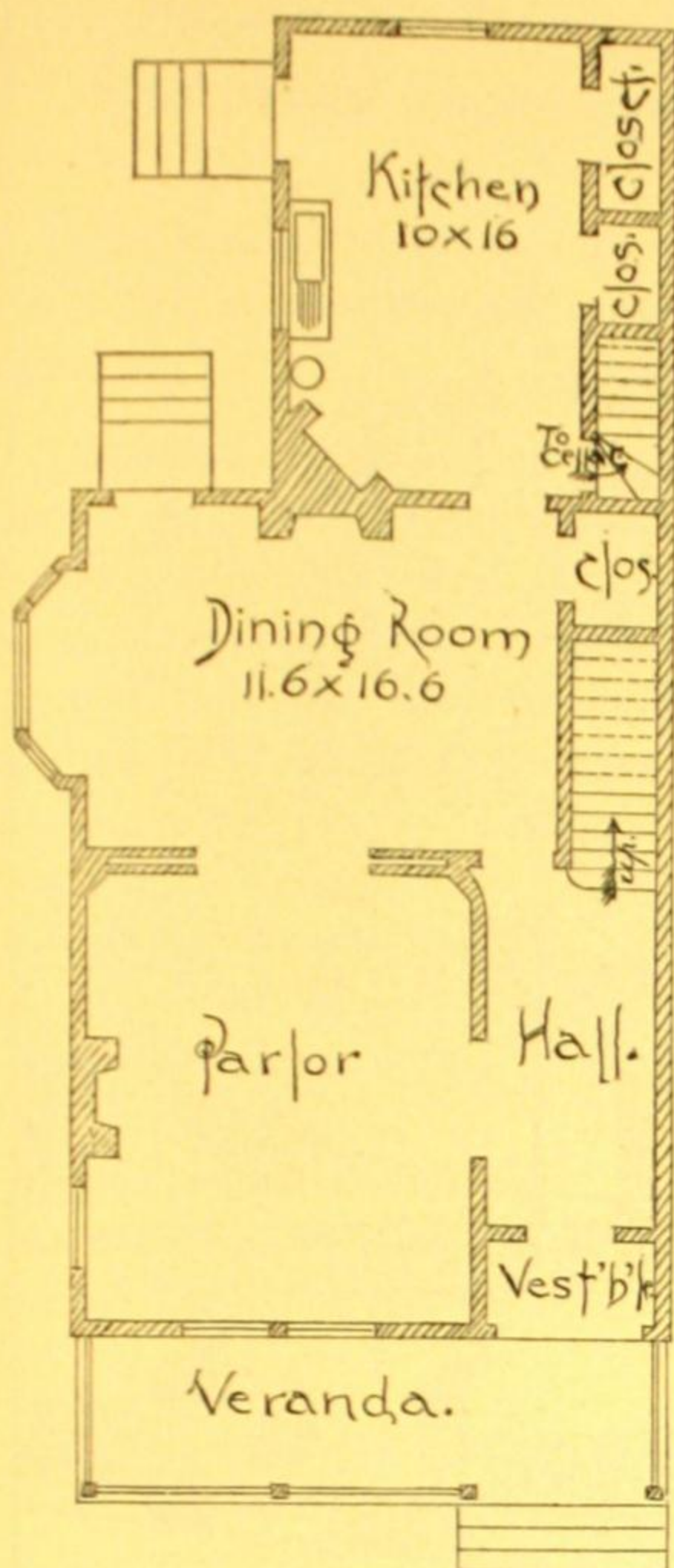


FIRST FLOORS. NO. 268



SECOND FLOORS. NO. 268

DESCRIPTION OF DESIGN NUMBER 269



FIRST FLOOR. NO. 269

SIZE OF STRUCTURE: Front, 21 ft.; including bay-window, 23 ft., 6 in. Side, 45 ft., 10 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles (front); all the other parts clapboards; Roof, tin.

COST: \$2,000, complete, except kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

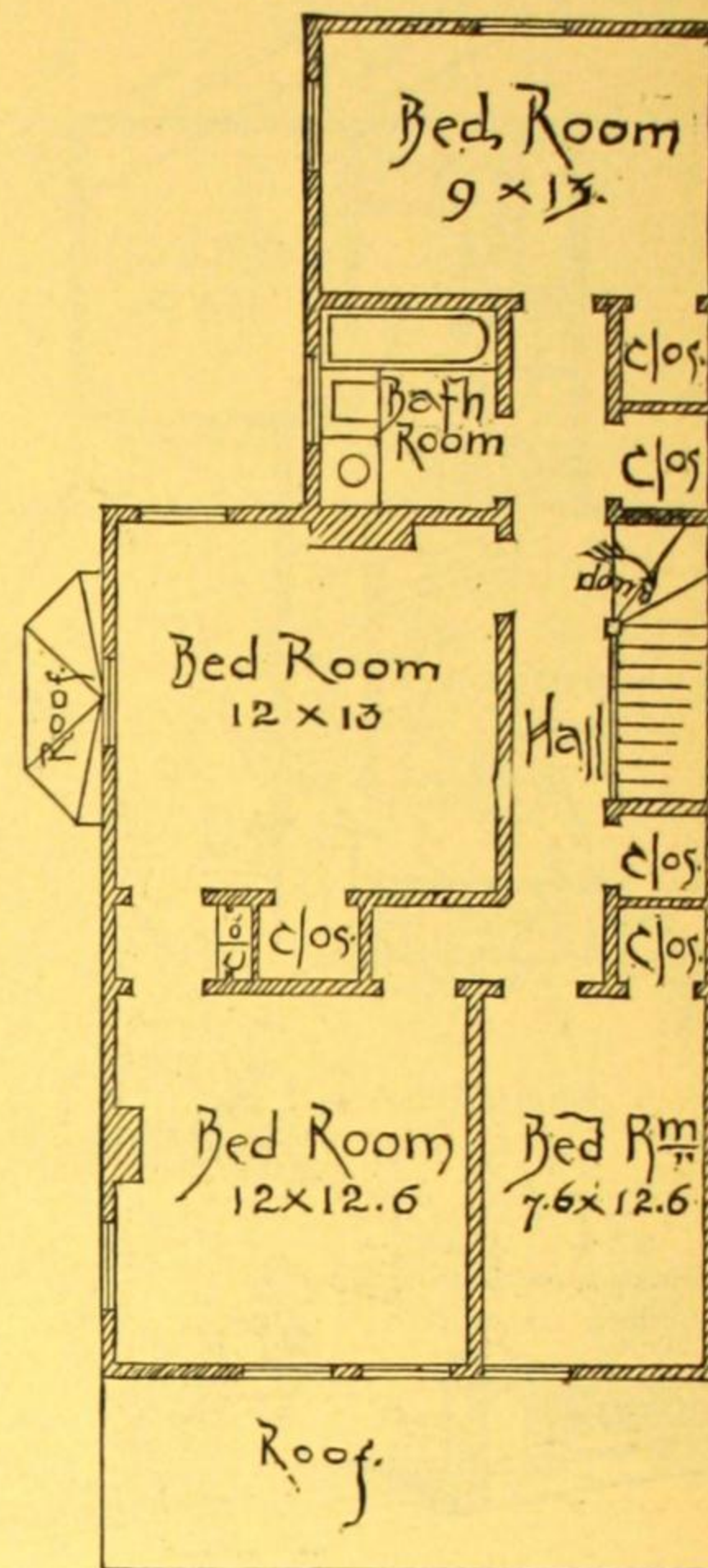
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior is in the same style as shown by the row of village houses on the preceding page.

Suitable for a narrow city lot.

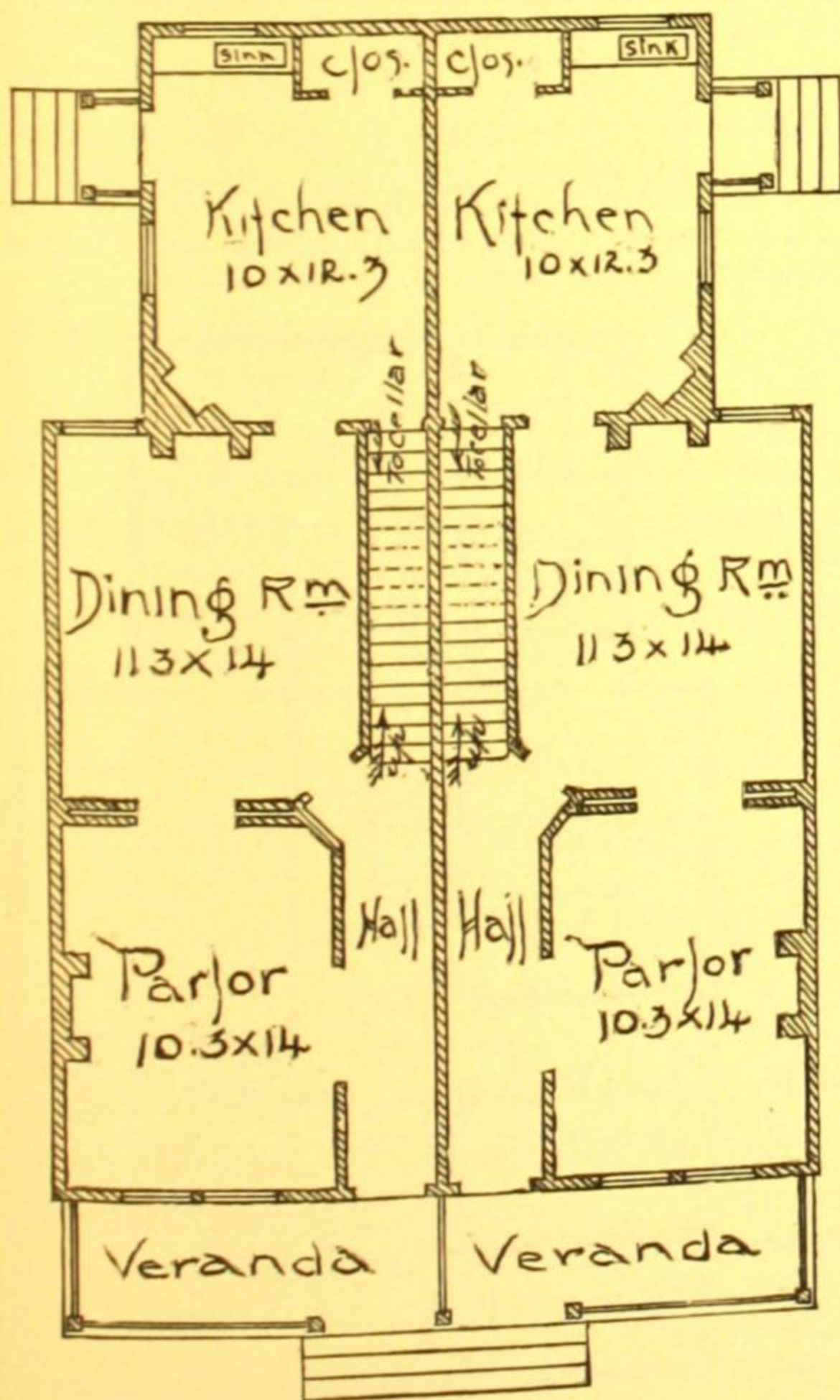
Cellar under the whole house. Laundry in the basement.

There is sufficient air space over the second-floor ceiling to ensure cool rooms.



SECOND FLOOR. NO. 269

DESCRIPTION OF DESIGN NUMBER 270



FIRST FLOORS. NO. 270

SIZE OF STRUCTURE: Front, 29 ft., 6 in. Side, 44 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 9 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles (in front); Roof, tin.

COST: \$3,200, complete, except mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

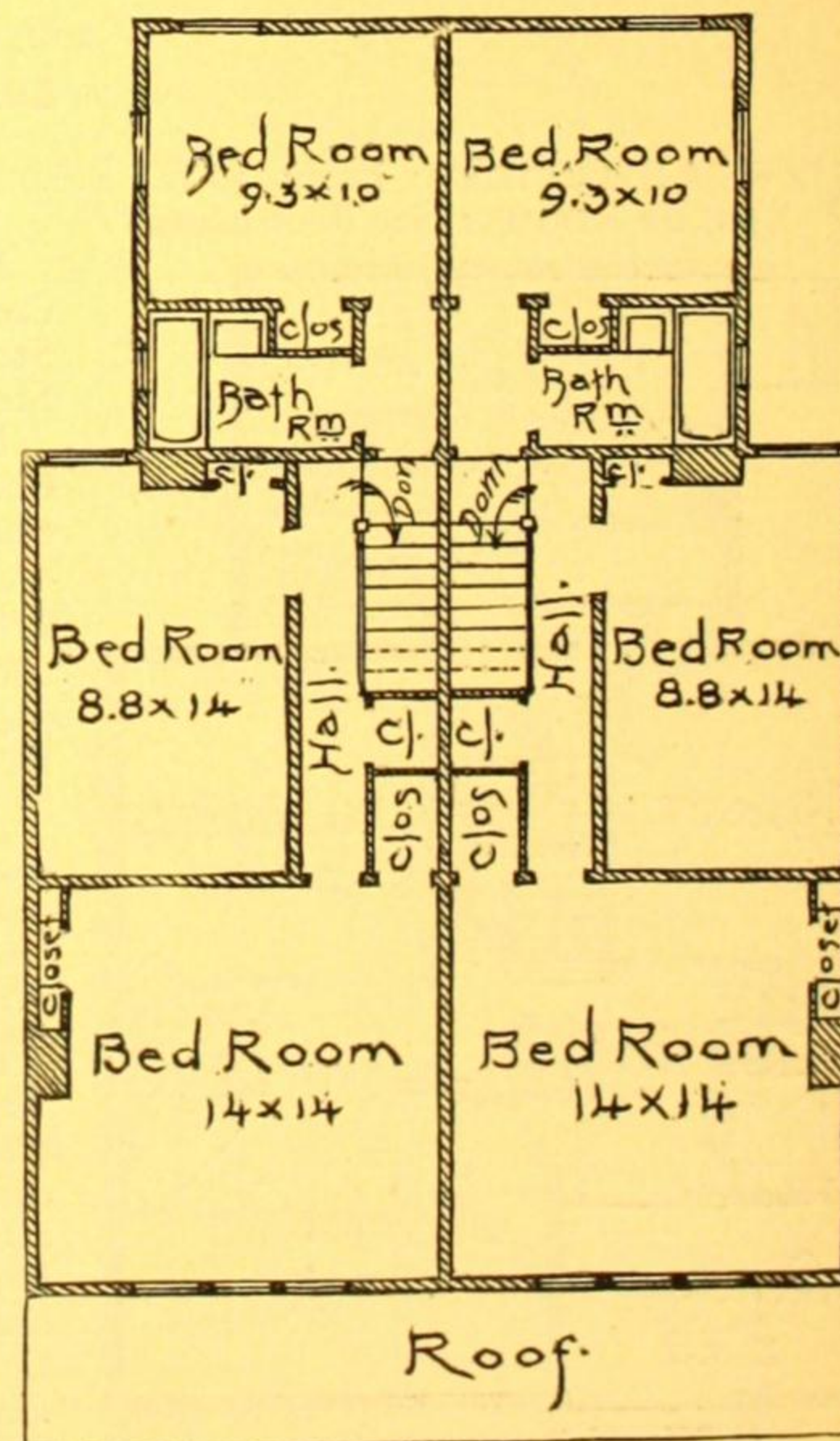
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Double house, with exterior much the same style as the row of village houses on the opposite page.

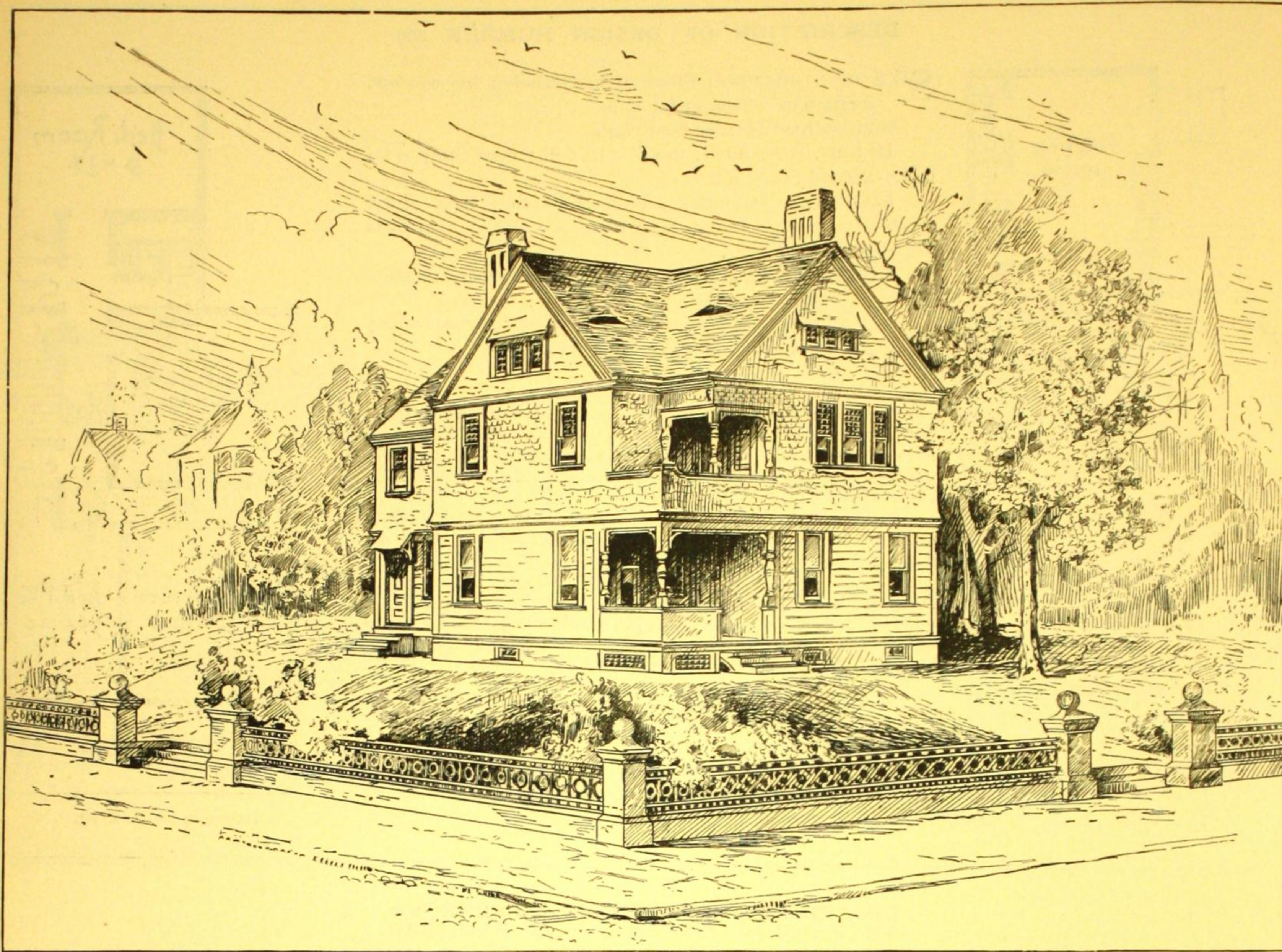
Cellar under the whole house. Laundry under the kitchen extension.

Suitable for two narrow city or town lots, leaving wide alley-ways at the side of each house.

A very good investment to build and rent.



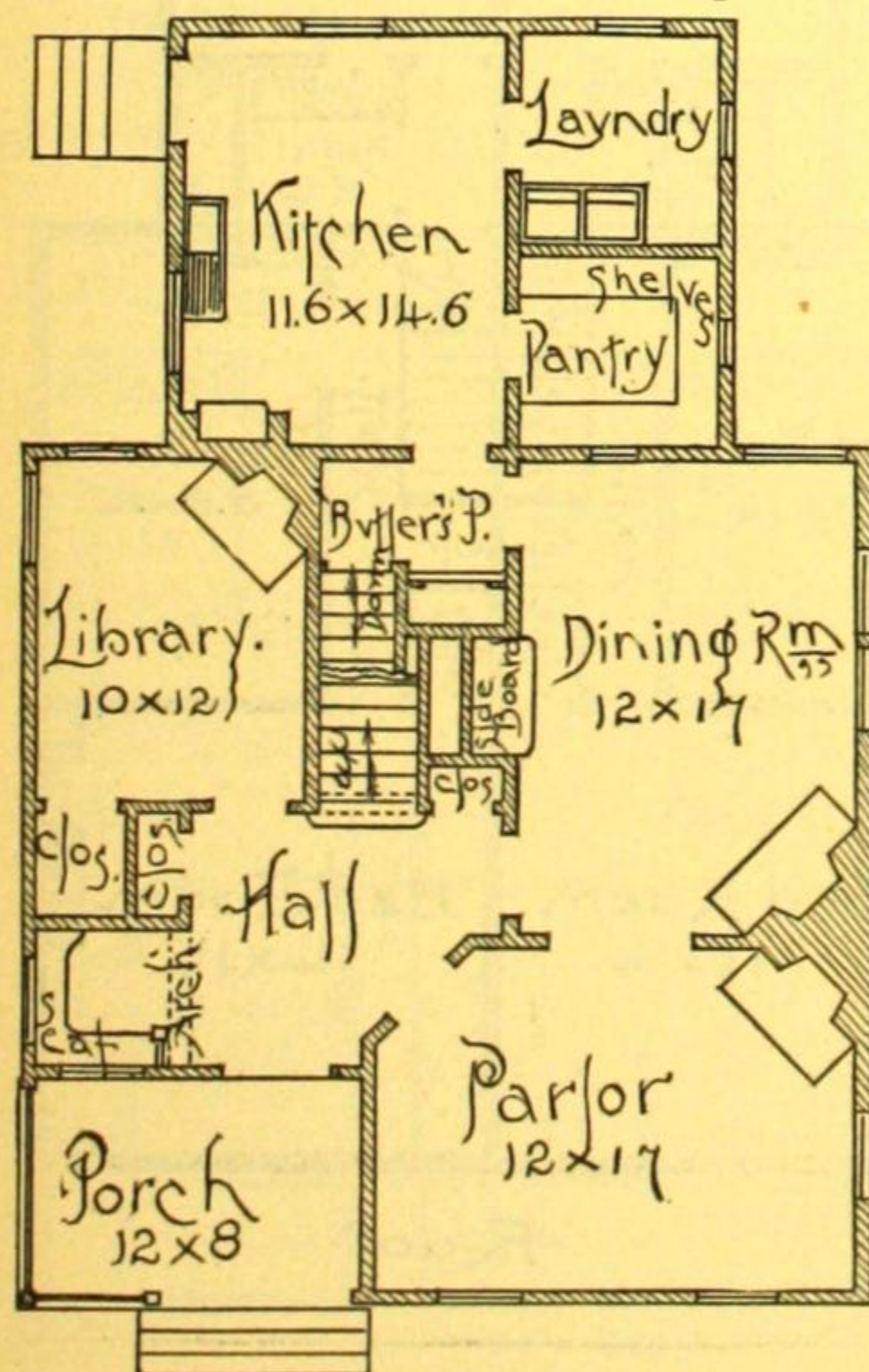
SECOND FLOORS. NO. 270



DESIGN No. 271. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 271

SIZE OF STRUCTURE: Front, 30 ft. Side, 45 ft., 6 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 271

HEIGHT OF STORIES:
 Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The arrangement of floor plans is simple and very compact, giving liberal accommodations for a large family, although the house is not a large one. Closets are numerous and large.

The library, having no connection with the other

rooms, affords complete seclusion for a professional man, or one who has much writing to do; being provided with a fireplace, it makes a very cheerful and comfortable room.

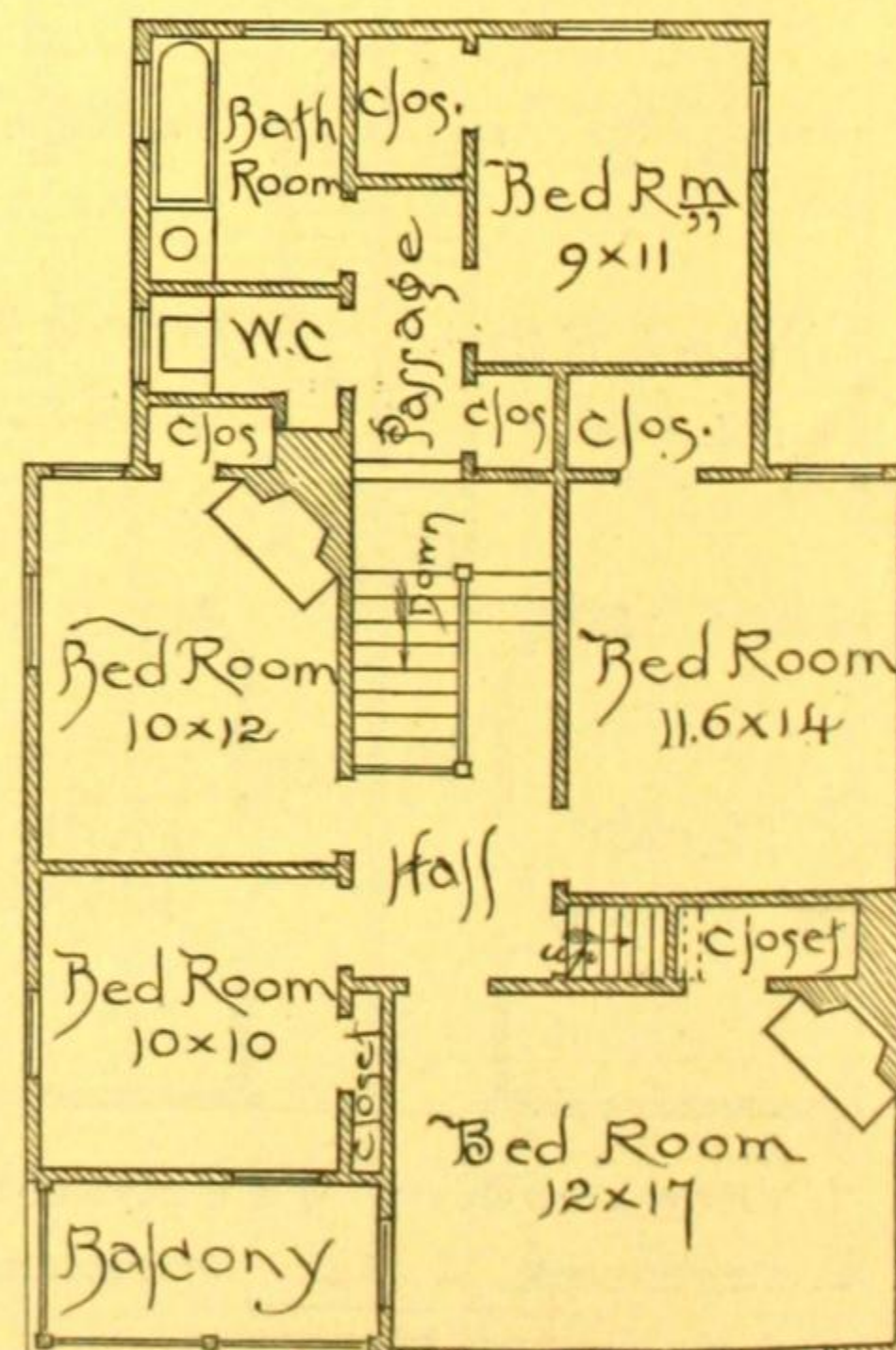
The stairs go up between two partitions, but as they are wide and of easy rise, this is not objectionable; they are not closed off at the bottom, but project slightly into the hall. The stairs and upper hall are lighted by a skylight. A sideboard is built into an arched recess of the dining-room.

The second story gives five good bed-rooms, and two or three can be finished in the attic.

A sensible feature is the separation of the water-closet from the bath-room.

Cellar under the main house; the stairs descend under the main staircase from the butler's pantry.

A curtain is used between the parlor and dining-room.



SECOND FLOOR. NO. 271

DESCRIPTION OF DESIGN NUMBER 272

COST : \$3,200, complete, except range and mantels.

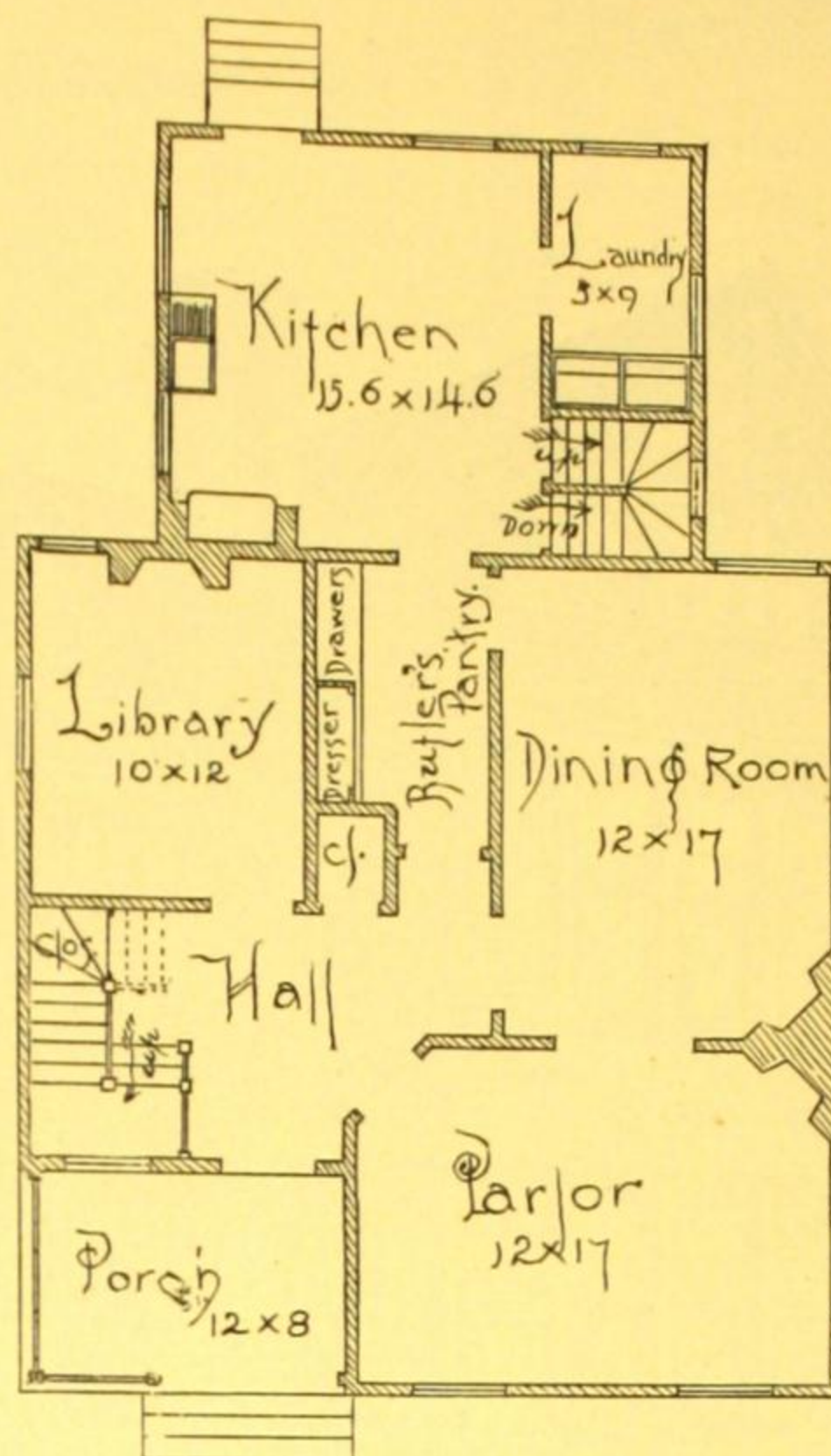
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

This is a modification of design Number 271, the size of the house, height of stories and exterior appearance being the same. The staircase, instead of being in the centre of the house, as in Number 271, is made a feature of the front hall; the space thus vacated between the library and the dining-room is utilized as a large butler's pantry and hall closet.

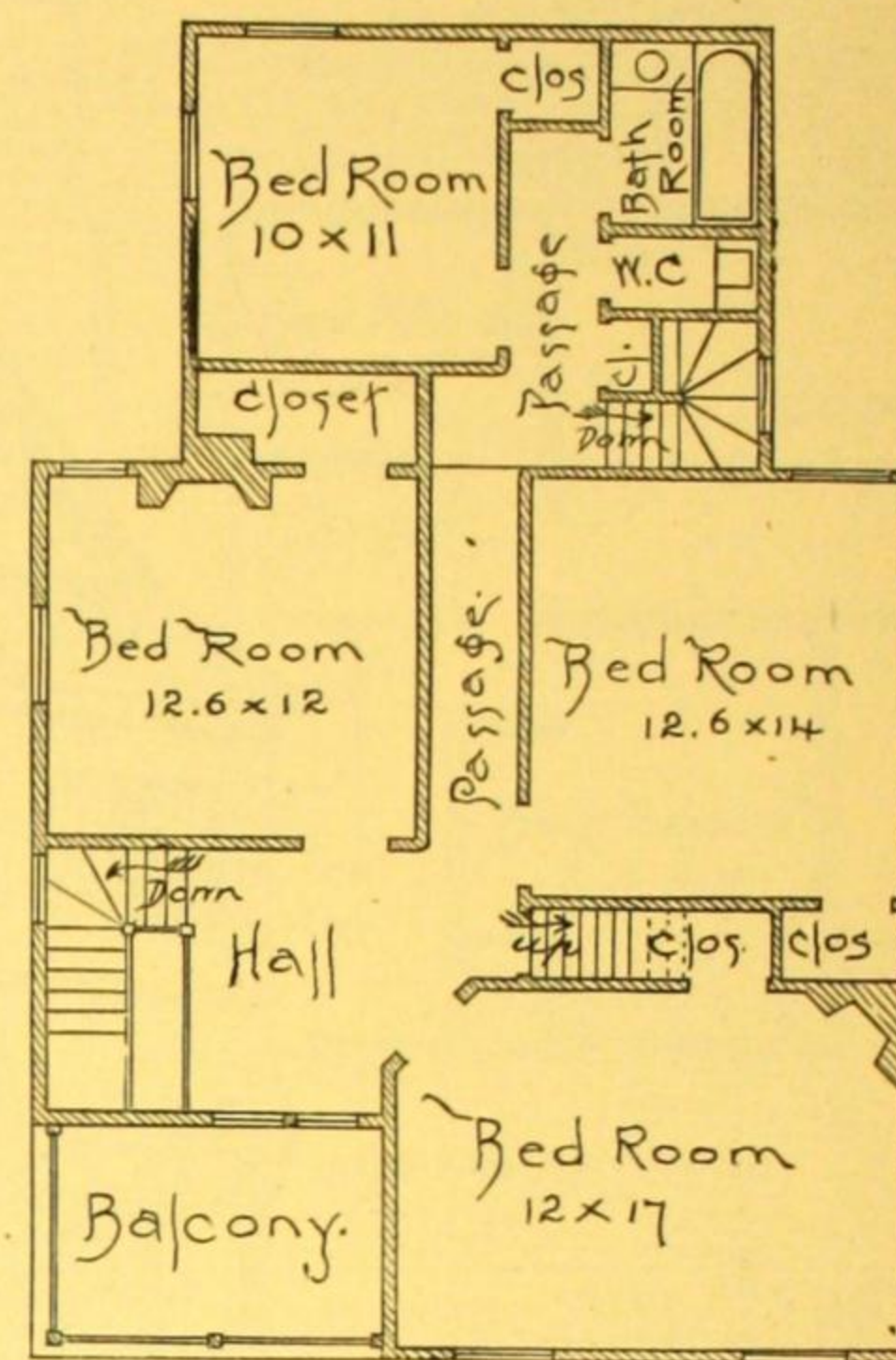
This arrangement loses one bed-room in the second story, but it enlarges two others.

A servants' stairway from the kitchen to the second story is provided, and under it is the stair to the cellar.

The entrance hall is quite large. The pretty staircase makes it one of the most attractive parts of the house. The cellar extends under the whole house.



FIRST FLOOR. NO. 272



SECOND FLOOR. NO. 272

DESCRIPTION OF DESIGN NUMBER 273

COST : Same as design Number 272.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

This is another modification of design Number 271, the size and the general appearance being the same.

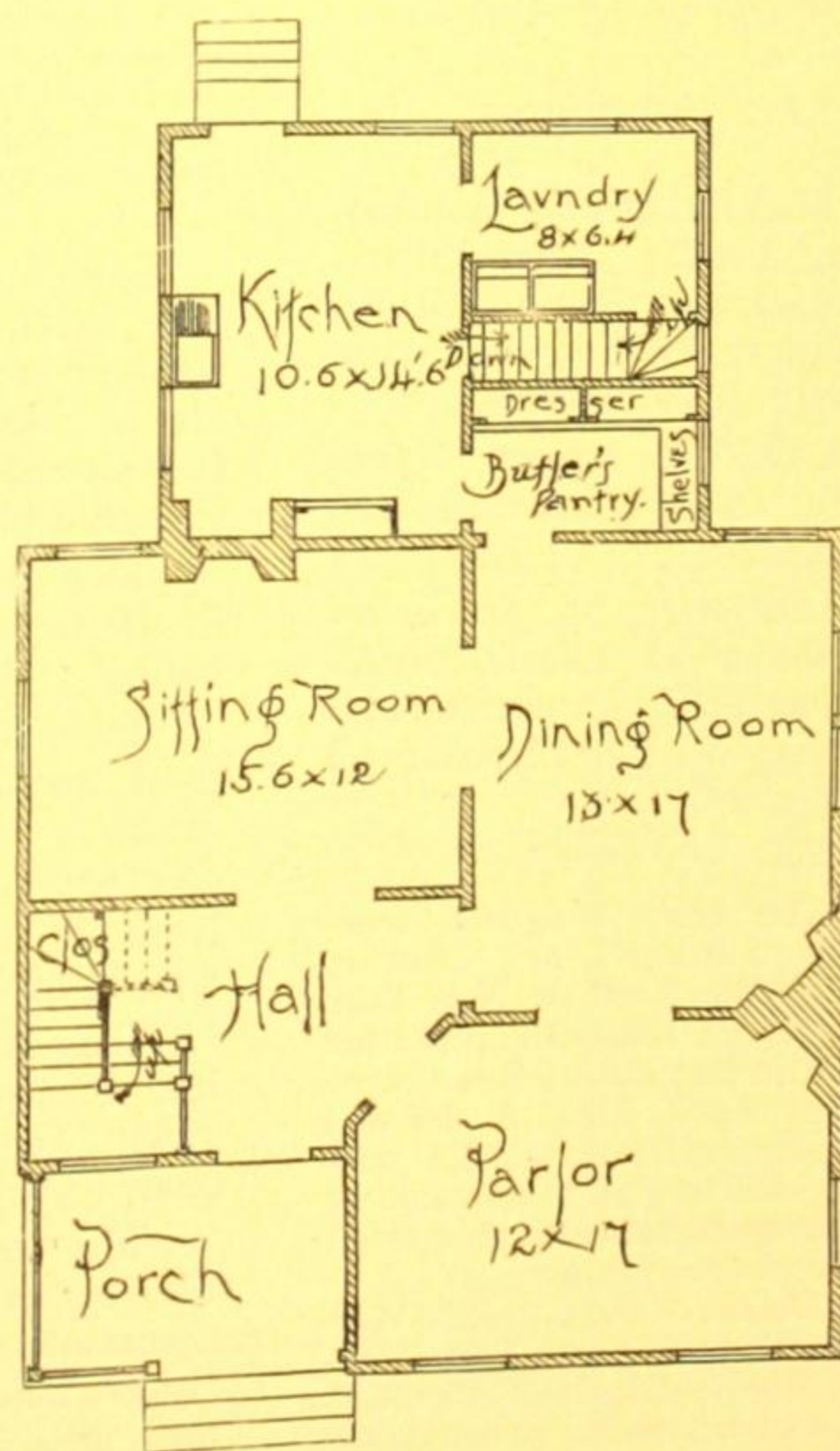
The arrangement of the front hall and staircase is the same as in Number 272, but the butler's pantry in the latter design is done away with, and the space thus gained is given to the sitting-room, which is connected with the dining-room and the hall by large openings intended for double doors or portières.

There is a large butler's pantry in the extension, also a laundry and a rear stairway to the second floor.

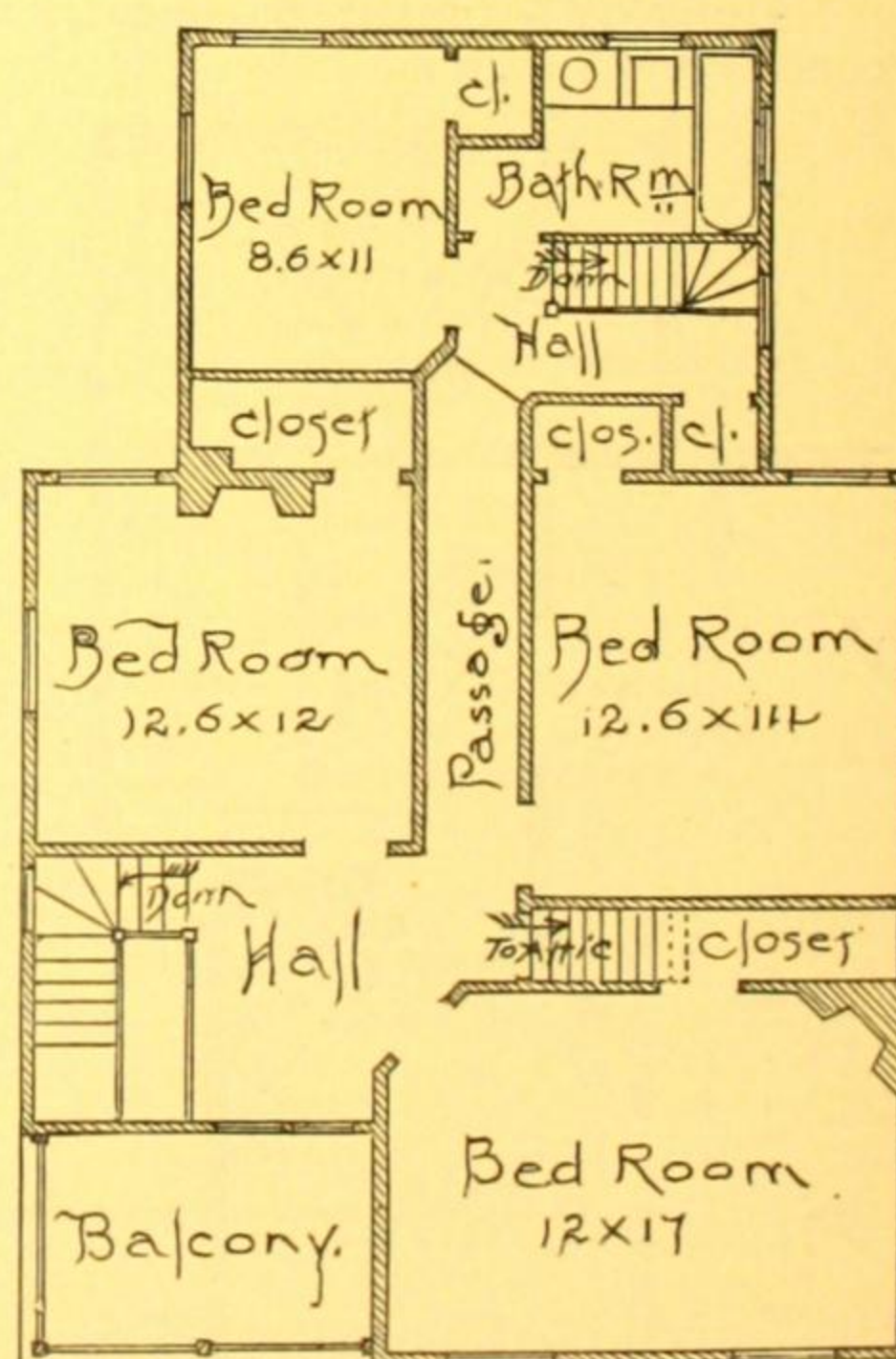
Fireplaces are provided in the parlor, the dining-room and the sitting-room; also in two bed-rooms on

the second floor. This house may be heated by a furnace in the cellar or by fireplace heaters on the first floor. Two of the latter (one in the parlor and one in the sitting-room) would heat the rooms of the first floor and the bed-rooms above. If a furnace is used the open fireplaces should be retained as very useful auxiliaries, and to furnish proper ventilation.

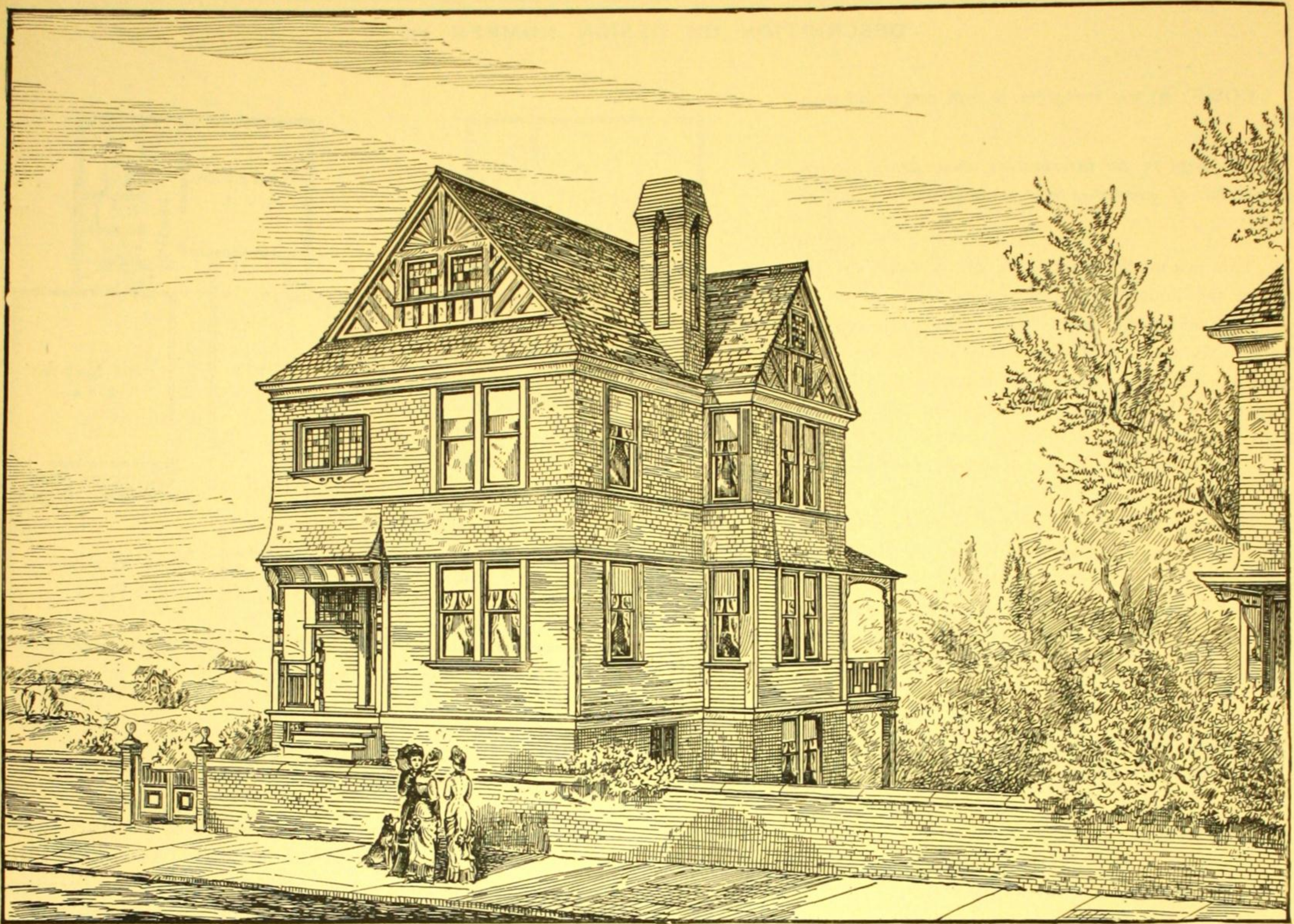
Cellar under the whole house.



FIRST FLOOR. NO. 273



SECOND FLOOR. NO. 273



DESIGN No. 274. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 274

SIZE OF STRUCTURE: Front, 21 ft., 8 in. Side, 29 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Basement, 8 ft., 2 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$2,400, complete, except mantels and heaters.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beau-

ty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The kitchen, dining-room, scullery and large closets are in the rear part of the basement, and are about on the grade level.

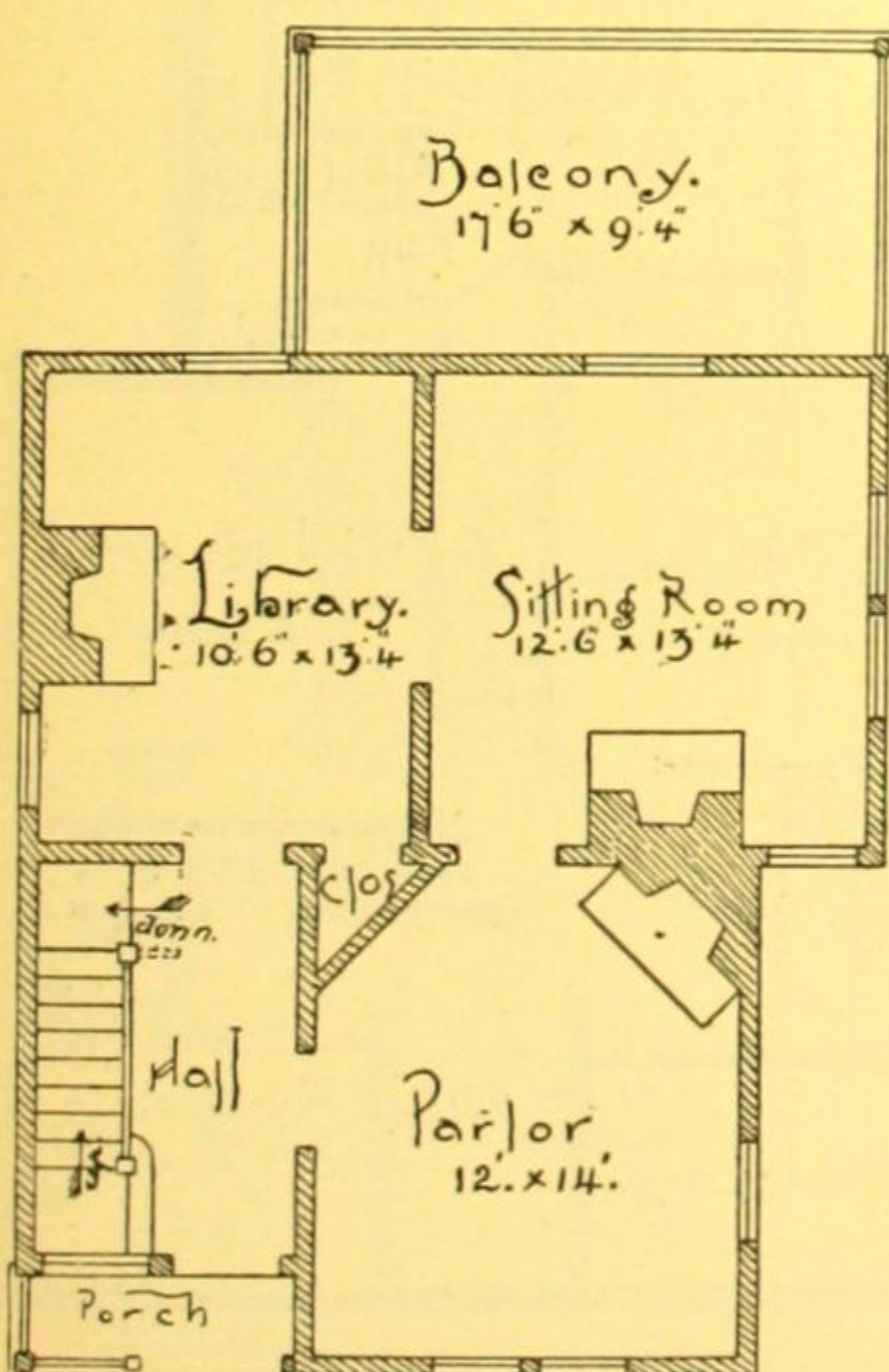
Two water-closets: one in the basement for the servants.

Two rooms and abundant storage-room in the attic.

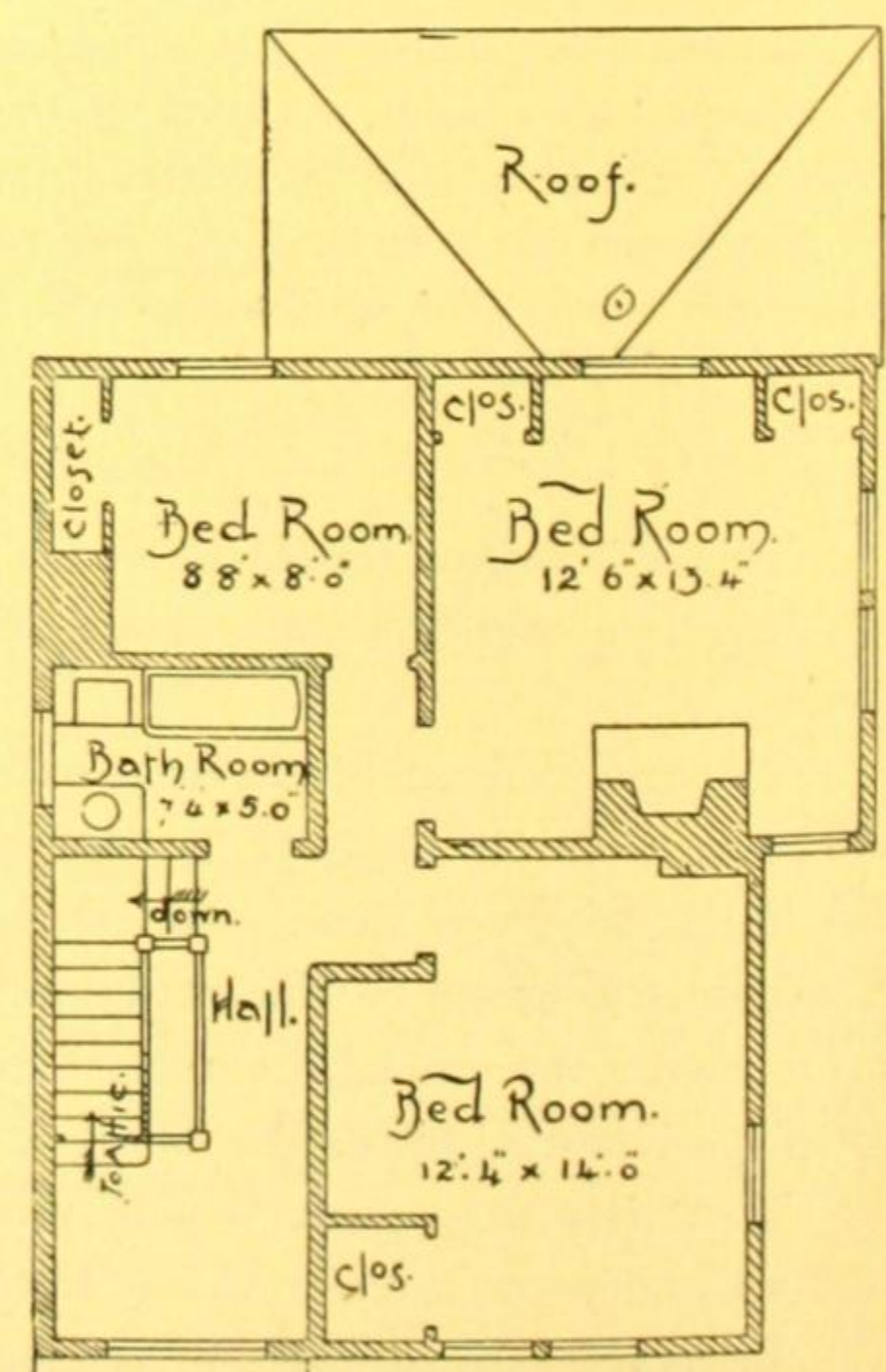
The cellar is under the front of the house, and is well lighted.

This is regarded a capital design for a lot the grade of which declines sharply toward the rear.

The large balcony at the rear of the sitting-room commands a fine view (where this house was built), and is a favorite place of resort in fine weather.



FIRST FLOOR. NO. 274



SECOND FLOOR. NO. 274

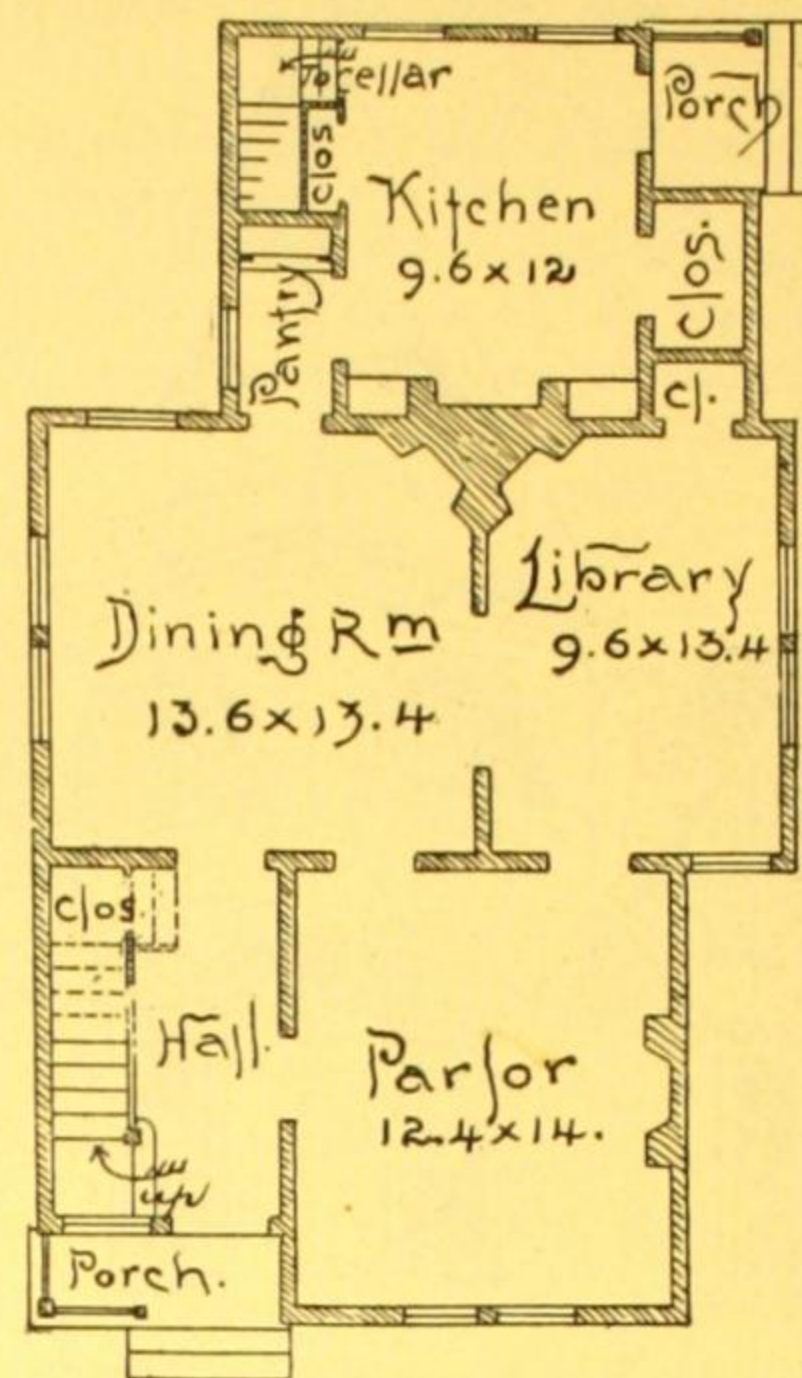
DESCRIPTION OF DESIGN NUMBER 275

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 41 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 6 in.
MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.
COST: \$2,500, complete, except mantels and range.
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

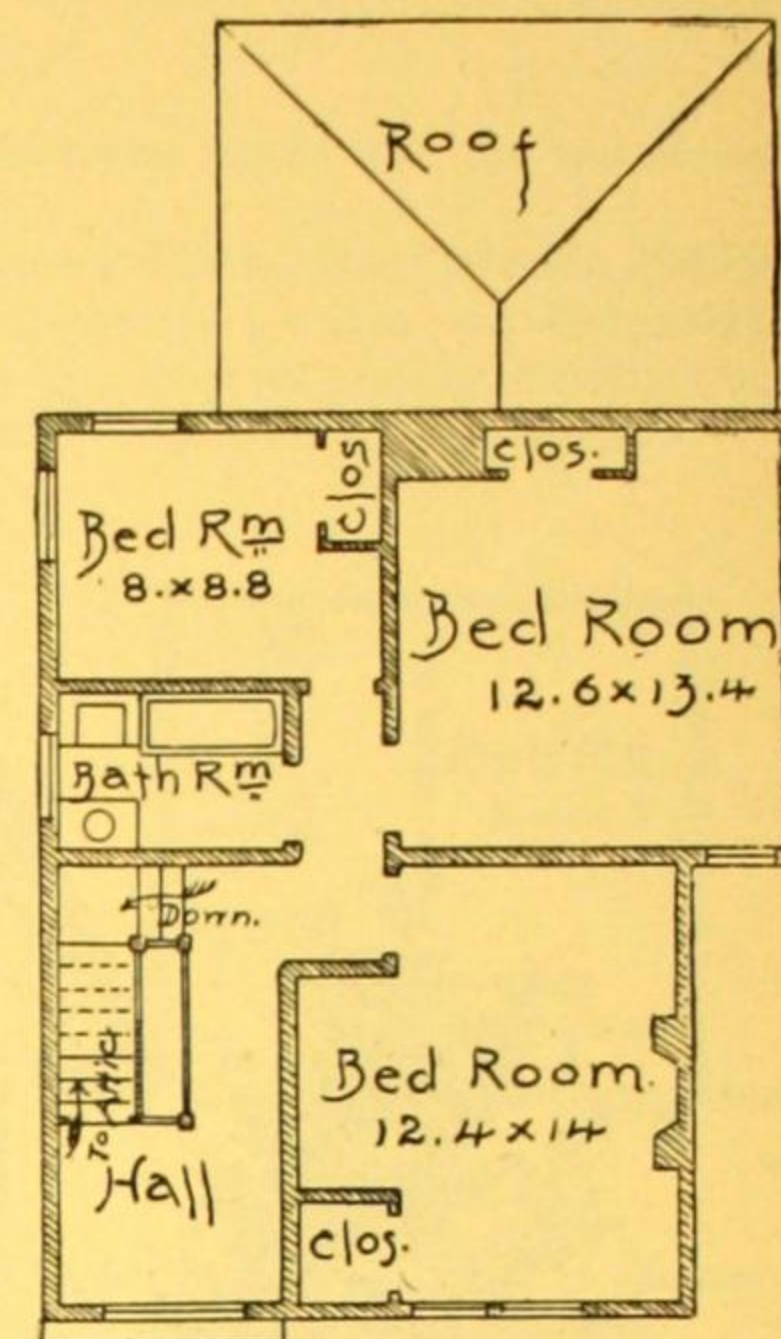
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.
 Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.
 This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—This is a modification of the preceding design, Number 274, having a one-story kitchen extension and a rearrangement of the chimneys, adapting it for level ground.
 Cellar under the kitchen extension and half of the house.



FIRST FLOOR. NO. 275



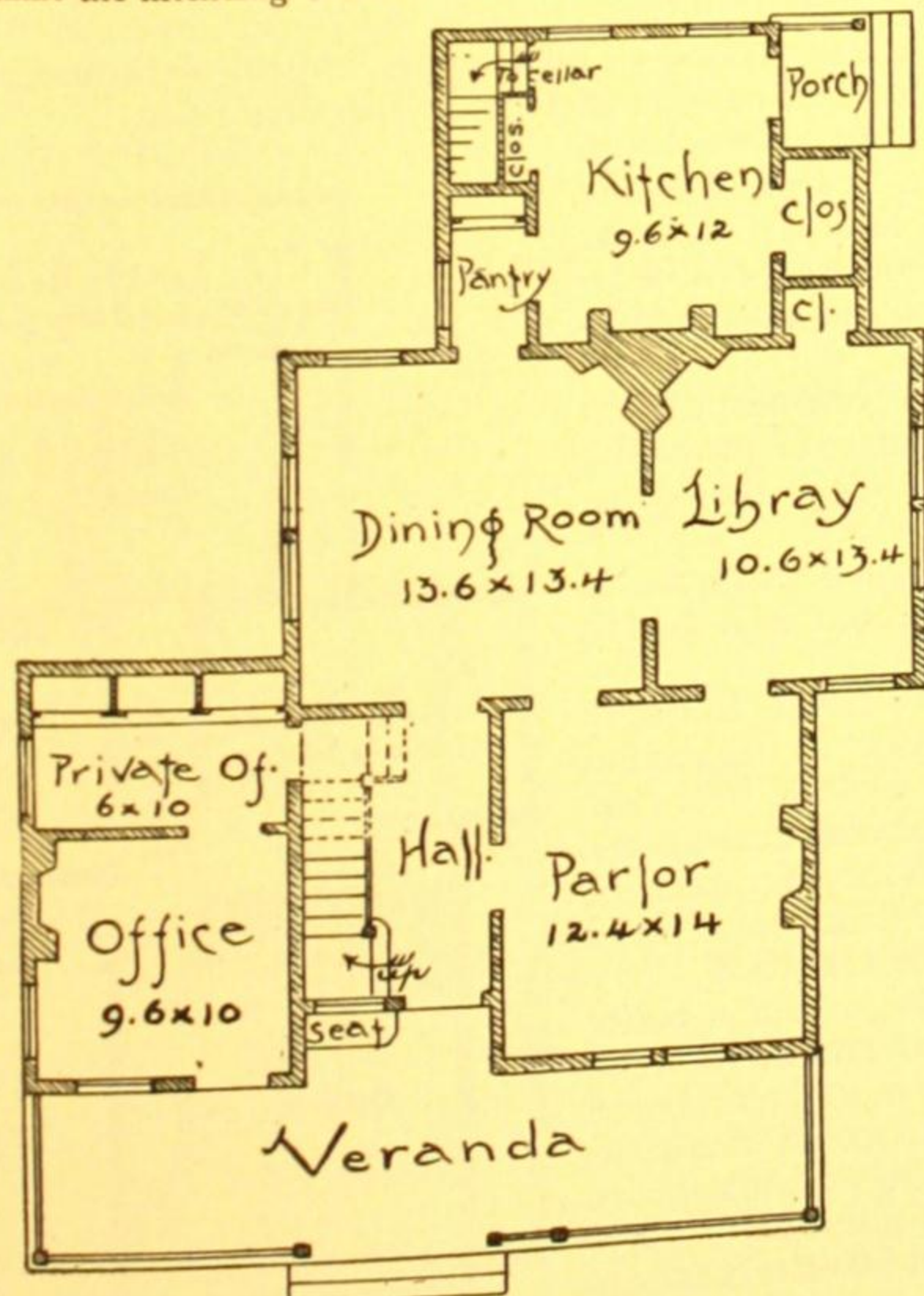
SECOND FLOOR. NO. 275

DESCRIPTION OF DESIGN NUMBER 276

SIZE OF STRUCTURE: Front, 36 ft. Side, 41 ft., 6 in.; including veranda, 48 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.
MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.
COST: \$3,000, complete, except heater, range and mantels.
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



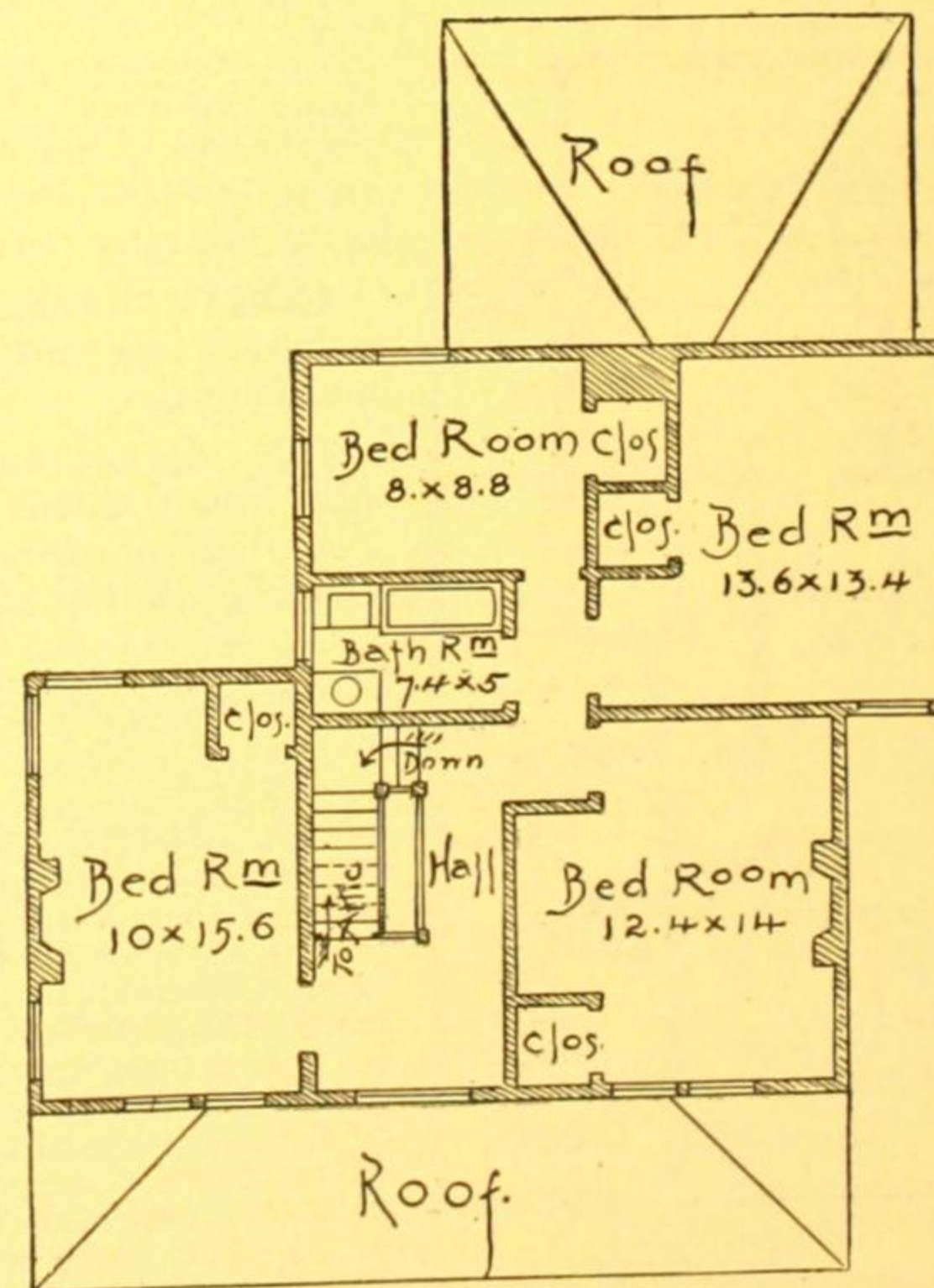
FIRST FLOOR. NO. 276

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.
 This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

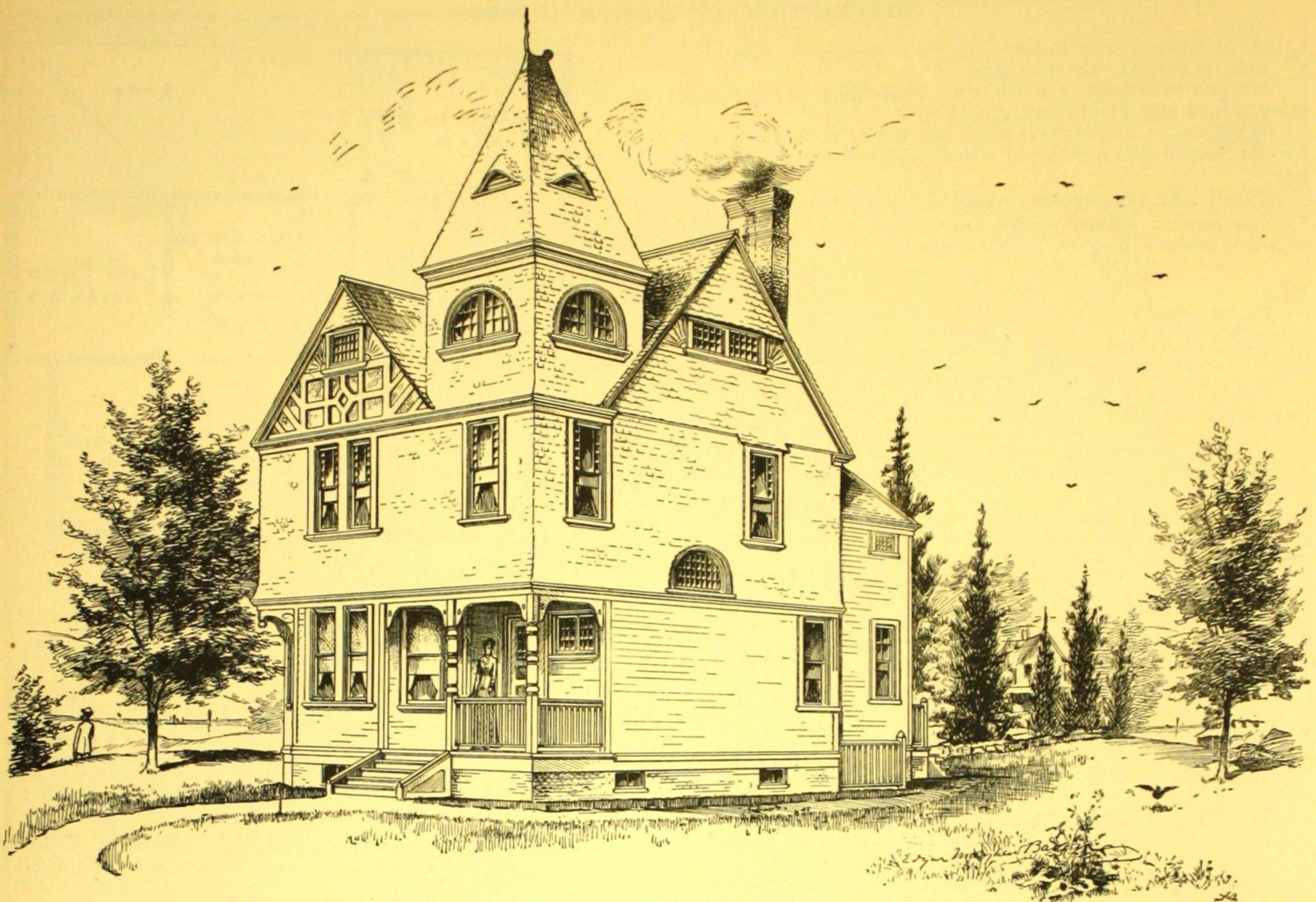
SPECIAL FEATURES.—This is another modification of design Number 274. The exterior appearance is about the same, but it is somewhat more picturesque.

The changes in plans consist of adding a kitchen extension, and a wing on the staircase side, a story and a half in height, making a very convenient office for a physician, with an entrance from the veranda and a doorway opening into the hall of the house; also divided into two rooms, one for a general office and the other for a private office or consulting-room.

The ceiling of the bed-room over the doctor's office is eight feet high, and the walls are five feet high at the lowest point.



SECOND FLOOR. NO. 276



DESIGN No. 277. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 277

SIZE OF STRUCTURE: Front, 25 ft., 2 in. Side, 44 ft., 2 in.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 8 ft., 10 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,400, all complete, except kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown,

on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house, except the kitchen part, with outside and inside entrance to it.

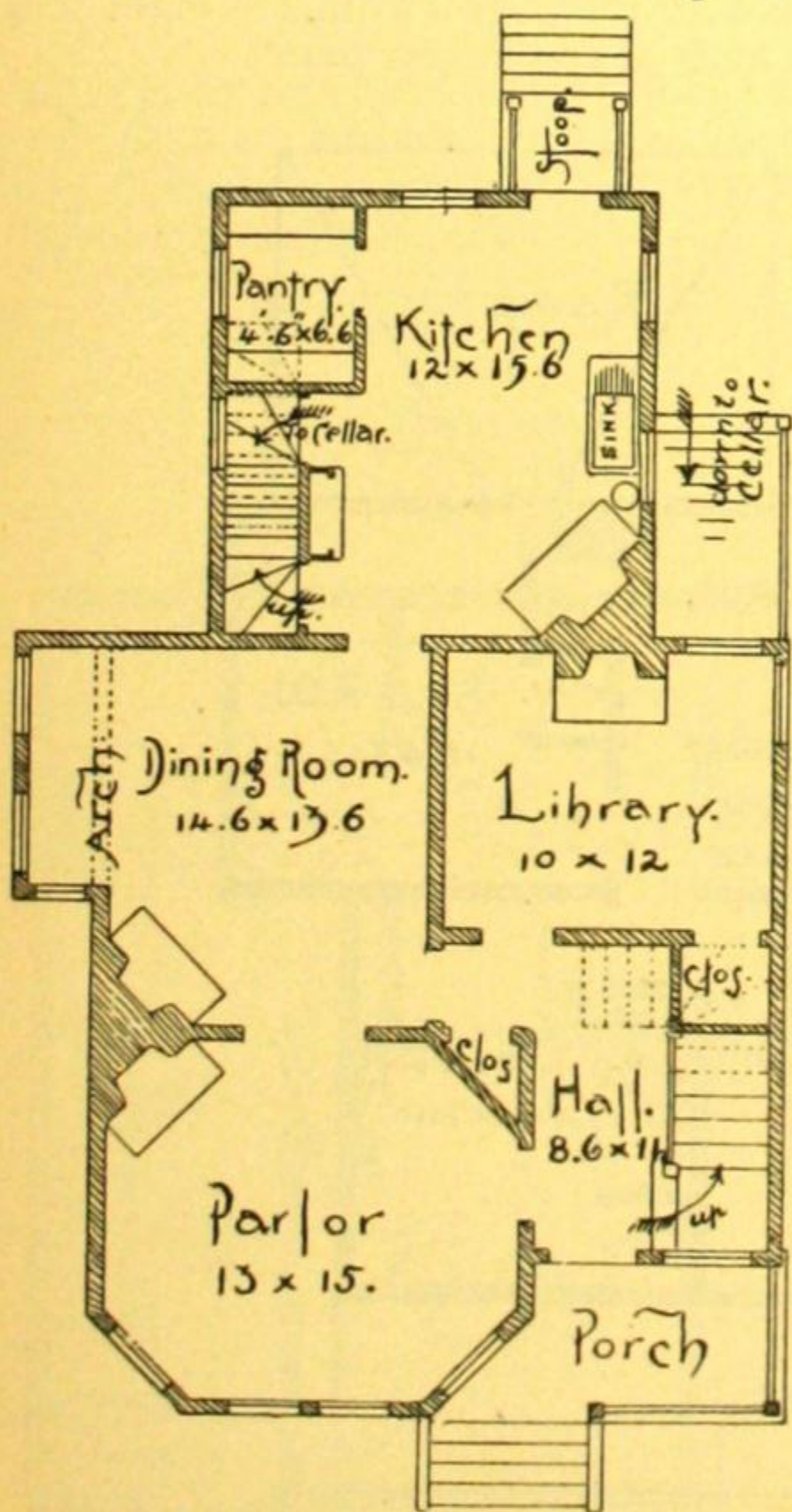
Beside the tower-room there is one bed-room in the attic, and another can be finished, if desired, still leaving plenty of room for storage.

There is good disposition of the chimneys, providing fireplaces in all of the rooms of the first story.

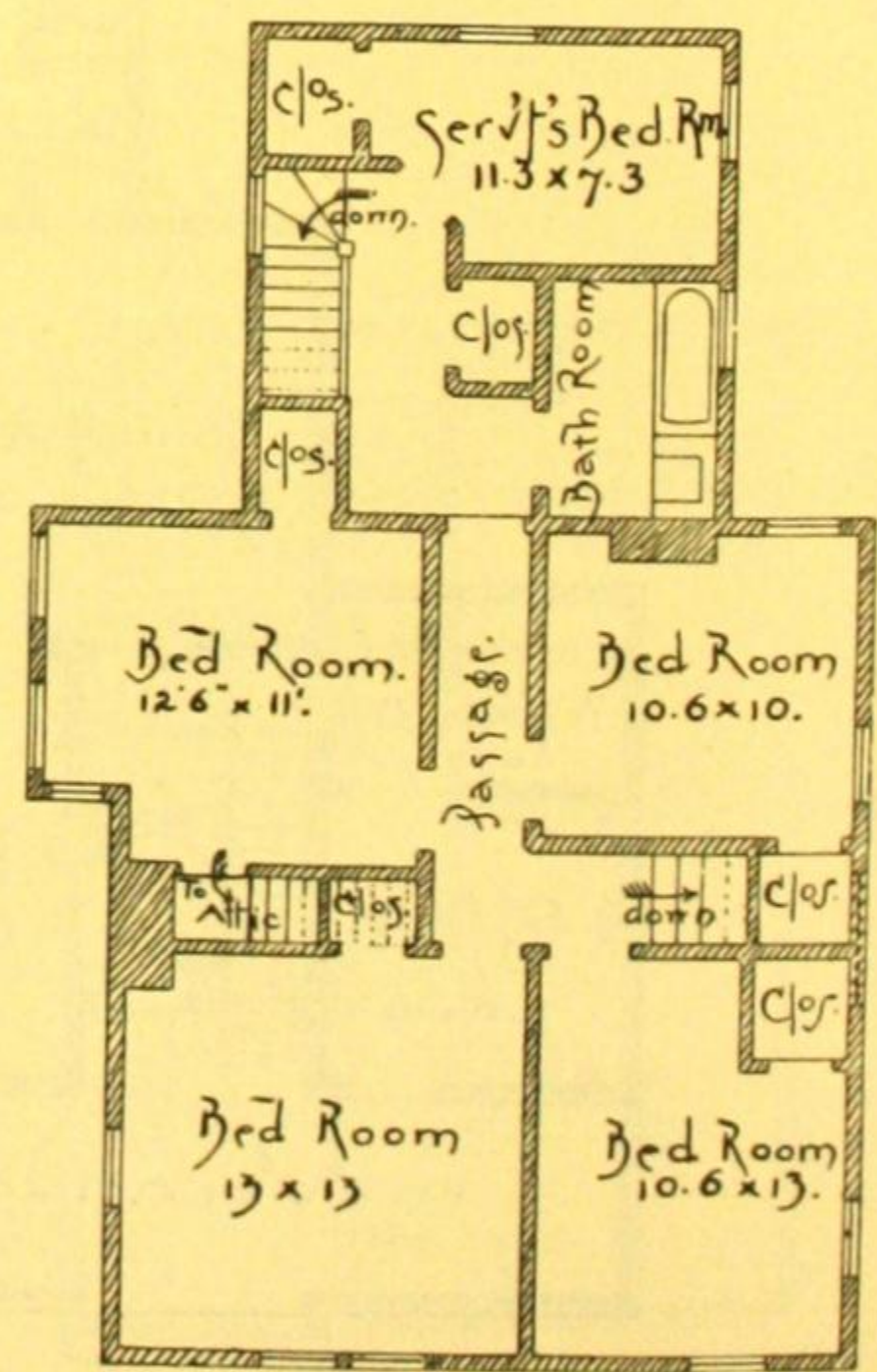
The arched alcove in the dining-room is a pretty feature.

Plenty of closets throughout the house. In the second story the closets over the stairway are elevated a little above the floor in order not to interfere with proper head room for the staircase.

This design is a favorite with Improvement Companies, which must be accepted as an evidence of merit, as expert builders must approve its practicability, and a sagacious board of directors approve it as an investment.



FIRST FLOOR. NO. 277



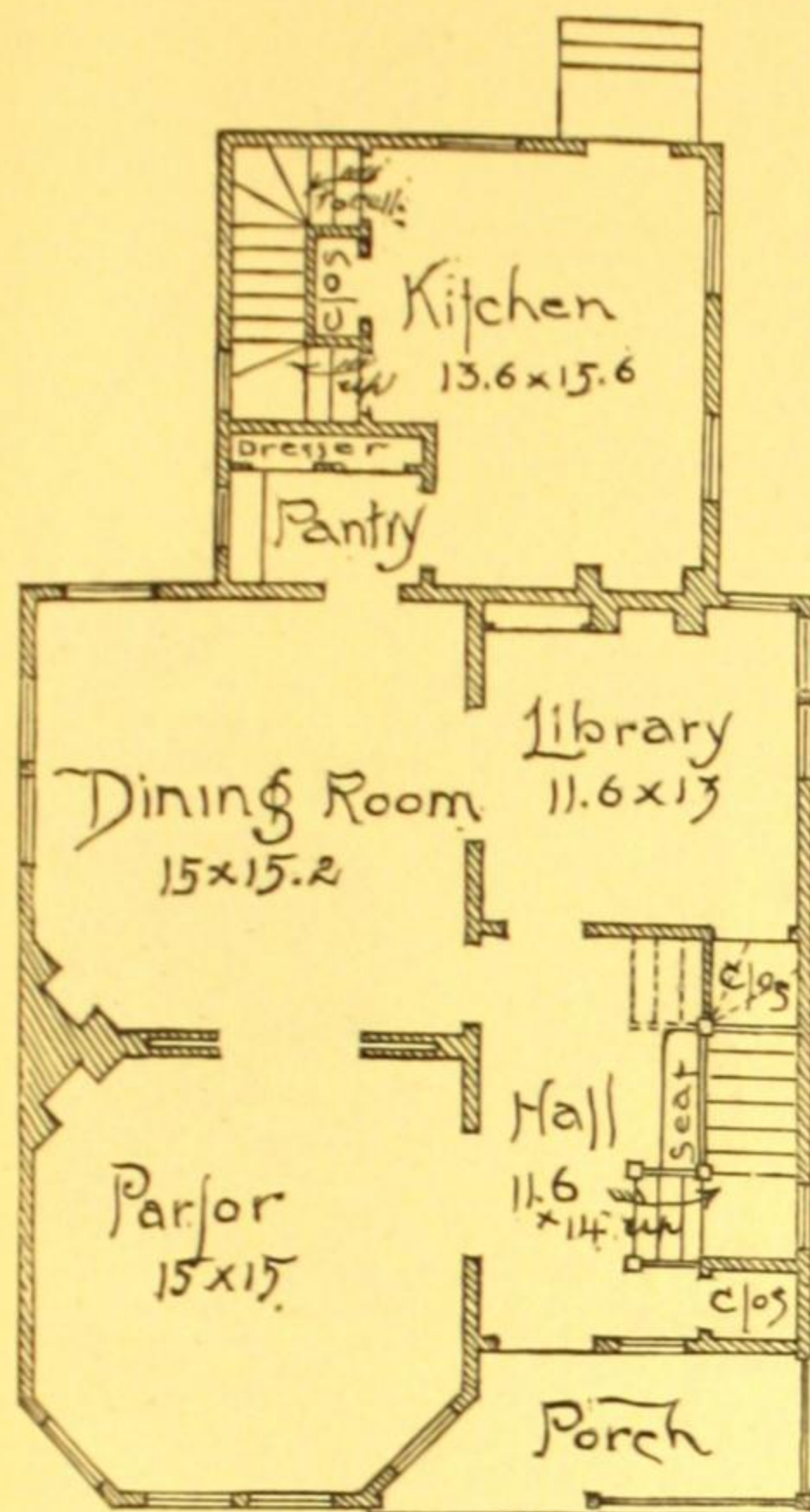
SECOND FLOOR. NO. 277

DESCRIPTION OF DESIGN NUMBER 278

SIZE OF STRUCTURE: Front, 28 ft. Side, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 7 ft., 6 in.



FIRST FLOOR. NO. 278

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingled and half timbered; Roof, shingled.

COST: \$2,700, complete, except mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The

publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

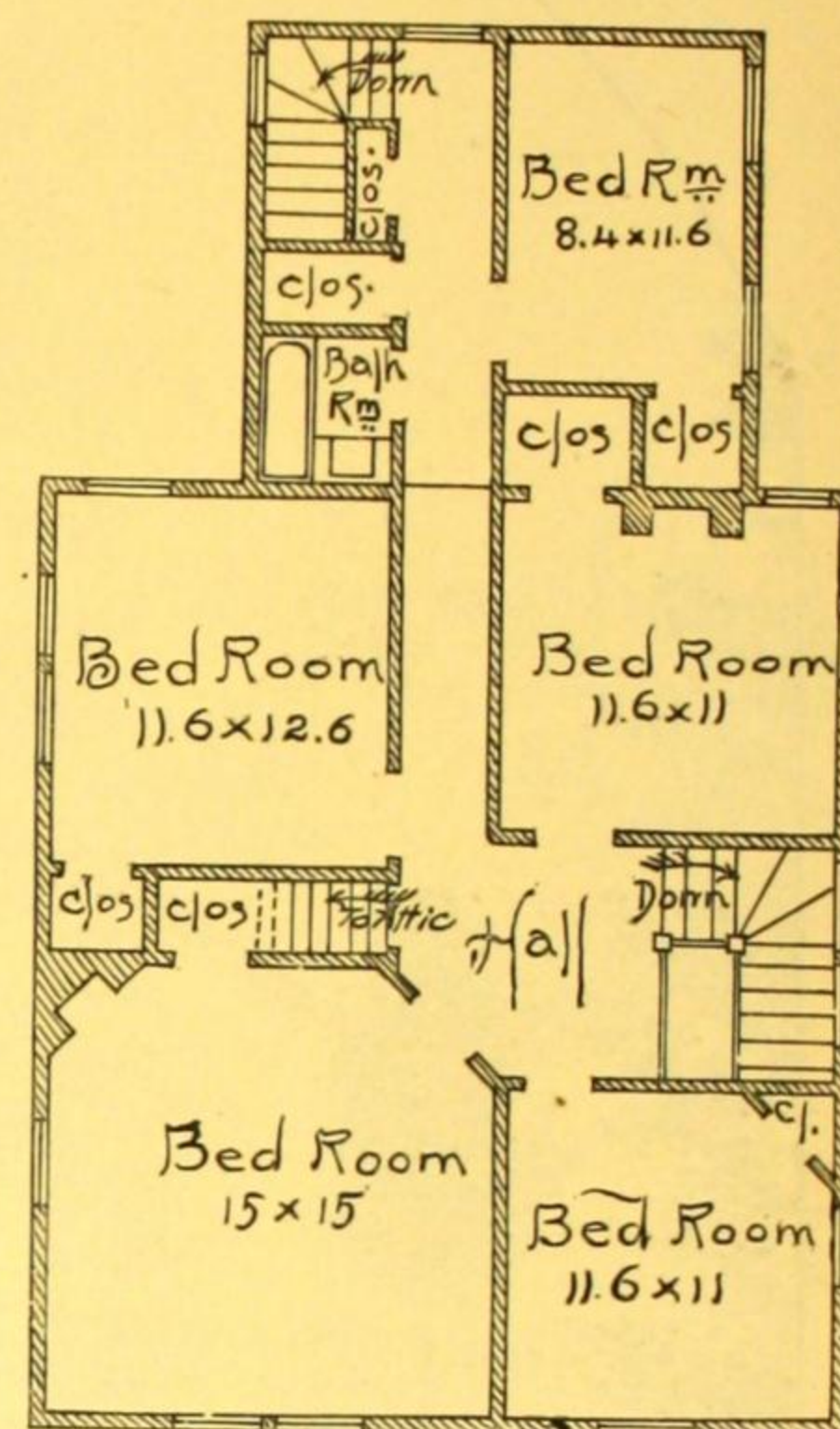
SPECIAL FEATURES.—

Exterior appearance similar to the preceding design, Number 277, without the tower.

The staircase coming up in the centre enables us to get five good bed-rooms on the second floor—large accommodations for a house of this size and cost.

Fireplaces in two of the bed-rooms.

Cellar under the extension and half of the main house. Inside stairway to cellar. Two rooms in attic.



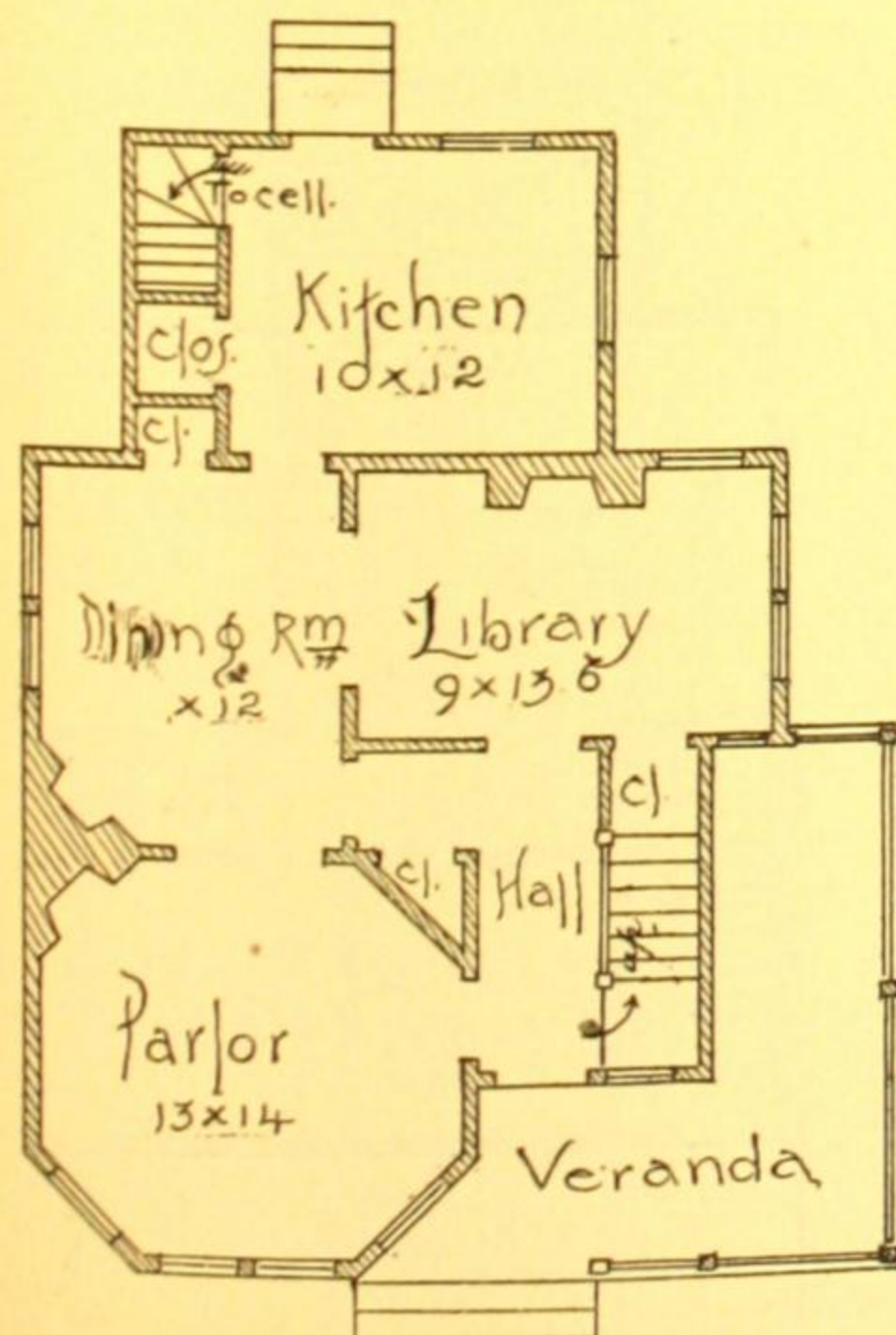
SECOND FLOOR. NO. 278

DESCRIPTION OF DESIGN NUMBER 279

SIZE OF STRUCTURE: Front, 29 ft., including veranda. Side, 36 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 4 in.



FIRST FLOOR. NO. 279

MATERIALS: Foundation, posts set in concrete; First Story, clapboards; Second Story, shingles; Gables, shingles and half-timbers; Roof, shingles.

COST: \$1,800, complete, except mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York

City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

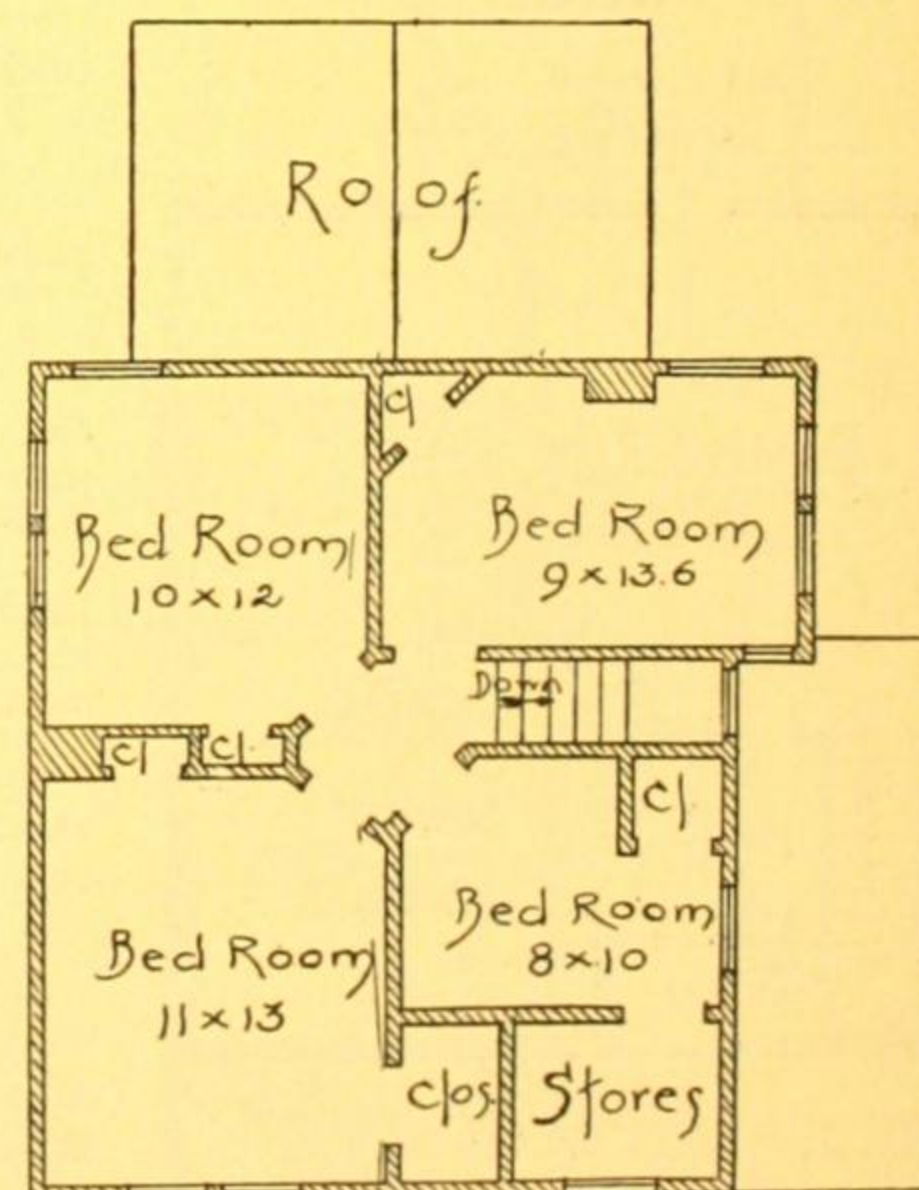
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

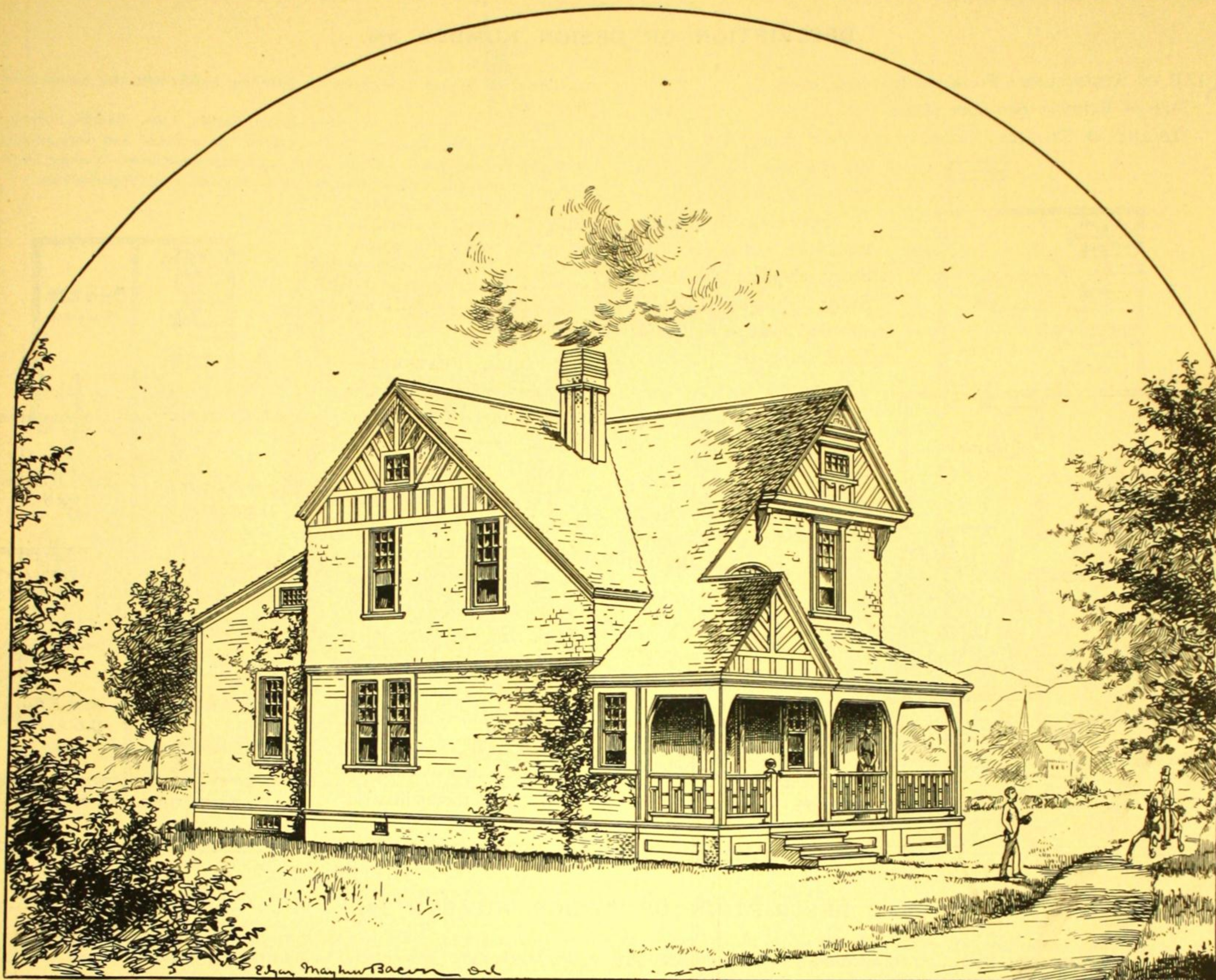
SPECIAL FEATURES.—

The exterior is in the same style as design Number 277 on the preceding page, without the tower. The veranda returns half way around the side.

Cellar under the kitchen only. Two rooms can be finished off in the attic; a stairway to the attic should start out of the small bed-room.



SECOND FLOOR. NO. 279



DESIGN No. 280. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 280

SIZE OF STRUCTURE: Front, 25 ft. Side, 44 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$2,300, complete, except kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

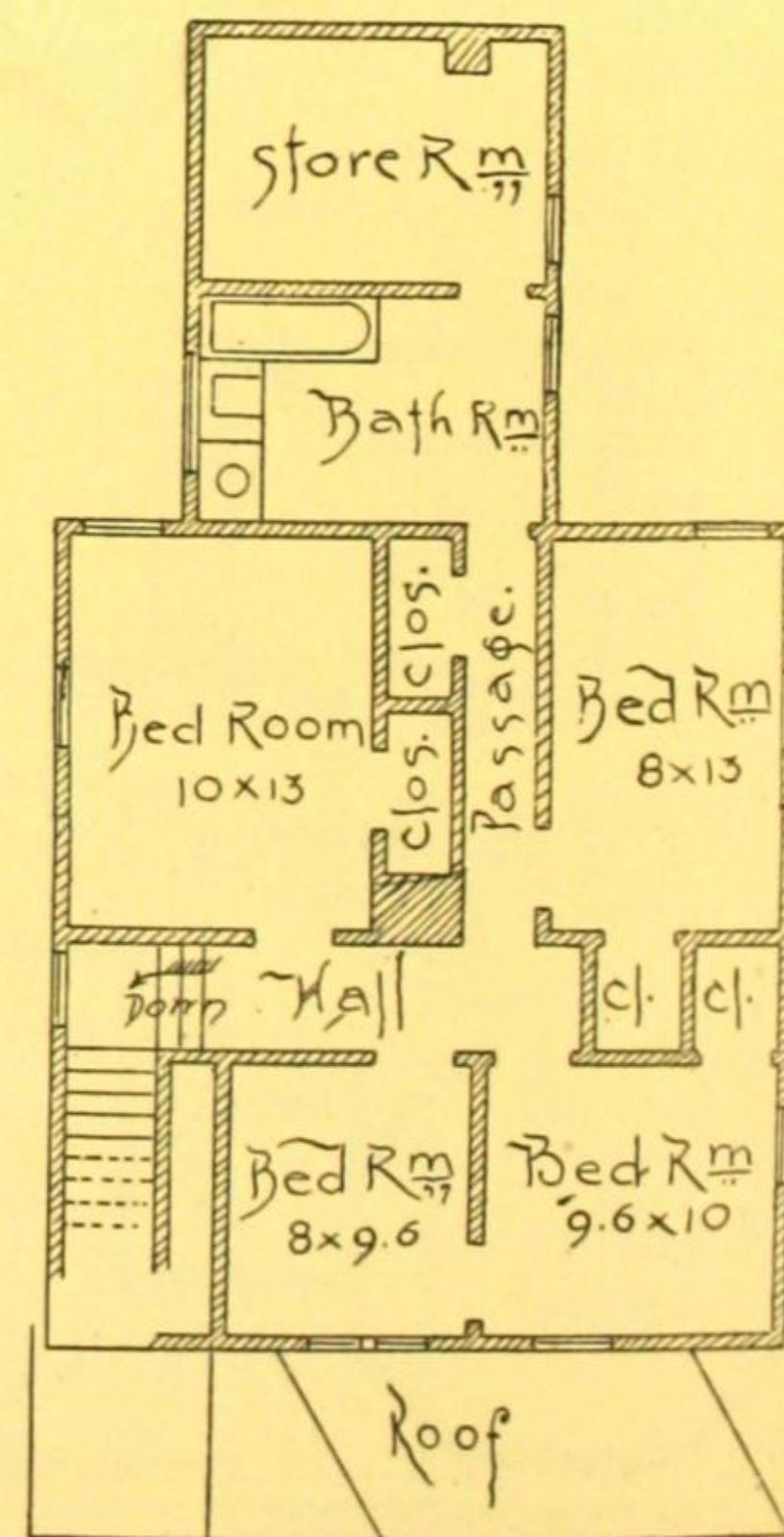
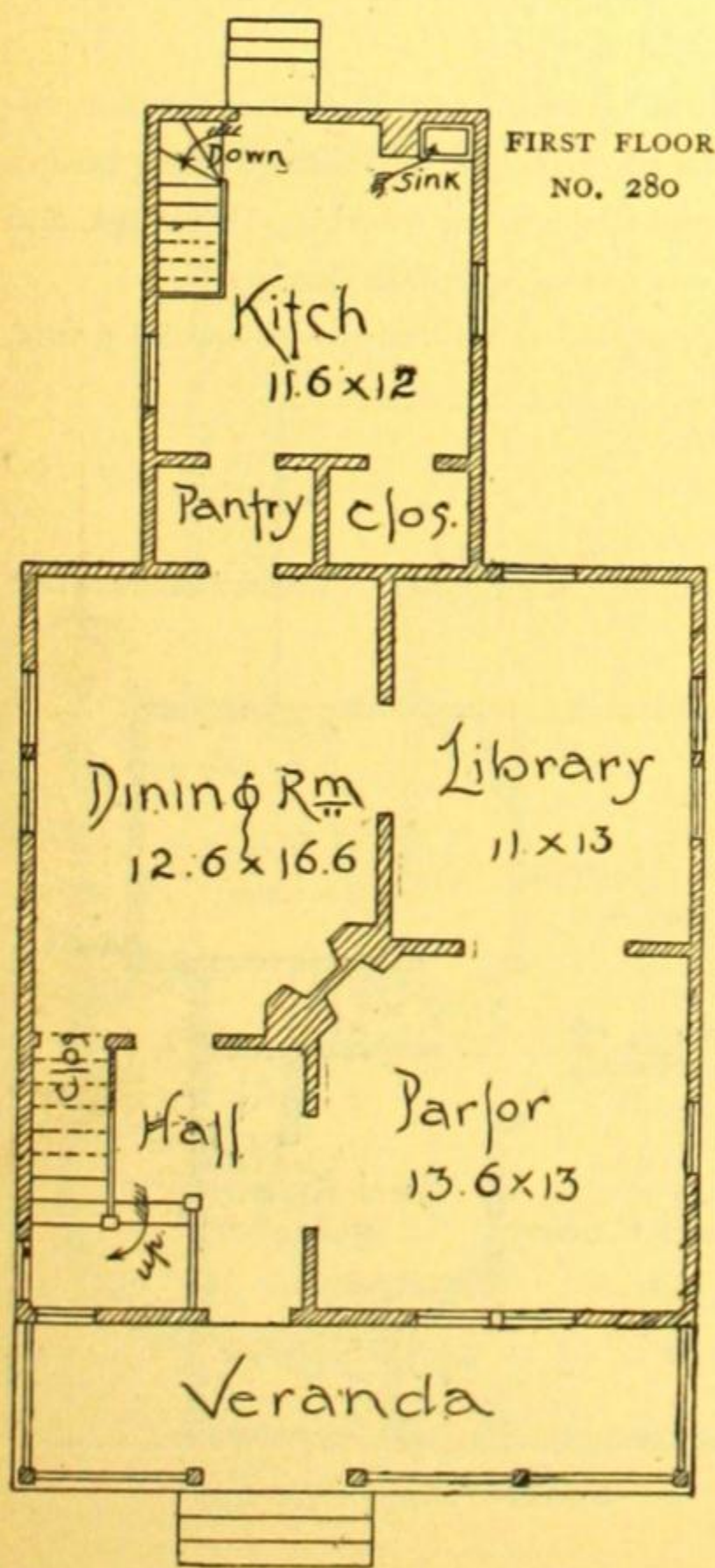
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

SPECIAL FEATURES.—Cellar under kitchen extension only. Abundant storage-room in the attic, which is reached by a scuttle in the ceiling of second-story hall.

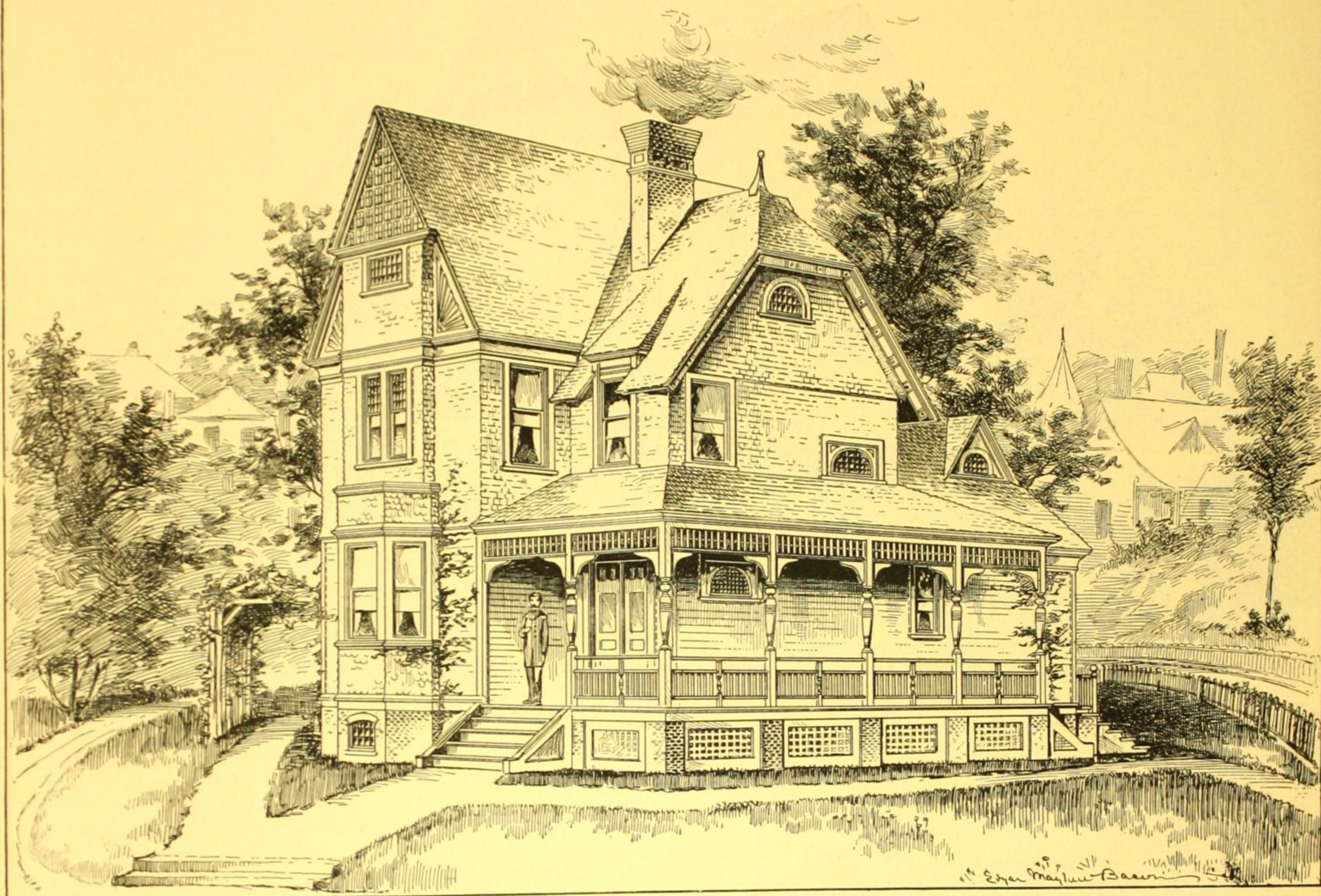
The exterior of this design is considered very attractive.

The stairway is well managed, being well lighted and having easy platforms, economizing space so that a large dining-room is afforded and landing on the second floor so that very little hall-way is necessary.

In our January issue there is a design for a house similar to this, but without kitchen extension, and consequently less expensive.



SECOND FLOOR. NO. 280



DESIGN No. 281. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 281

SIZE OF STRUCTURE: Front, 30 ft., 6 in. Side, 42 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles and paneling; Roof, shingles.

COST: \$2,500, complete, except mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies

cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

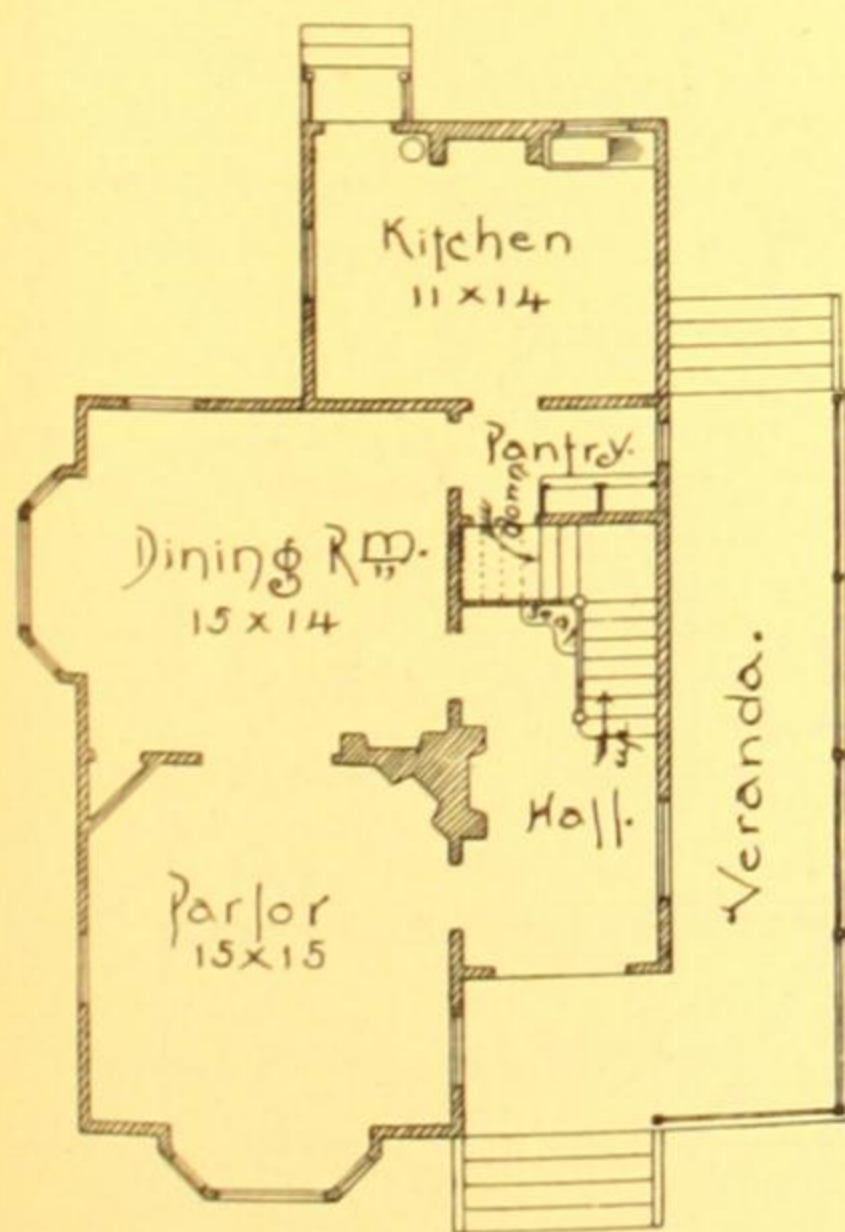
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

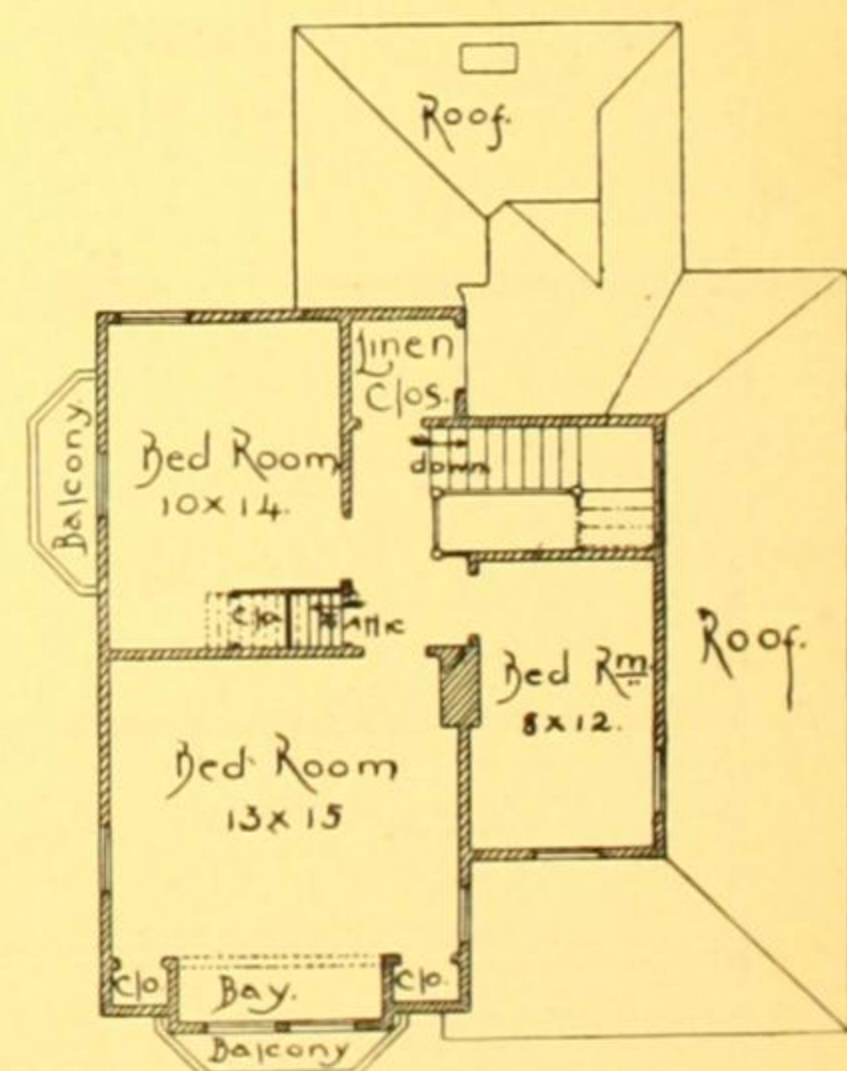
SPECIAL FEATURES.—Cellar under whole house except kitchen extension.

Three rooms in attic if wanted.

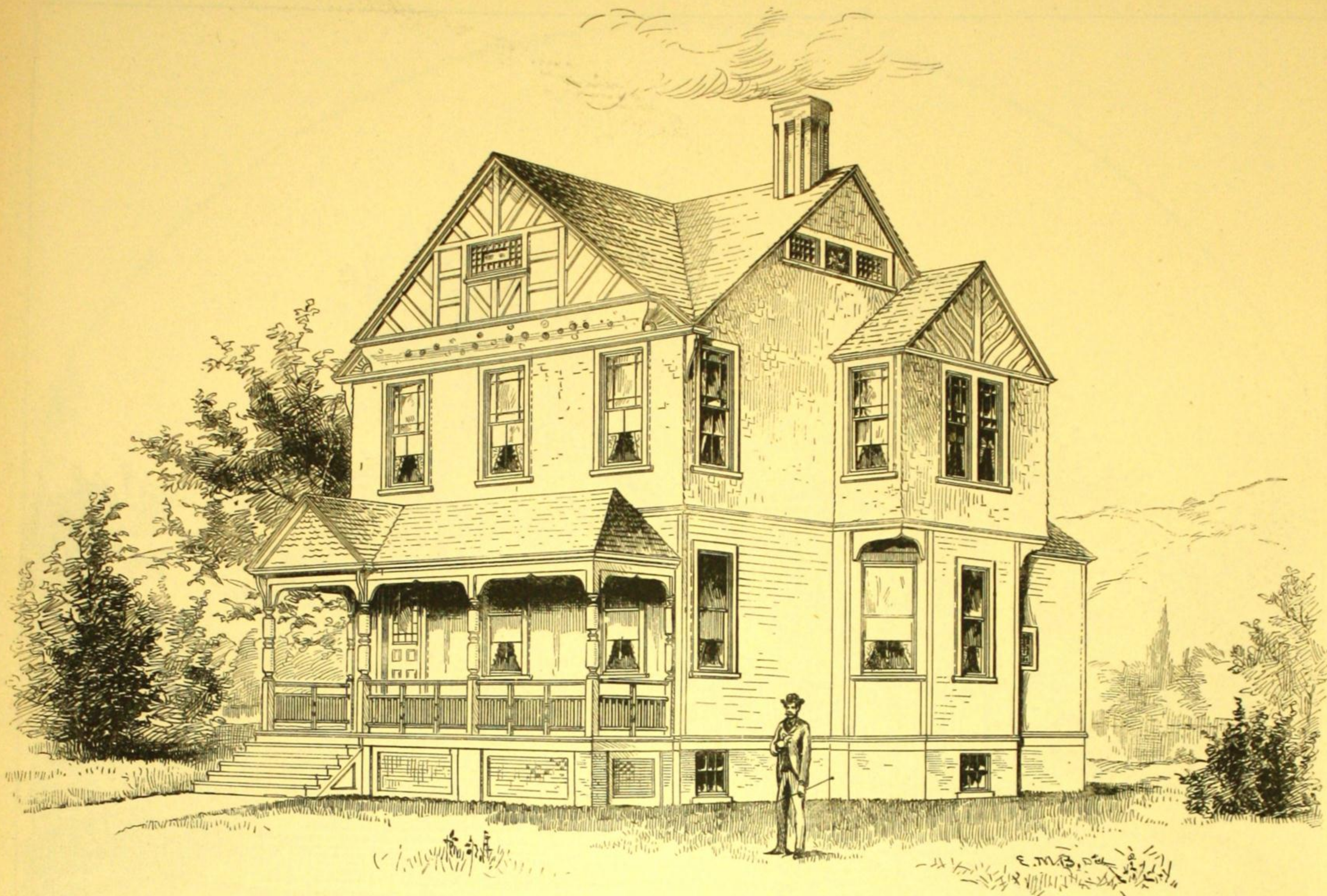
This is a capital design for a seaside cottage. If occupied in summer only, no cellar or but a small cellar is needed, and the foundations may be posts or brick piers; and plaster board may be used in place of lath and plaster. These changes would greatly reduce cost.



FIRST FLOOR. NO. 281



SECOND FLOOR. NO. 281



DESIGN No. 282. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 282

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Extreme width, 32 ft., 6 in. Side, 29 ft., 6 in. Extreme depth, 51 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick, First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$2,800, complete, except furnace and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

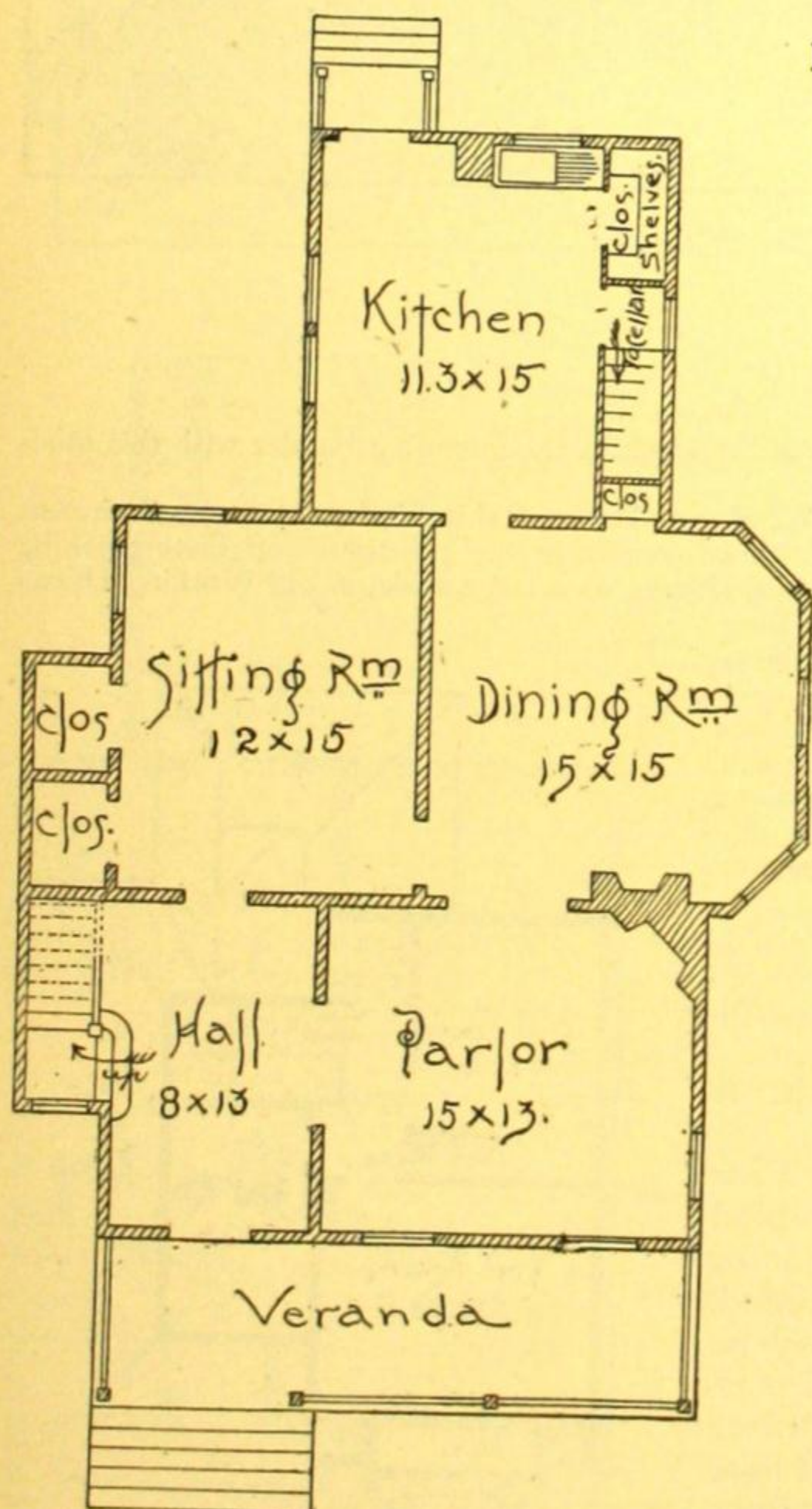
The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

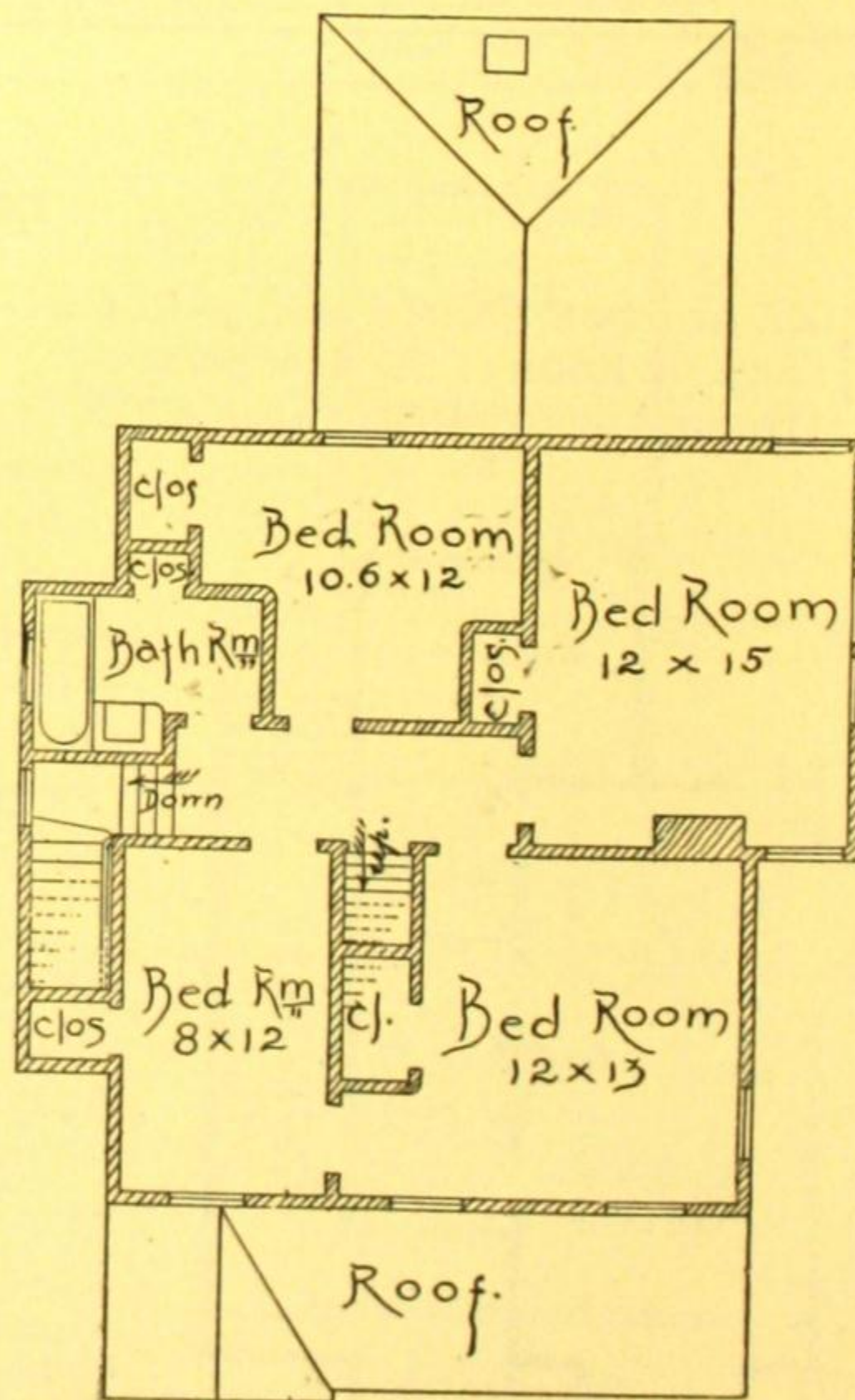
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole of the main house. Two rooms and storage-room in the attic.

Heated by a furnace in the cellar. Fireplaces in the dining-room and parlor for use in moderate weather.



FIRST FLOOR. NO. 282



SECOND FLOOR. NO. 282

DESCRIPTION OF DESIGN NUMBER 283

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Extreme width, 31 ft., 10 in. Side, 51 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 3 in.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$3,500, complete, except heating apparatus, kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior appearance is much like that of the preceding design Number 282. The plans are reversed.

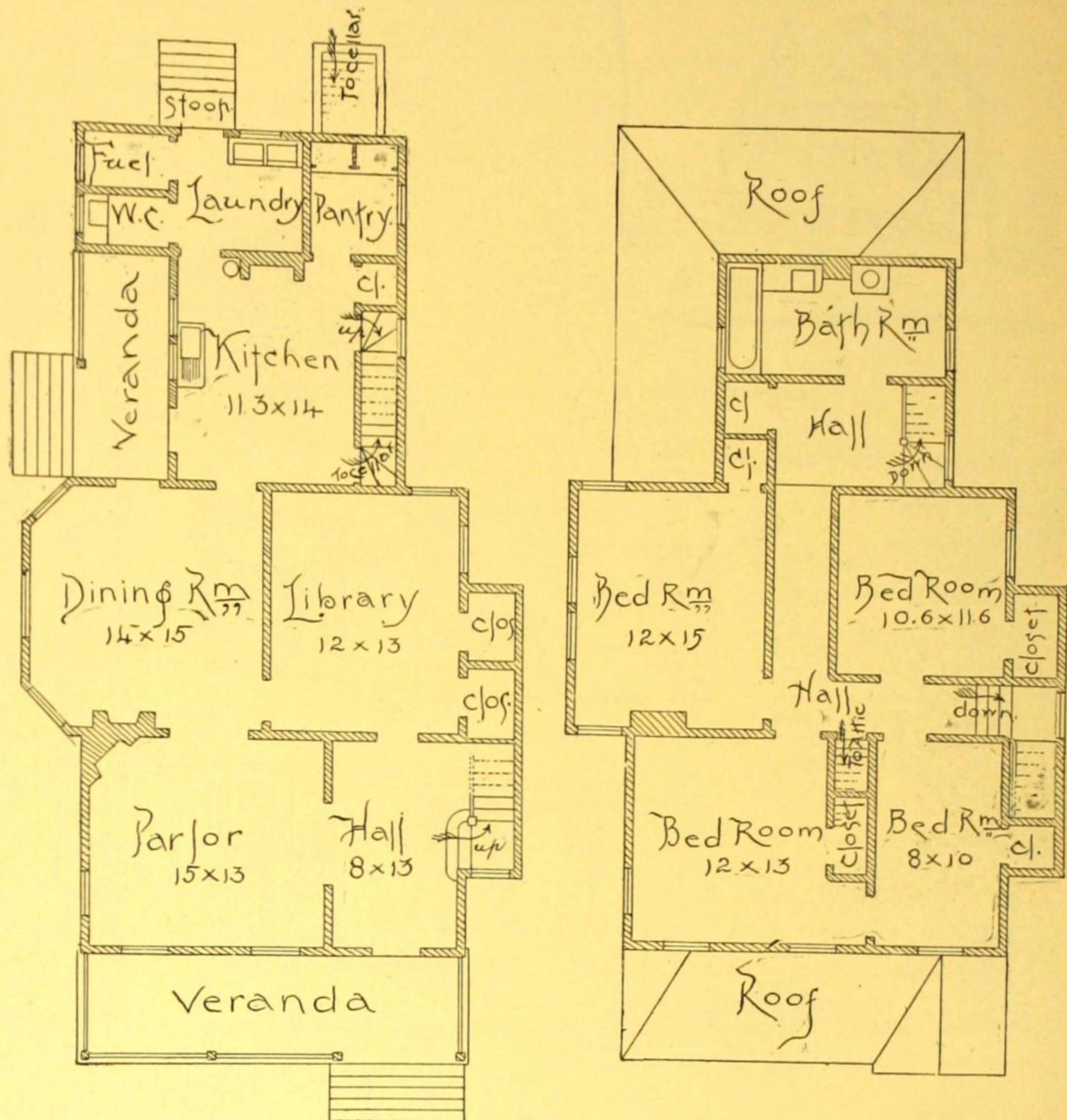
Cellar under the whole house, with both inside and outside entrances. Two fine bed-rooms and two trunk closets in the attic.

The bay-window effect in the dining-room makes this an especially attractive apartment.

The kitchen and laundry arrangements are particularly meritorious.

Every bed-room has a closet. There also a linen closet in the hall.

Steam, furnace, or hot-water apparatus to be used for heating.



FIRST FLOOR. NO. 283

SECOND FLOOR. NO. 283

DESCRIPTION OF DESIGN NUMBER 284

SIZE OF STRUCTURE: Front, 22 ft. Side, 33 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 8 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, half timber and shingles; Roof, shingles.

COST: \$2,000, complete, except kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

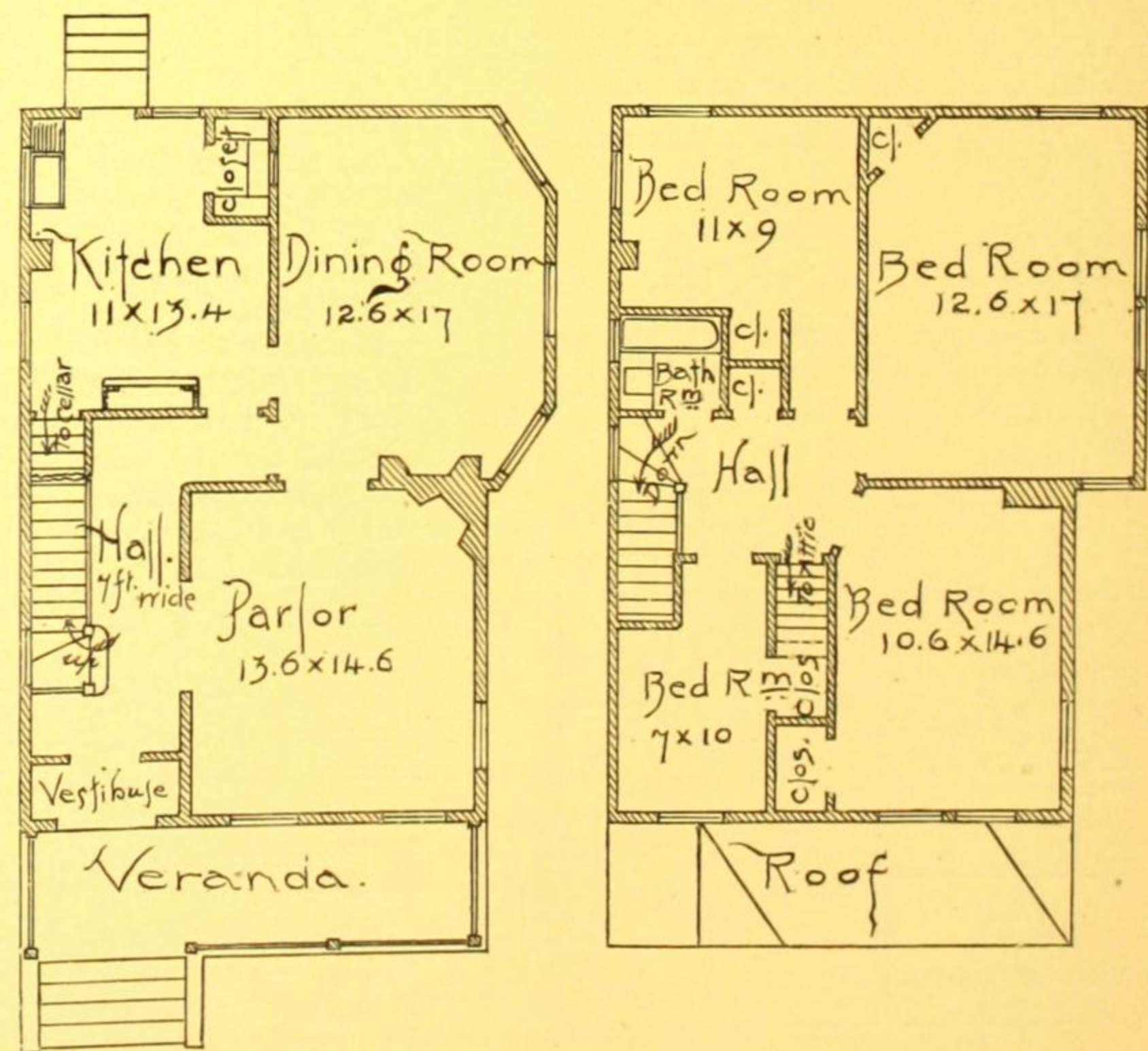
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior is in the same style as Number 282, shown on the preceding page.

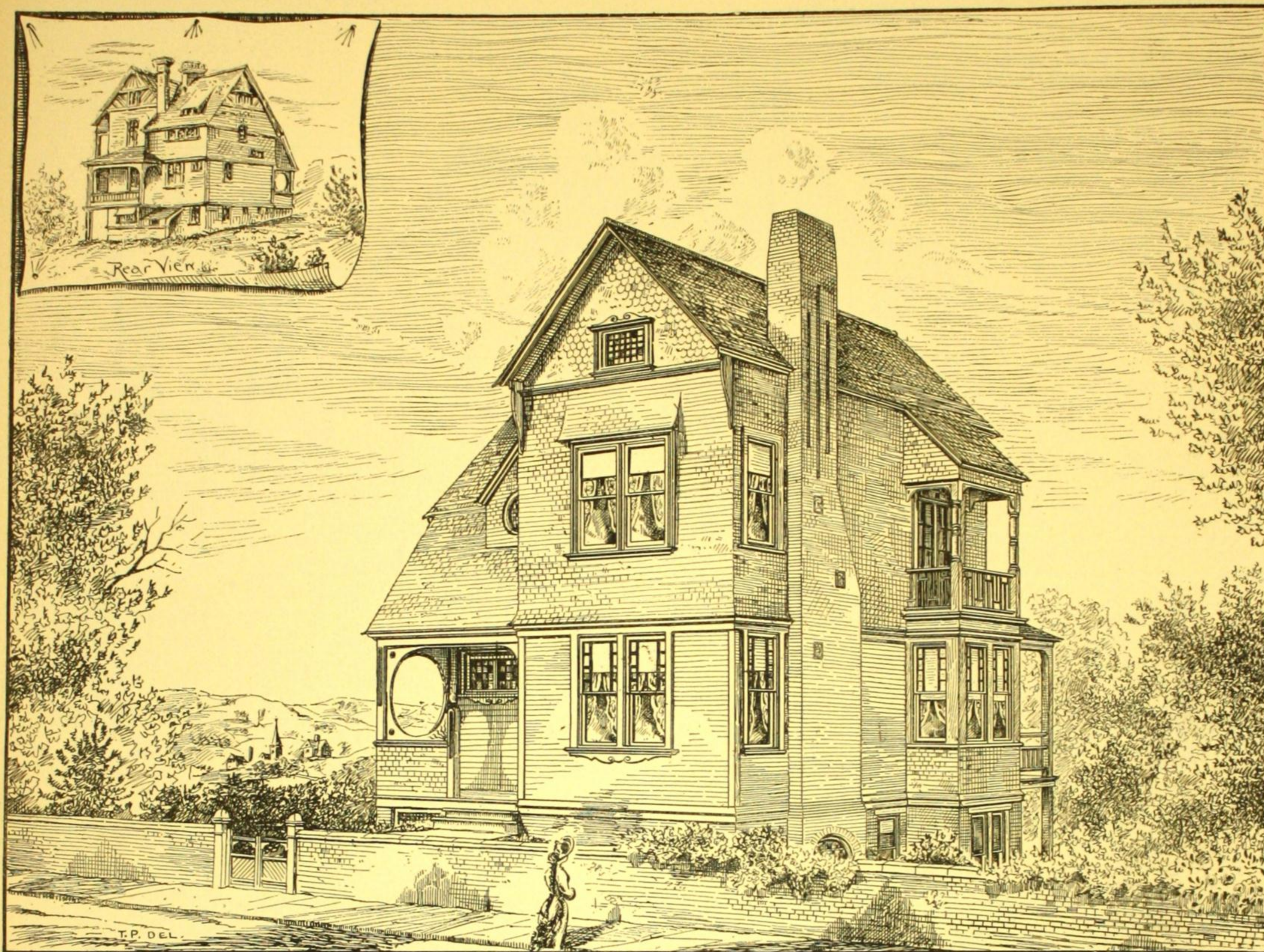
Cellar under the whole house. Two rooms can be finished in the attic.

This and the two preceding designs are great favorites.



FIRST FLOOR. NO. 284

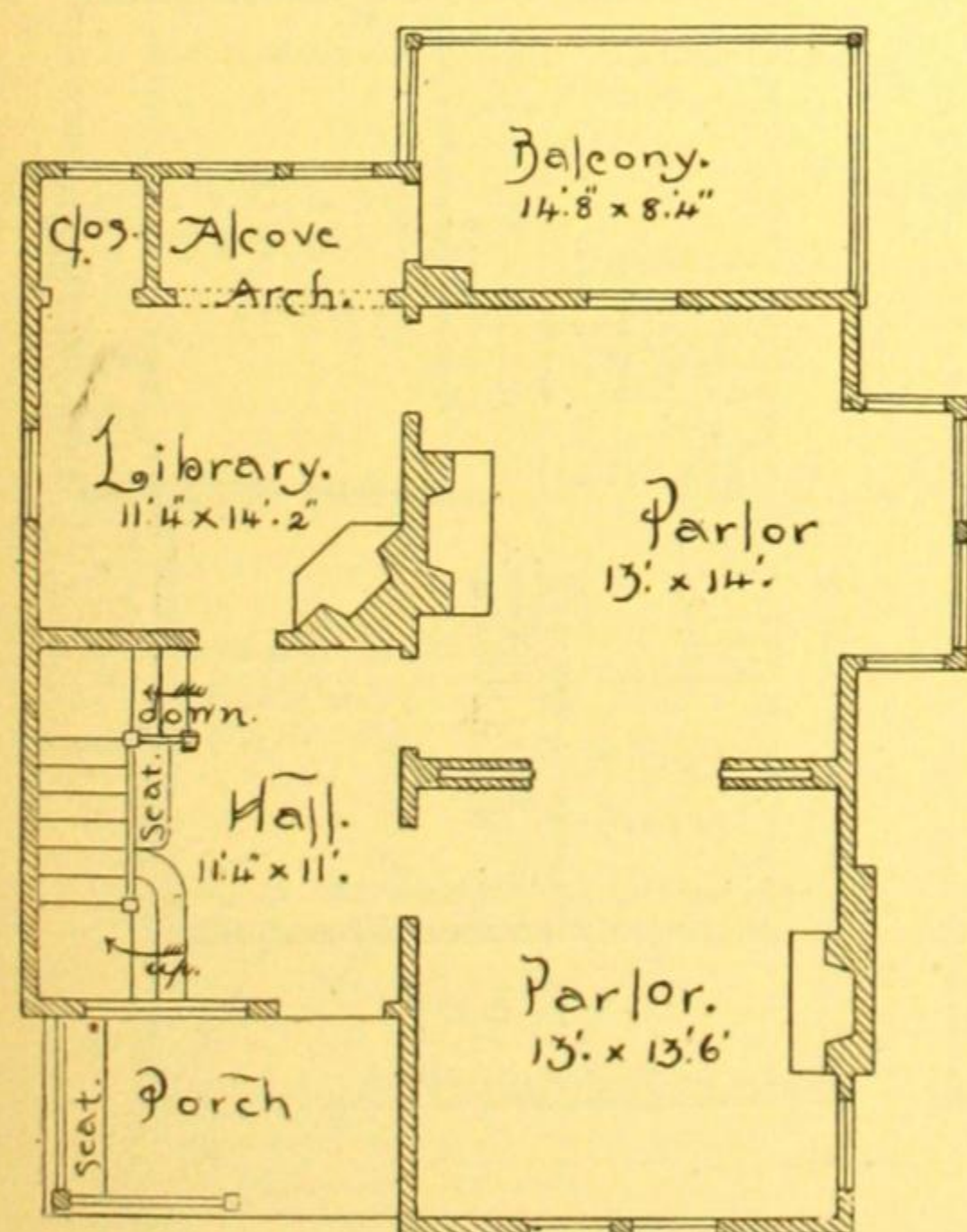
SECOND FLOOR. NO. 284



DESIGN No. 285. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 285

SIZE OF STRUCTURE: Front, 26 ft. Side, 33 ft., 8 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 285

HEIGHT OF STORIES: Basement, 8 ft., 2 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles and half timber; Roof, shingles.

COST: \$2,600, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

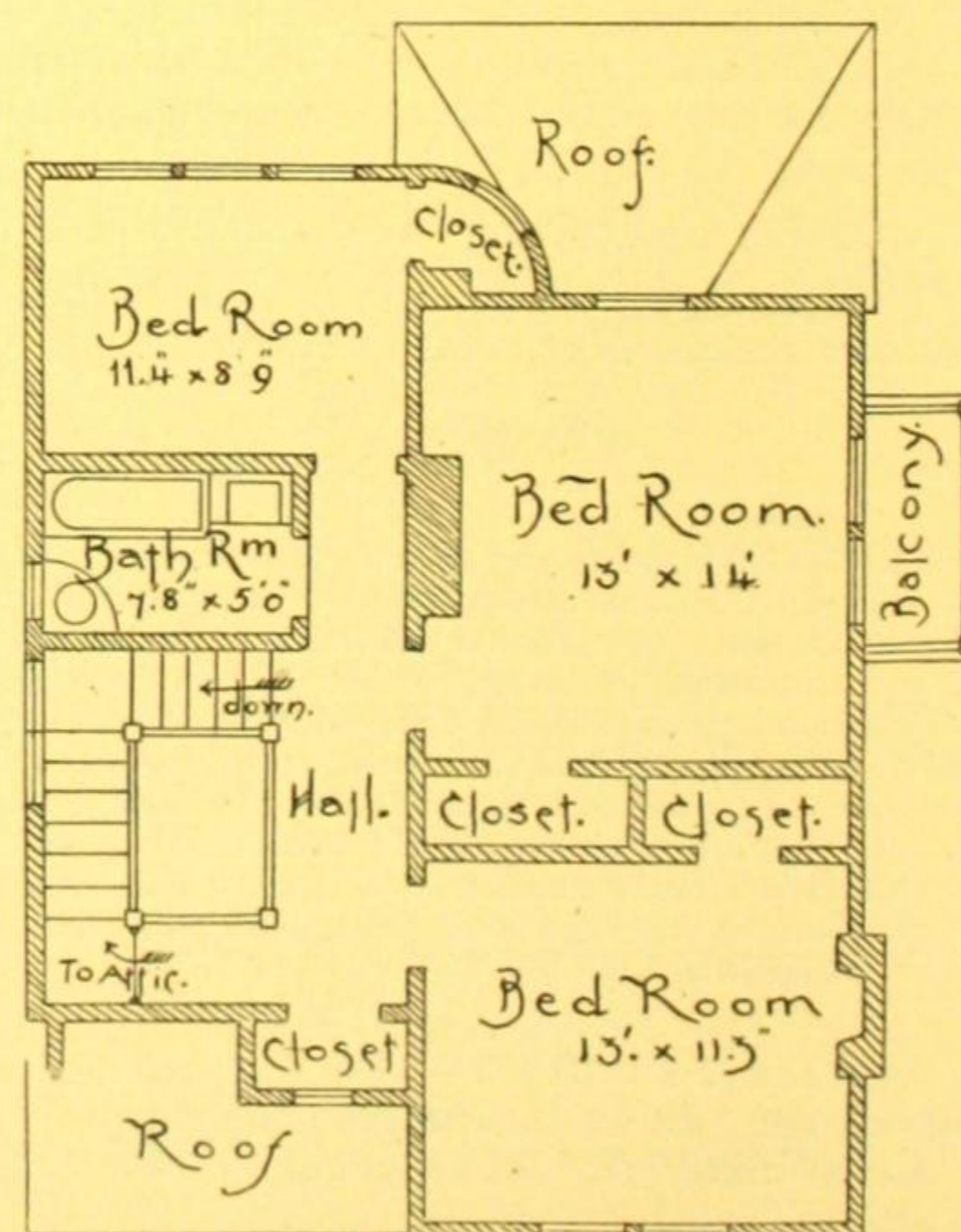
SPECIAL FEATURES.—This design is peculiarly adapted for sloping ground. The dining-room, kit-

chen, servants' bed-rooms, laundry, two store-rooms and a water-closet are in the basement, the dining-room and kitchen being about on the grade level. The house is heated by a furnace located in a sub-cellar, so the basement, as well as the other floors, is well heated.

Three rooms in the attic, besides store-room.

The economy of getting such ample accommodations under one roof and within walls that cover a small area is very apparent.

The plans are compact, well arranged and convenient. The rear balcony, affording a fine view of the Hudson River, where this house was built, is a very comfortable as well as attractive feature.



SECOND FLOOR. NO. 285

DESCRIPTION OF DESIGN NUMBER 286

SIZE OF STRUCTURE: Front, 26 ft. Side, 49 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$2,800, complete, except furnace, kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

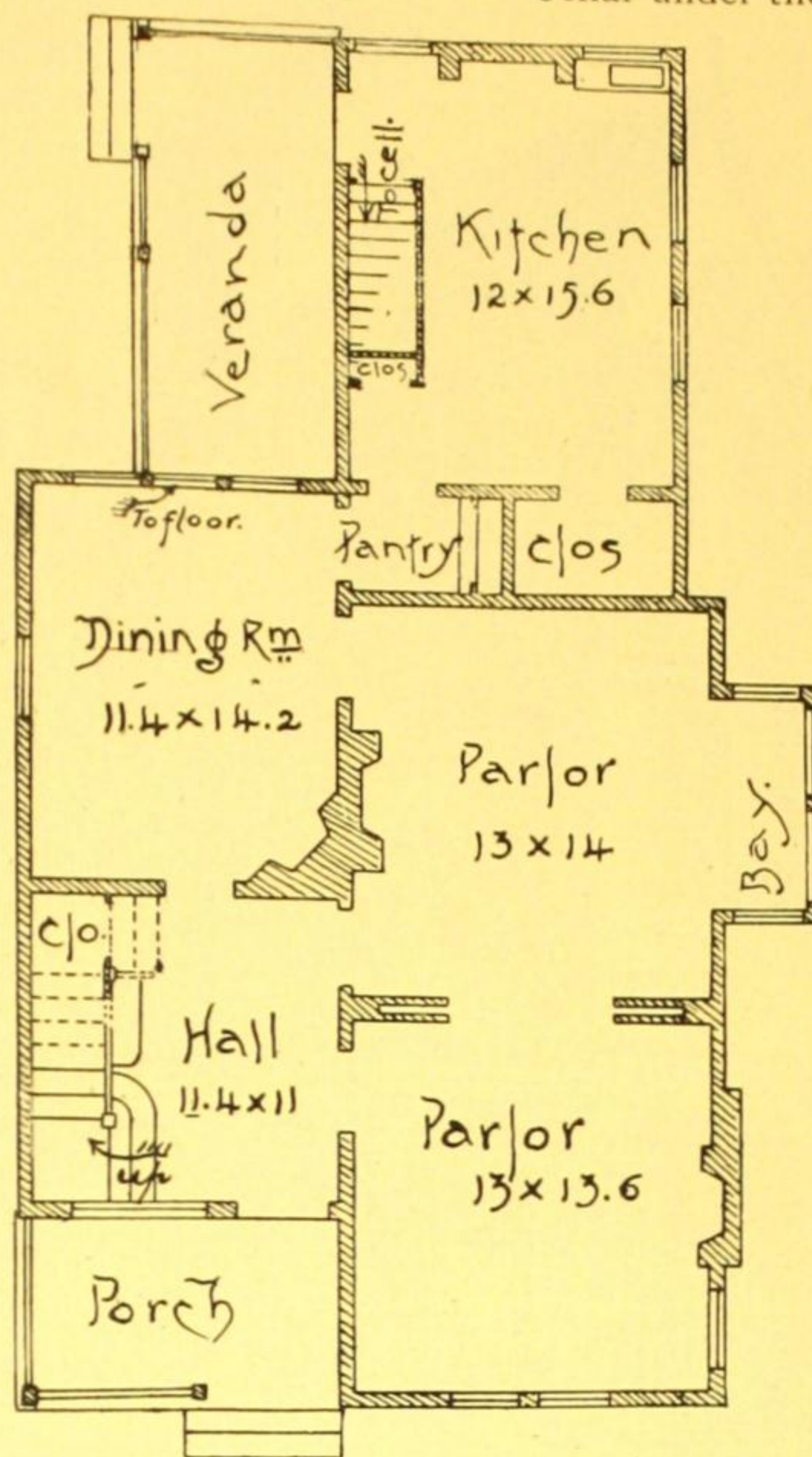
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

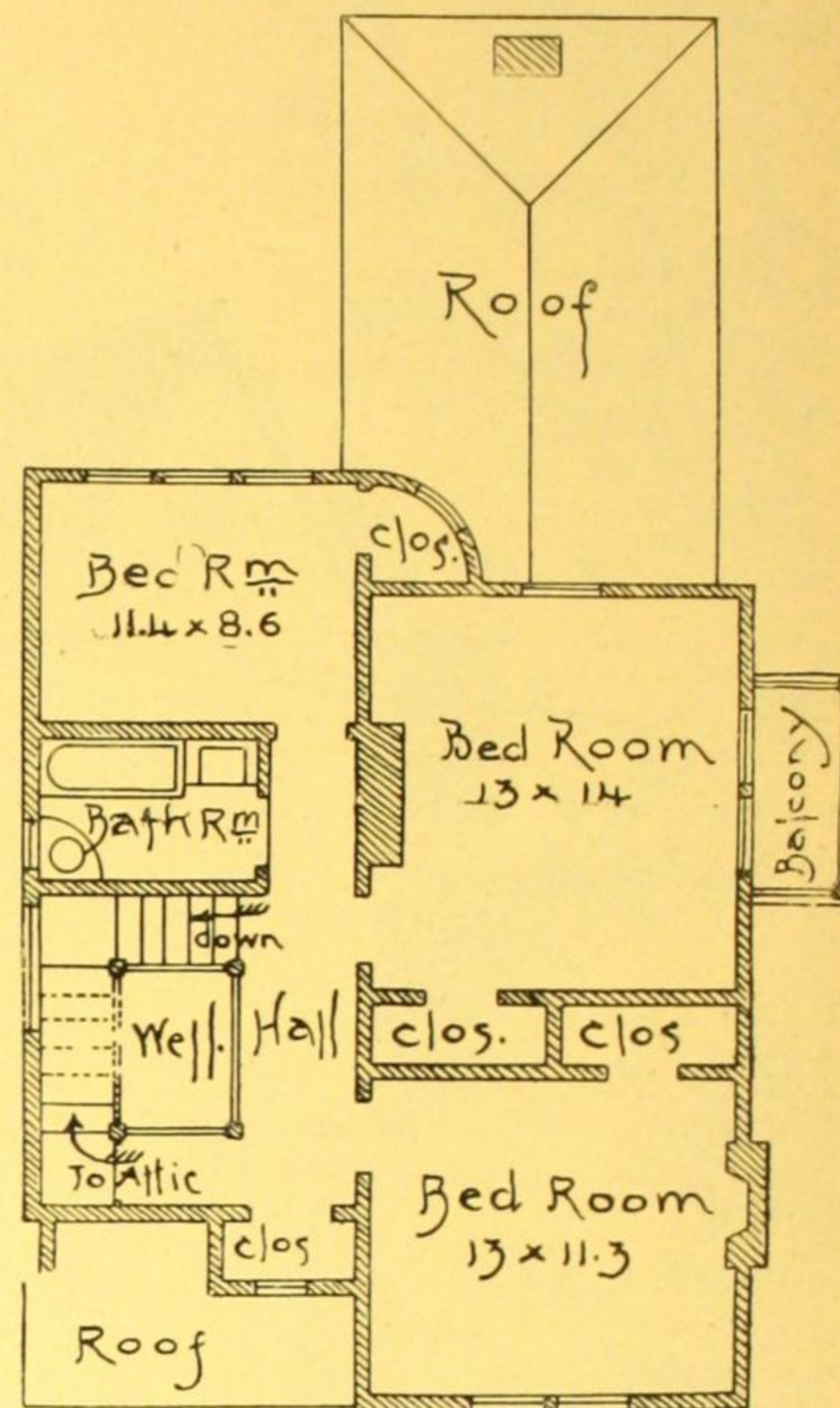
SPECIAL FEATURES.—The exterior appearance the same as the preceding design, Number 285. The plans also are the same, except as they are altered by the addition of a

kitchen extension—a modification that adapts this admirable design for level ground.

Cellar under the kitchen extension and half of the main house.



FIRST FLOOR. NO. 286



SECOND FLOOR. NO. 286

DESCRIPTION OF DESIGN NUMBER 287

SIZE OF STRUCTURE: Front, 36 ft., 6 in. Side, 49 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$3,000, complete, except furnace, kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

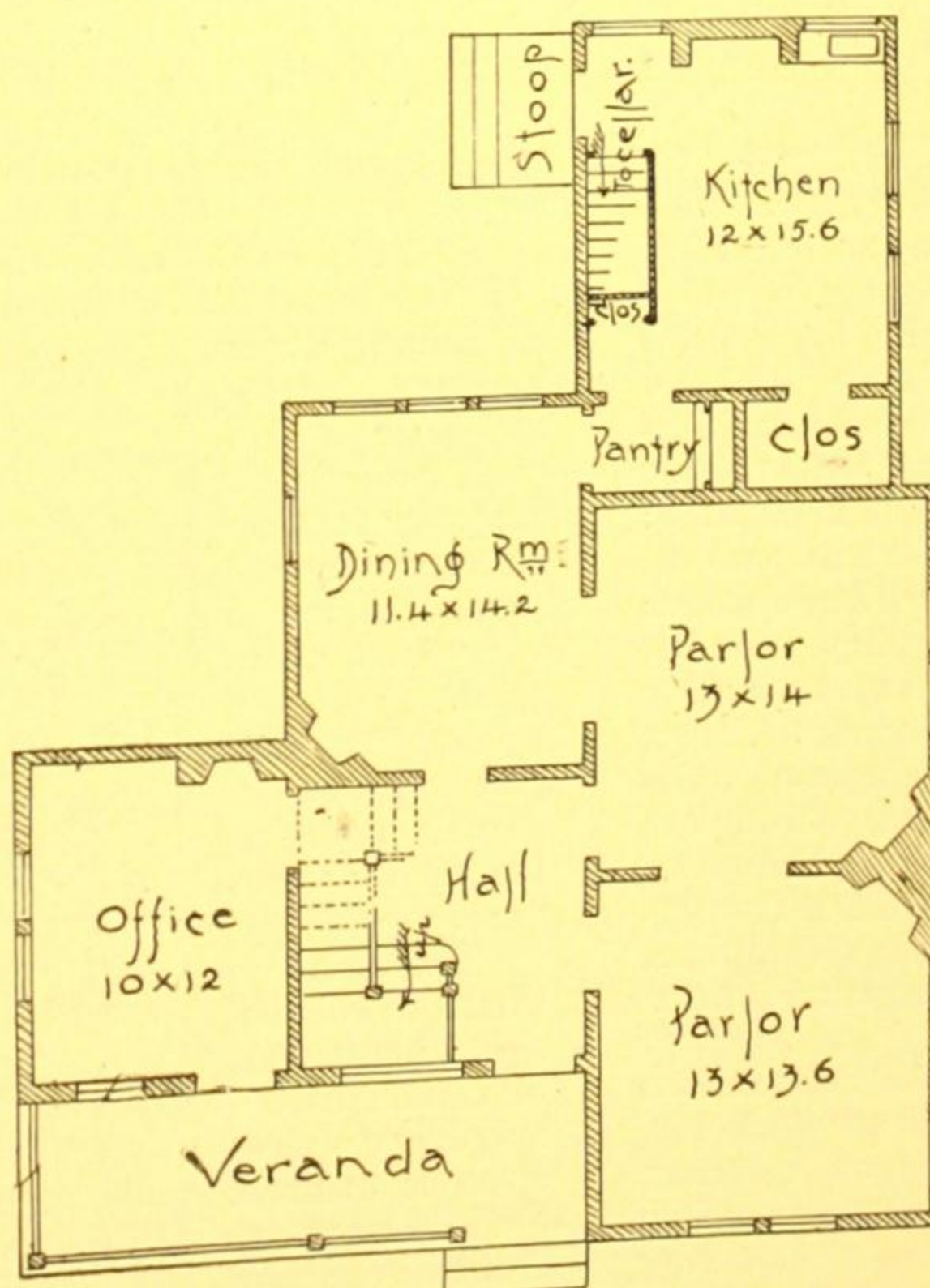
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Another modification of Number 285.

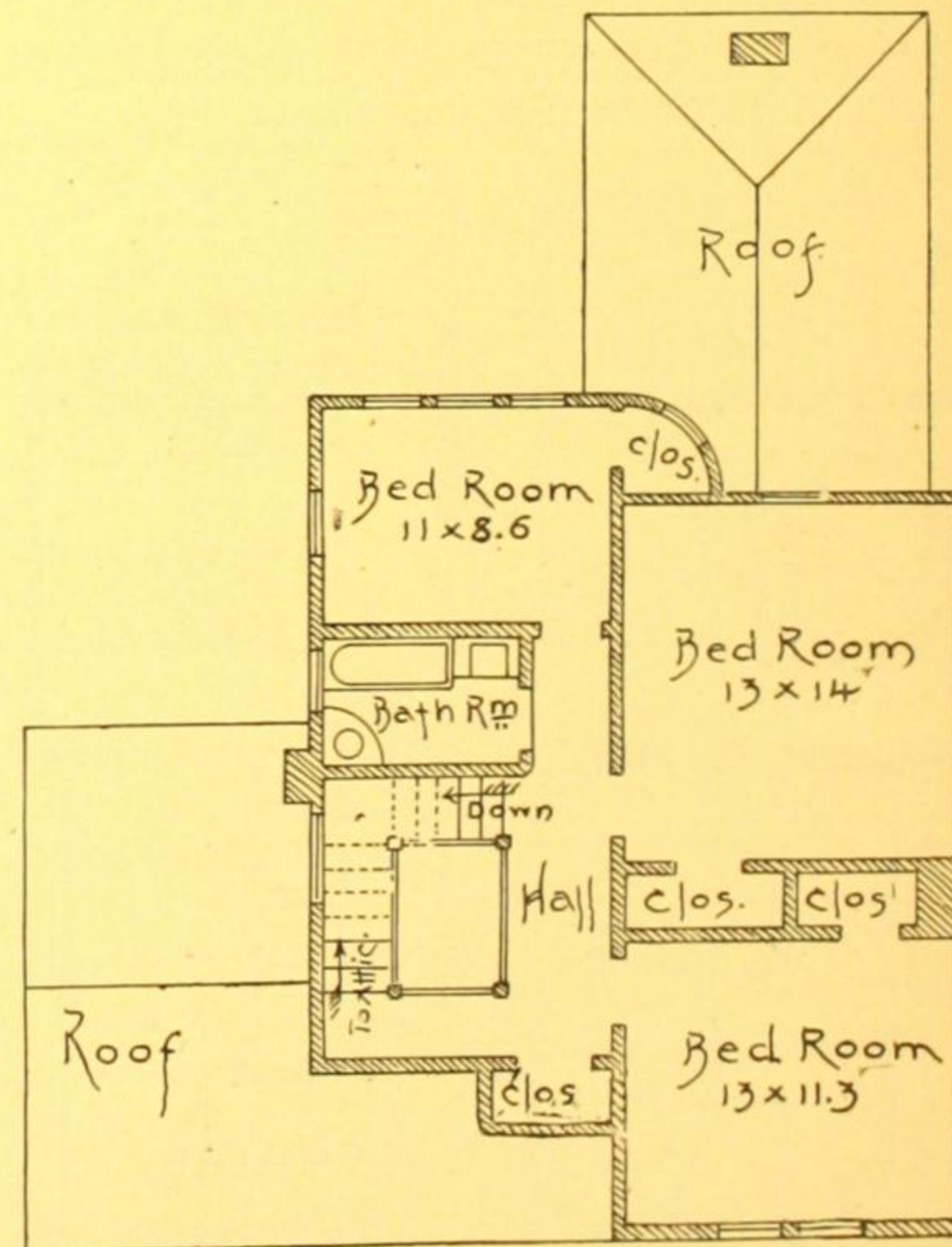
Beside the kitchen extension, a side wing is added, which provides a suit-

able office for a doctor or a lawyer, with access from the street and also from the main house.

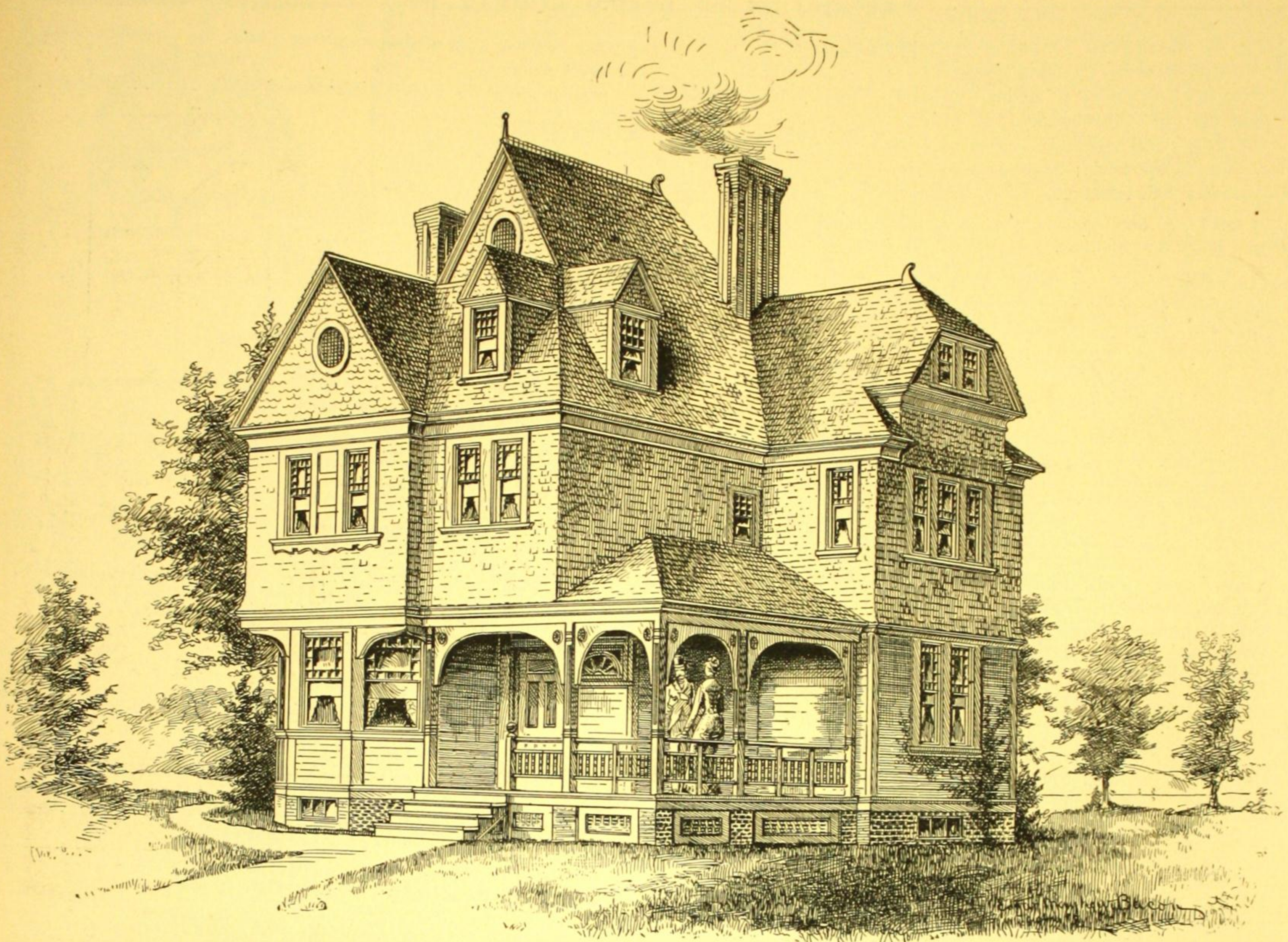
Cellar under the kitchen and half of the house. Three rooms in the attic.



FIRST FLOOR. NO. 287



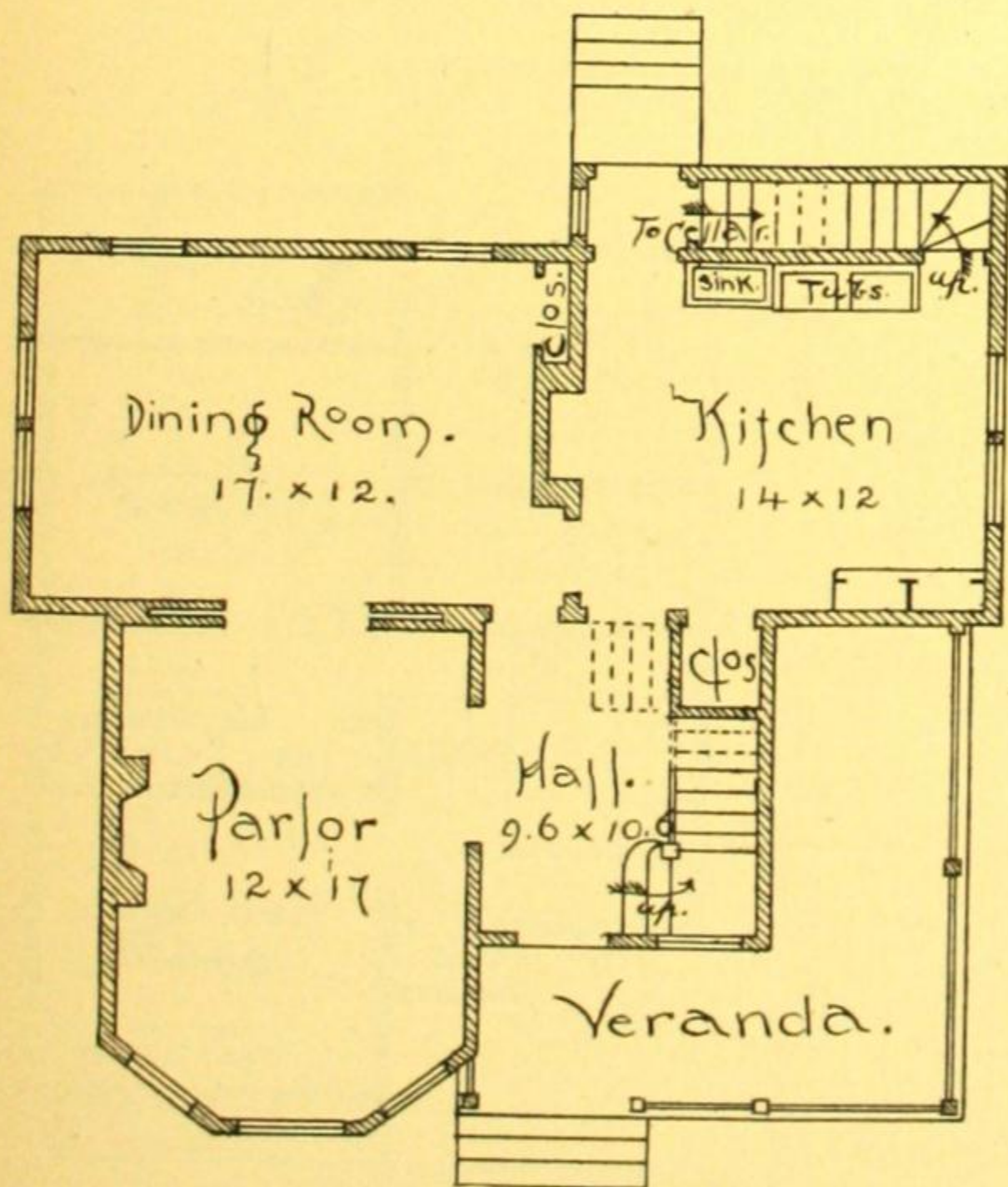
SECOND FLOOR. NO. 287



DESIGN No. 288. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 288

SIZE OF STRUCTURE: Front, 34 ft. Side, 33 ft.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 288

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Third Story, 7 ft., 10 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,200, complete, except furnace.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost.

SPECIAL FEATURES.—Cellar under the whole house.

Four bed-rooms in the attic.

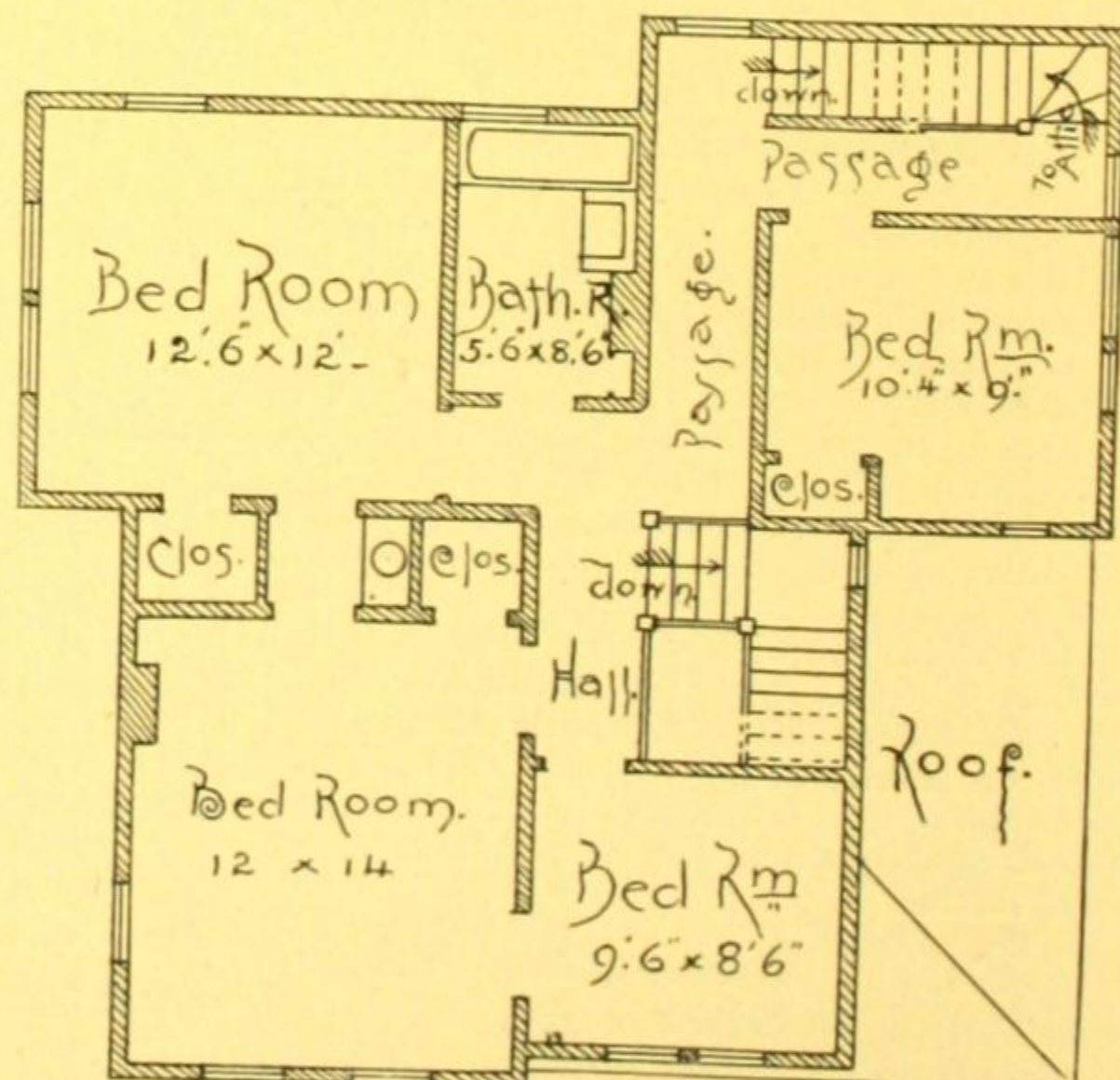
Sliding doors between parlor and dining-room.

The back stairway and the passage on the second floor are very well managed.

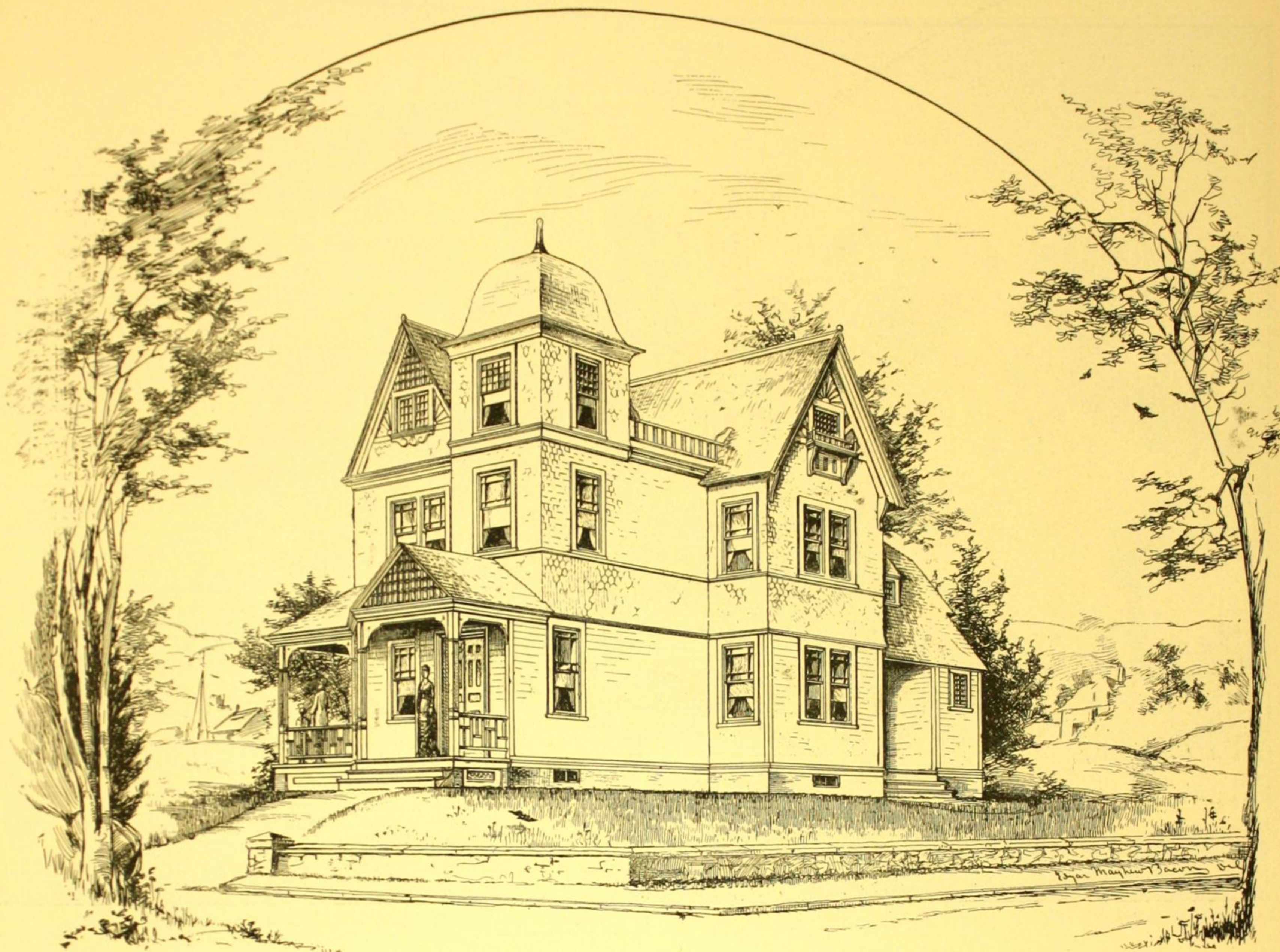
But one fireplace is provided, as this house is heated by a furnace.

There is no waste in this design; no useless ornamentation, and every inch of space is utilized.

The large bay front in the parlor is an attractive feature.



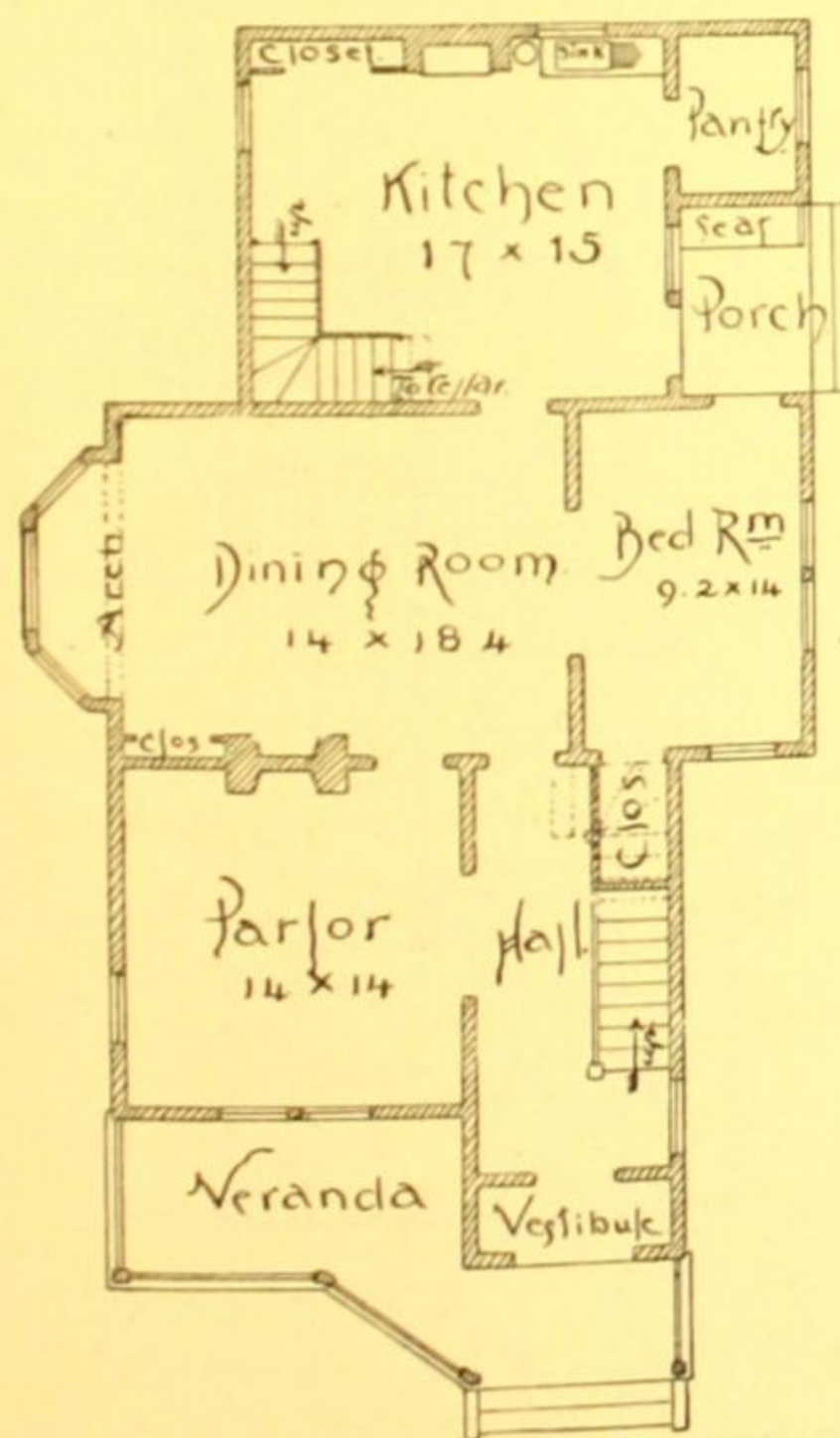
SECOND FLOOR. NO. 288



DESIGN No. 289. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 289

SIZE OF STRUCTURE: Front, 23 ft., 6 in. Side, 51 ft., 4 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 289

HEIGHT OF STORIES: Cellar, 6 ft., 10 in.; First Story, 10 ft.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, half timbered and shingled; Roof, shingles.

COST: \$3,500, complete, except furnace.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The

publishers will be glad to acquaint the intending builder with this modified cost at any time.

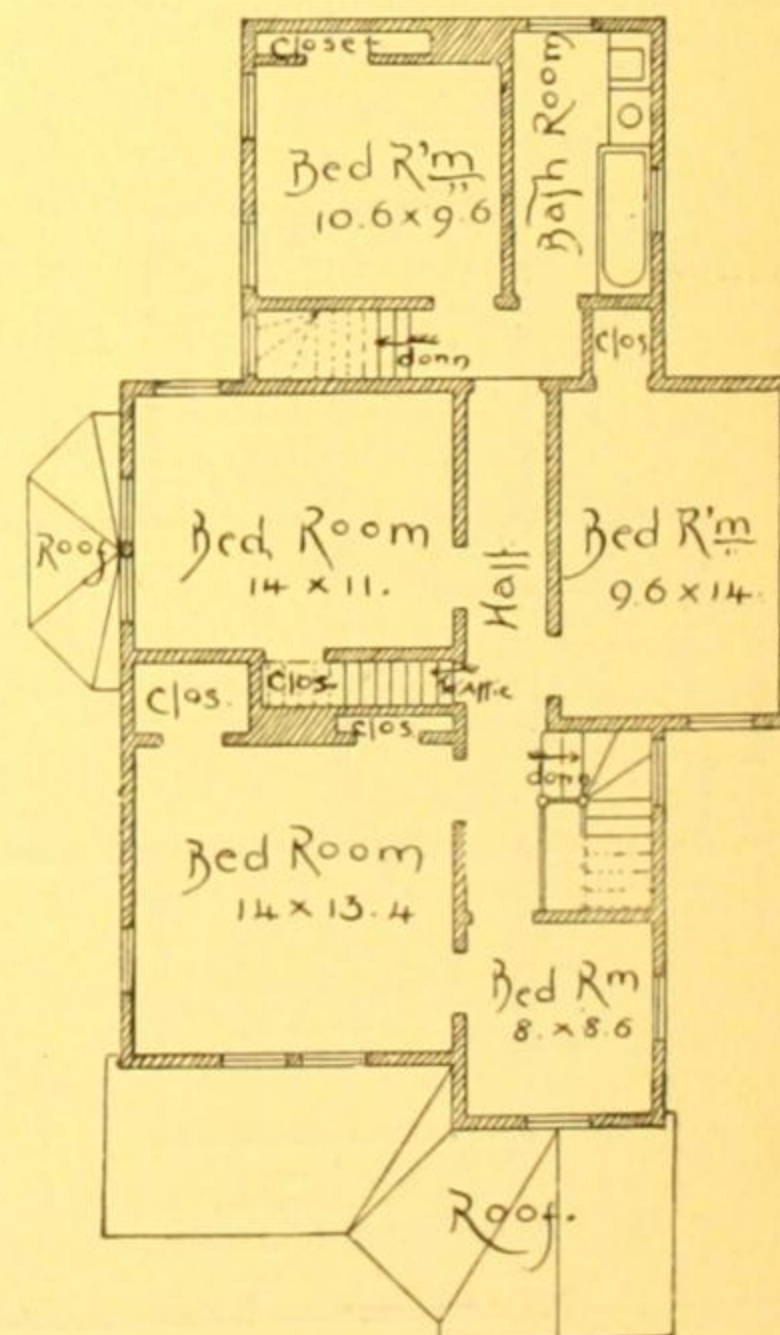
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

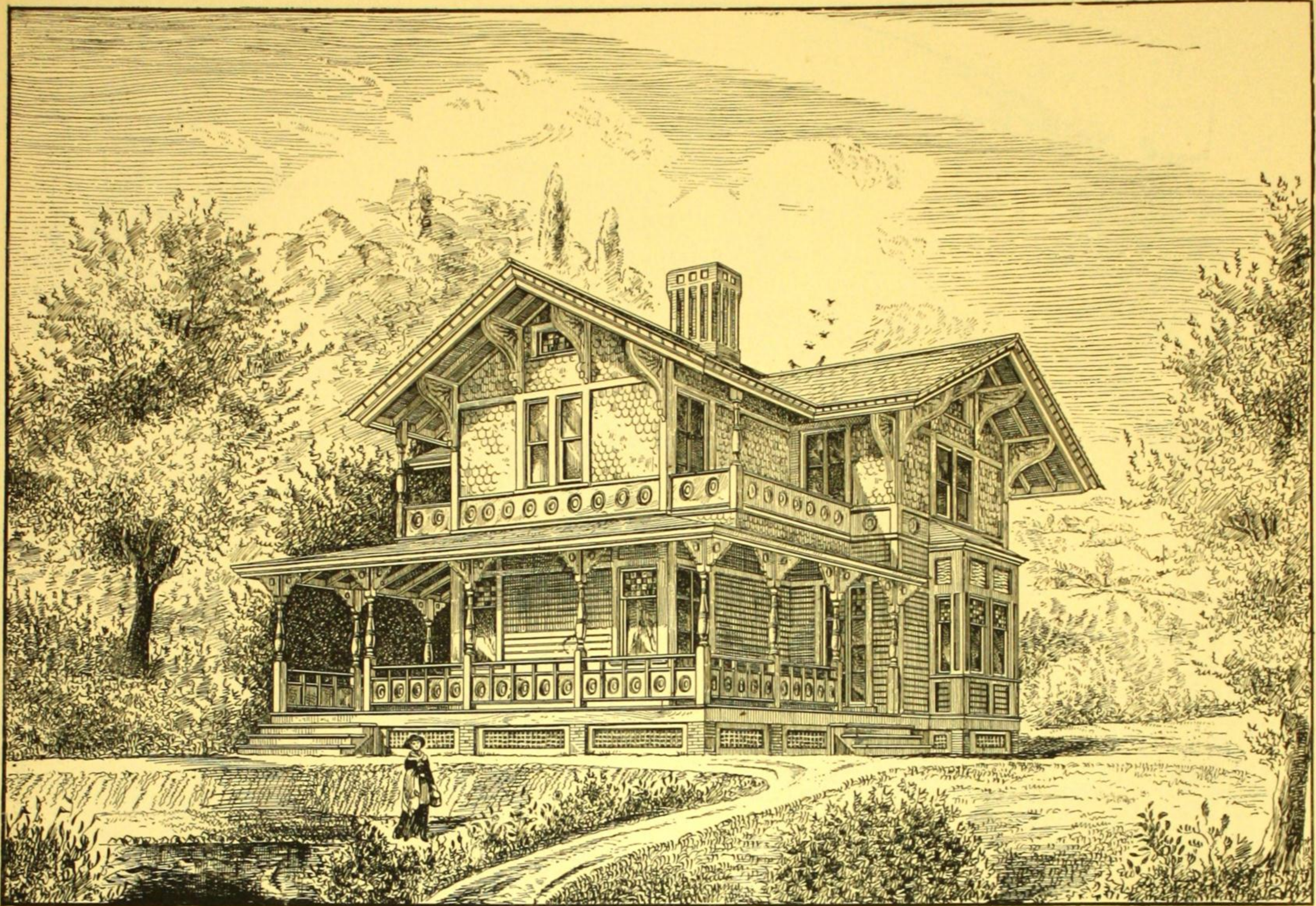
SPECIAL FEATURES.—Cellar under the extension only.

No rooms are finished in attic, but there are three available in the space, beside the tower-room, at no great cost.

This design makes a very good parsonage, the bed-room on the first floor being used for a study.



SECOND FLOOR. NO. 289



DESIGN No. 290. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 290

SIZE OF STRUCTURE: Front, 31 ft., 6 in. Side, 40 ft., 8 in., including veranda, 48 ft., 2 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit

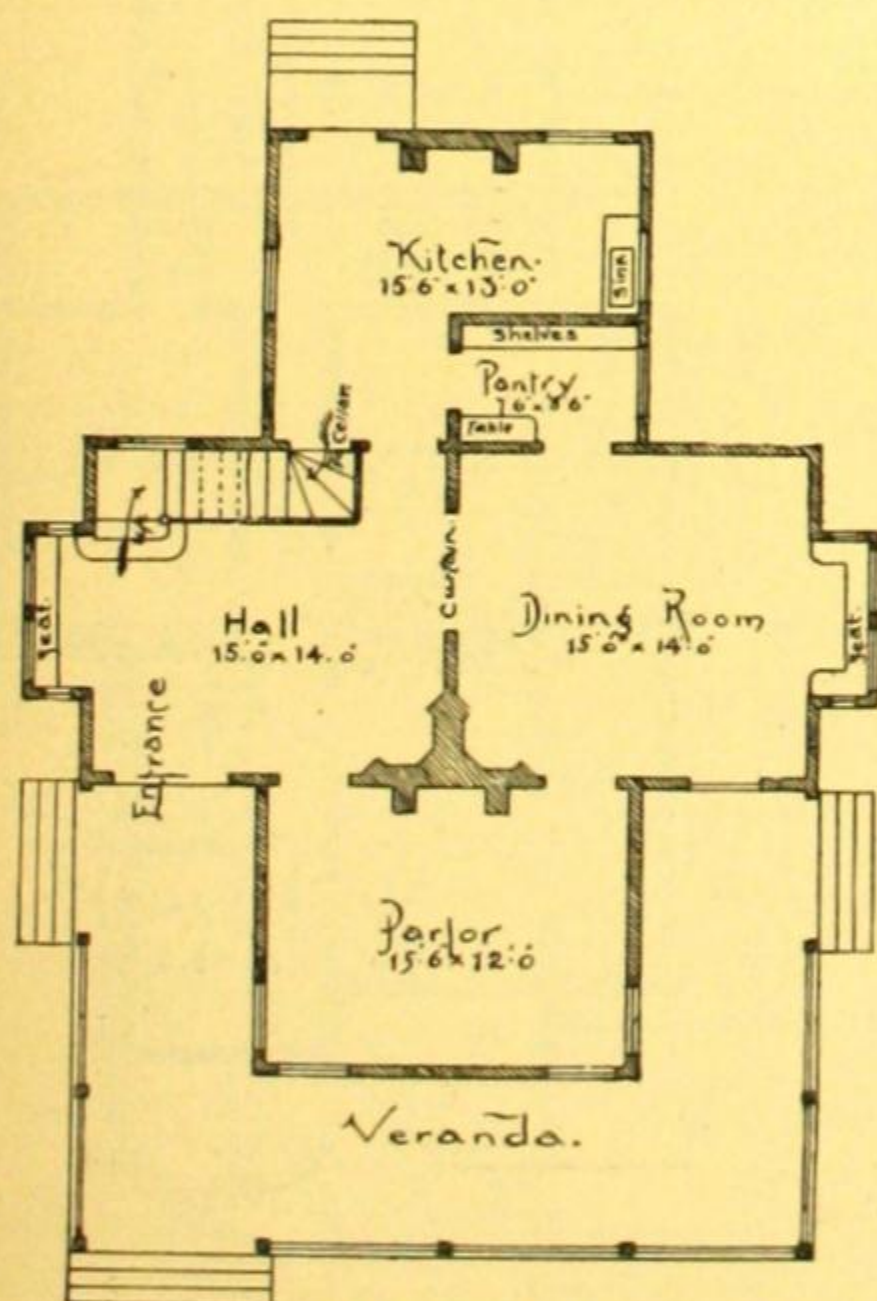
special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the kitchen and pantry only. It is probably well known to readers of this publication that cellars are not built so large as formerly. There is now much less use for cellar-room, as the butcher and greengrocer supply our daily wants, and the householder is no longer the small farmer and dairyman that he used to be.

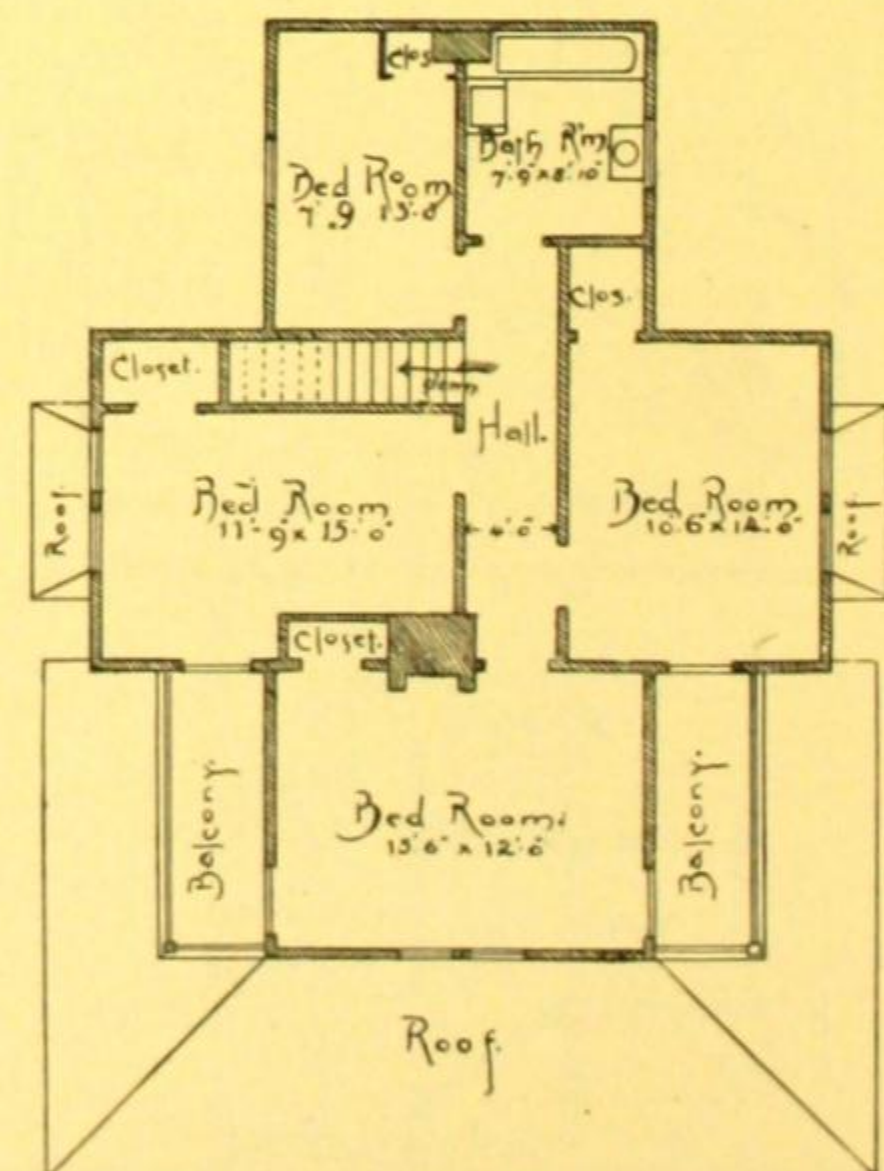
This is really an admirable design for a country cottage, both in arrangement and appearance; the ample veranda and balconies, the beautiful hall and staircase, the seats in the bay-windows, the fireplaces, all are fine features.

The general character of this design is Swiss, but modified and refined in detail in accordance with modern taste and ideas. The hanging balconies of second story, protected by the broad overhanging roof, afford very pleasant retreats during summer weather.

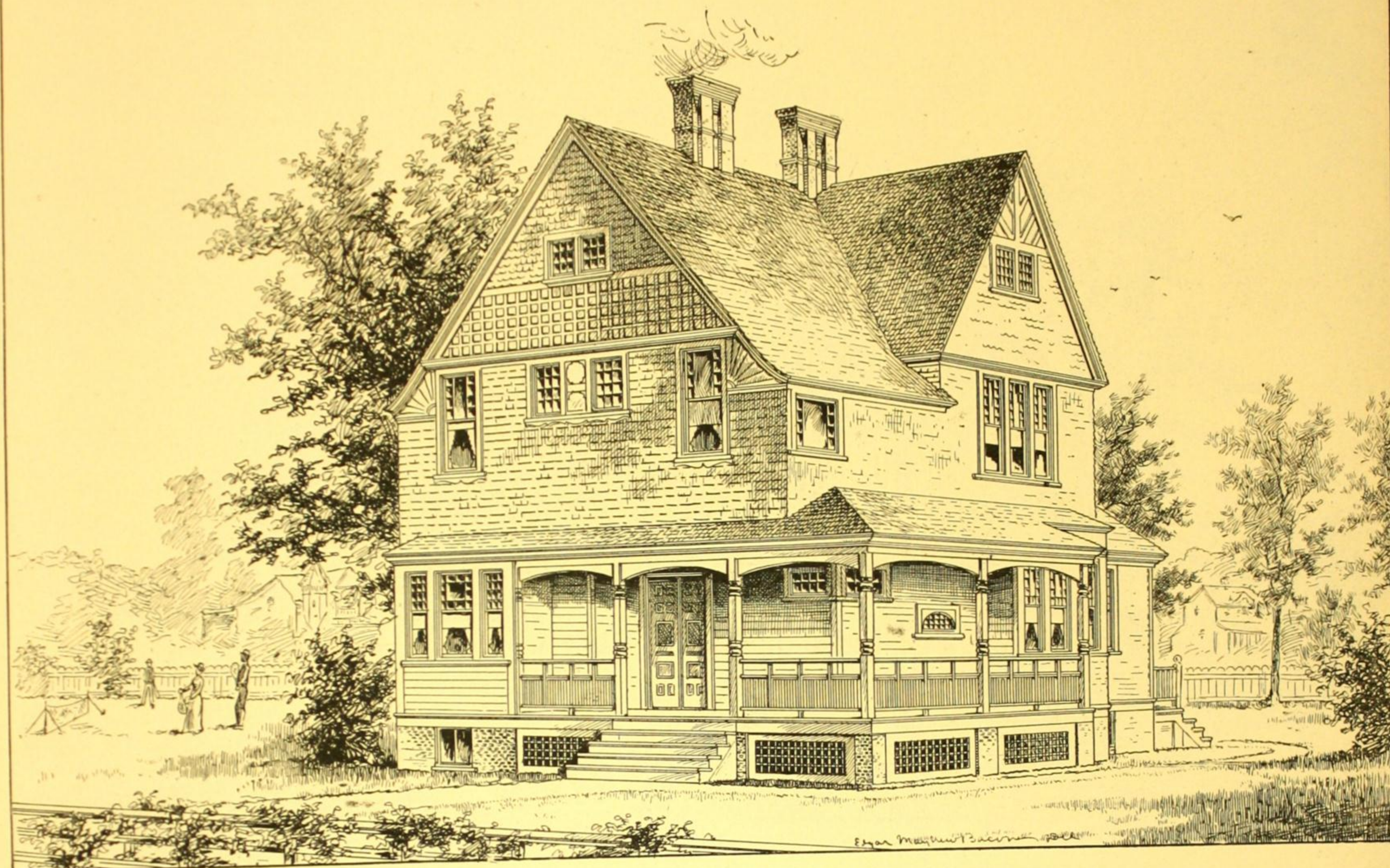
It is a matter of surprise that the Swiss style of cottage is neglected. We have noticed, however, that when a client does build a cottage in this style he is warm and enthusiastic in its praise.



FIRST FLOOR. NO. 290



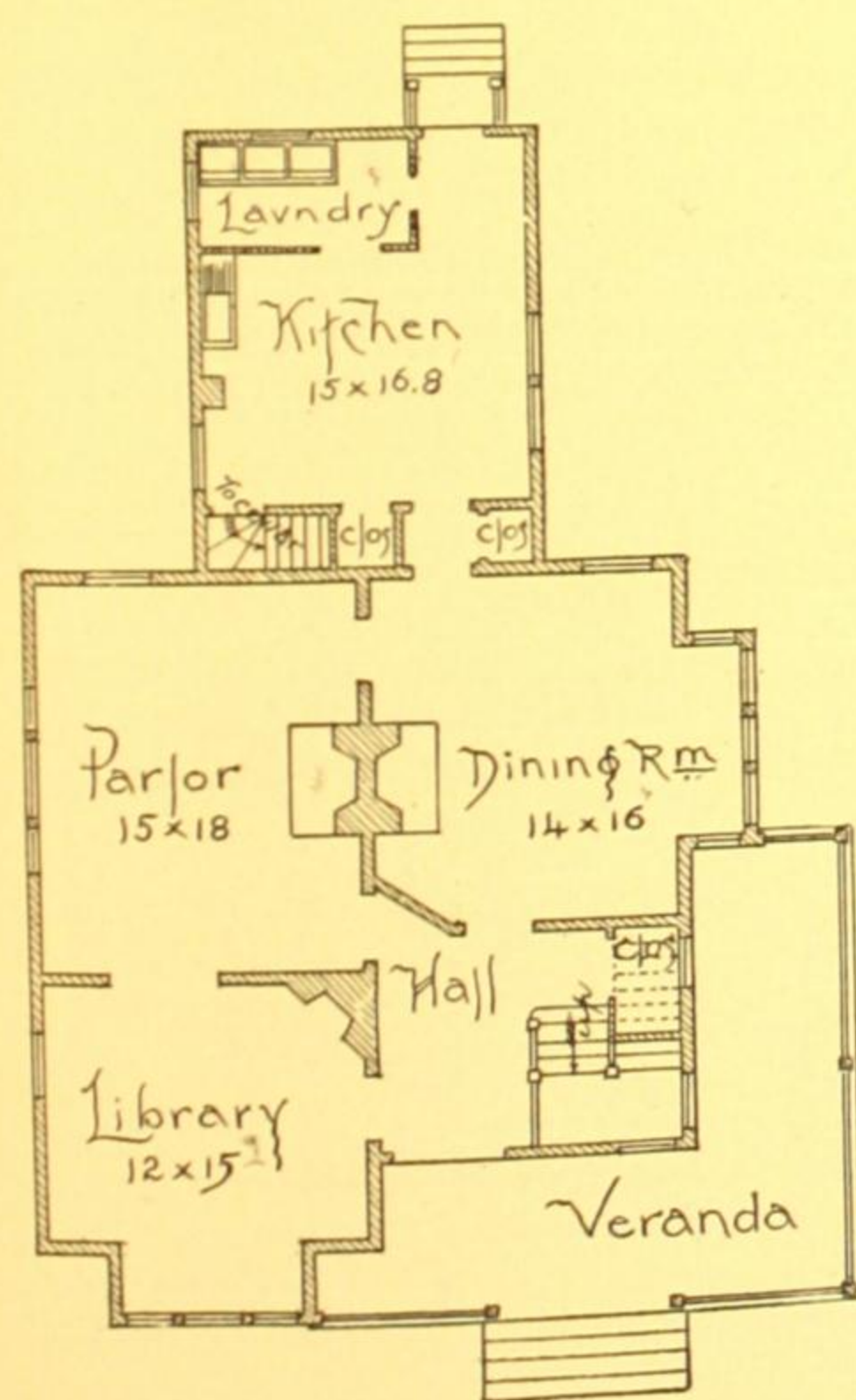
SECOND FLOOR. NO. 290



DESIGN No. 291. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 291

SIZE OF STRUCTURE: Front, 30 ft., 6 in. Side, 31 ft., 6 in.; including extension, 51 ft., 6 in.



FIRST FLOOR. NO. 291

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft., 6 in.; Third Story, 7 ft., 8 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, panels and shingles; Roof, shingles.

COST: \$3,000, complete, except furnace, kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most

other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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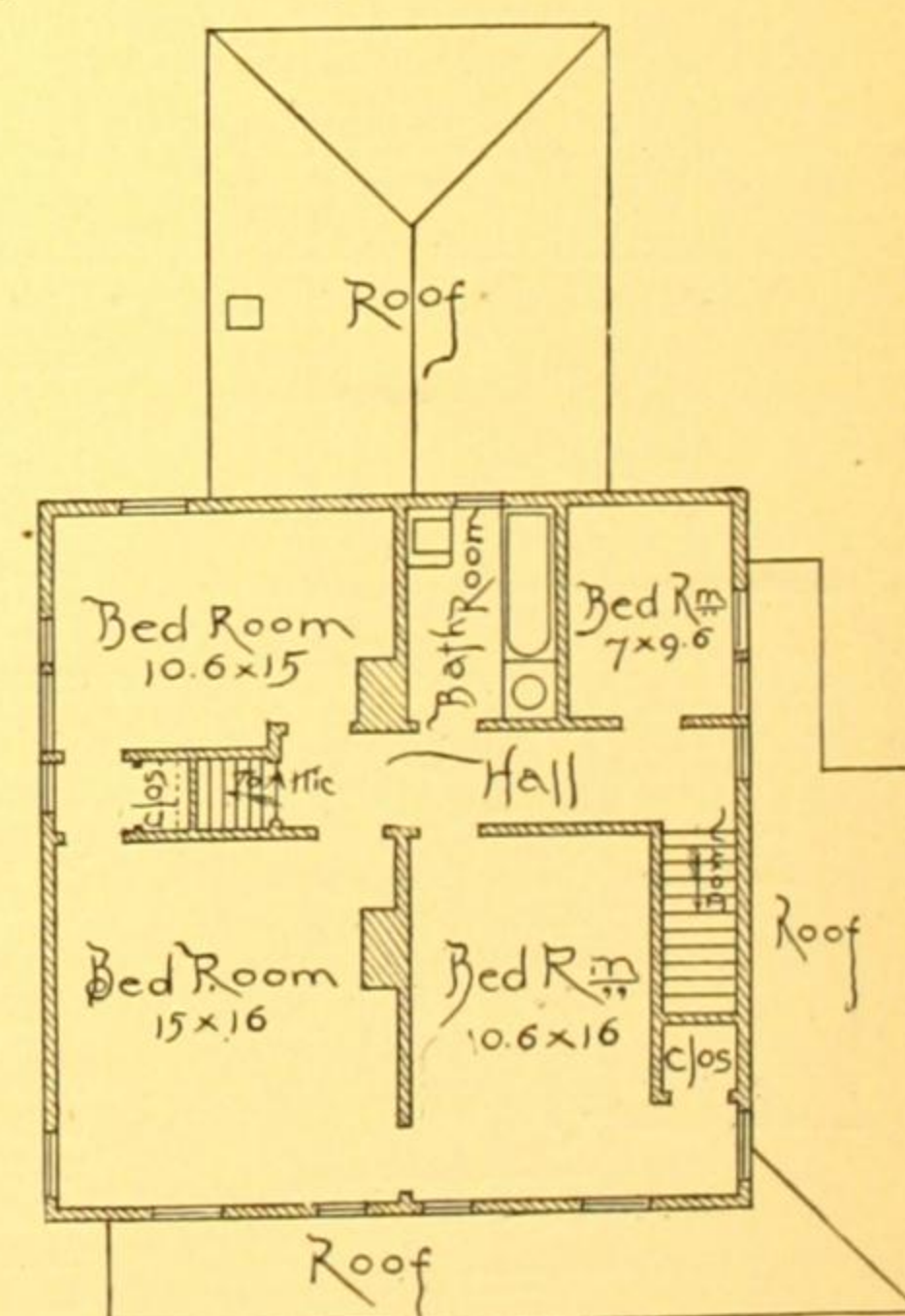
SPECIAL FEATURES.—Cellar under the whole house. Two bed-rooms in the attic.

Very pretty hall staircase and landing.

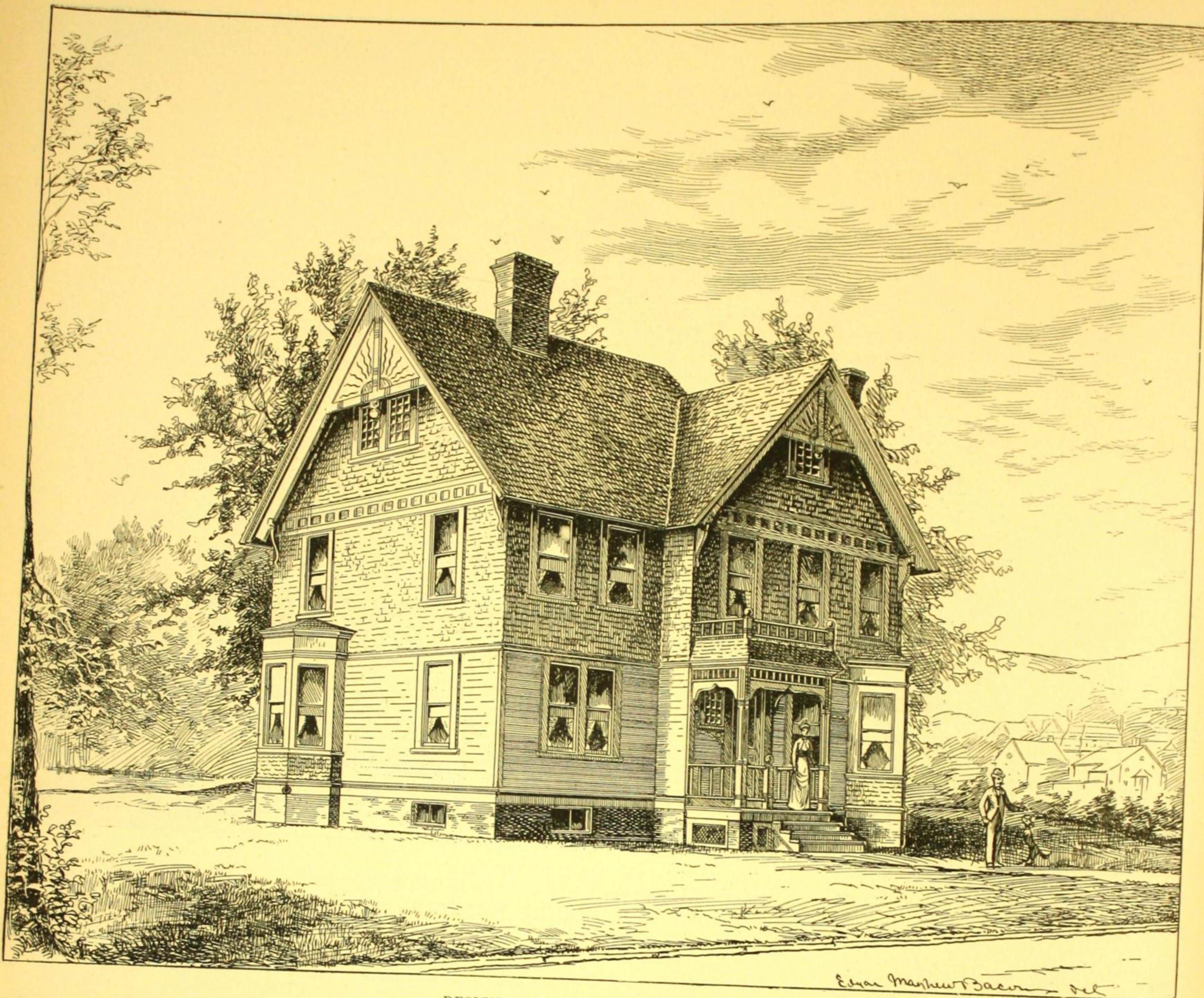
All the rooms of good size except one bed-room.

Heated by a furnace and fireplaces.

The interior is well arranged; the exterior is a good example of the best designing for cottages of moderate cost.



SECOND FLOOR. NO. 291



DESIGN No. 292. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 292

SIZE OF STRUCTURE: Front, 36 ft. Side, 30 ft. Extension, 10 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 4 in.; Second Story, 9 ft., 1 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$4,000, complete, except mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

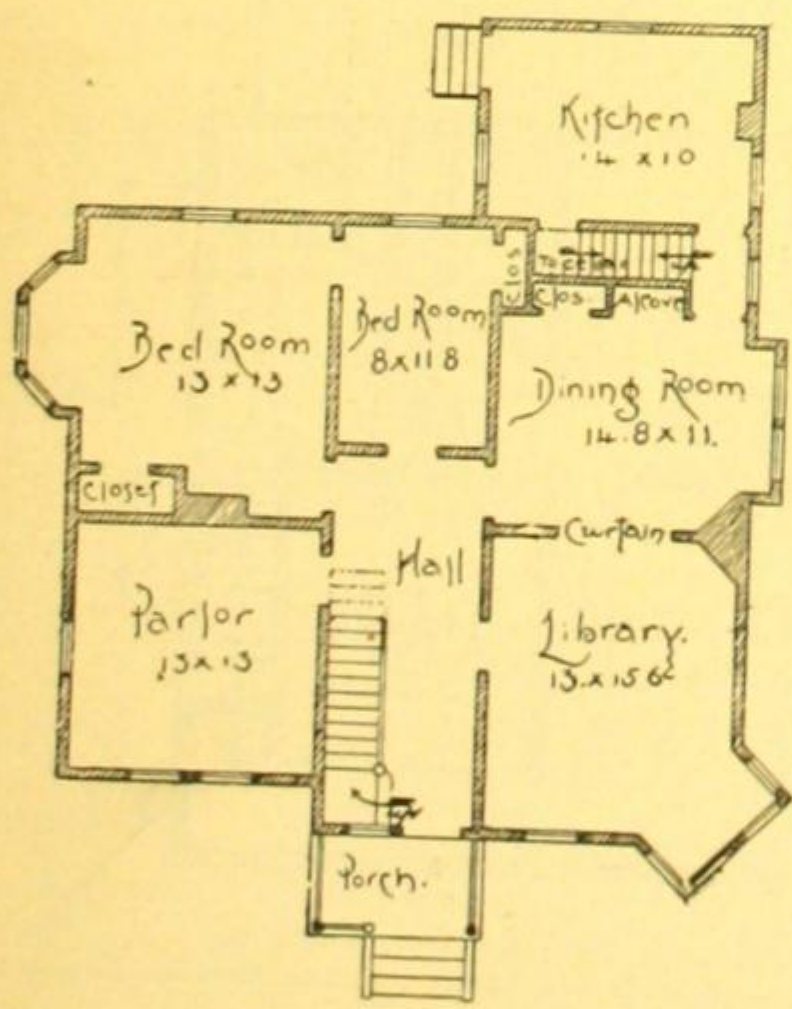
SPECIAL FEATURES.—Cellar under whole house.

The attic is not finished, but it affords available space for three rooms and storeroom.

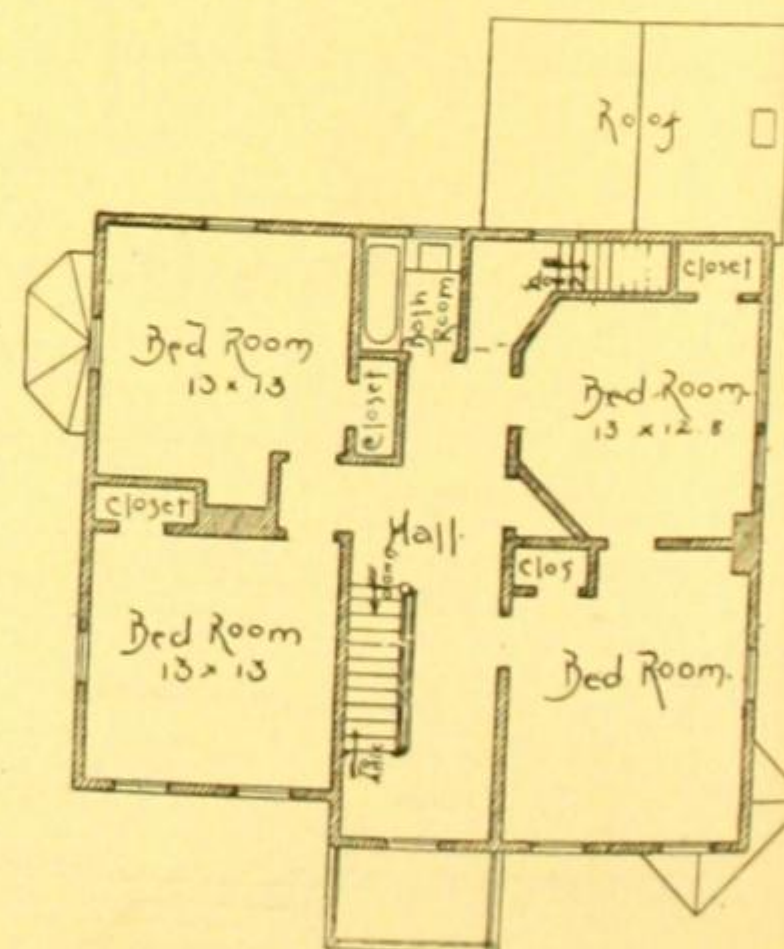
No fireplaces are shown on plans, as this house is heated by stoves.

Three of the principal rooms have fine bay-windows—one being a corner bay that affords a wide outlook.

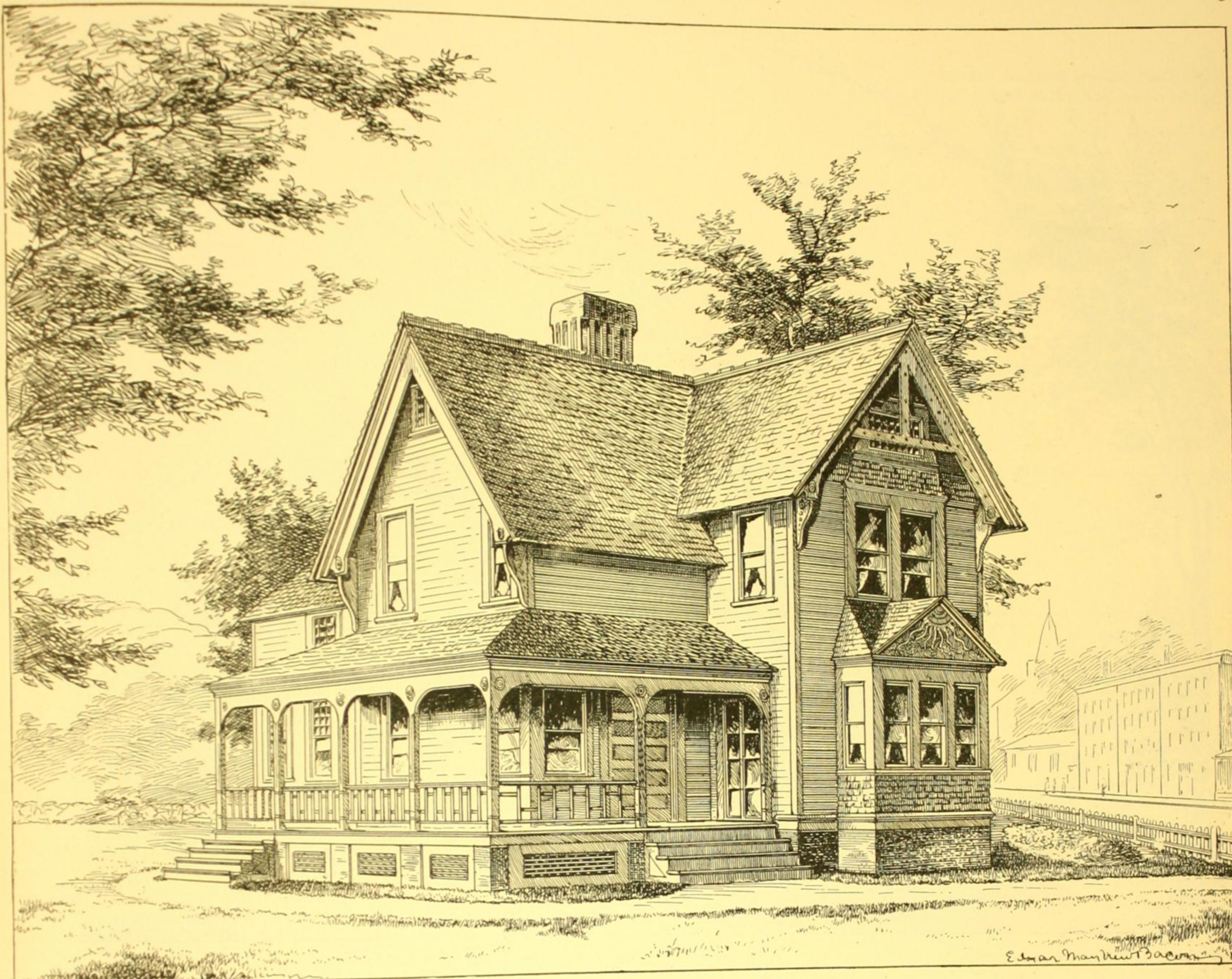
An alcove in the dining-room provides a place for a sideboard. The best way, often, is to build in the sideboard at the time of finishing the house, if the workmen employed are capable of making a good job of cabinet work.



FIRST FLOOR. NO. 292



SECOND FLOOR. NO. 292



DESIGN No. 293. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 293

SIZE OF STRUCTURE: Front, 26 ft., 10 in. Side, 51 ft., 3 in.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$2,800, complete, except heating apparatus, and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

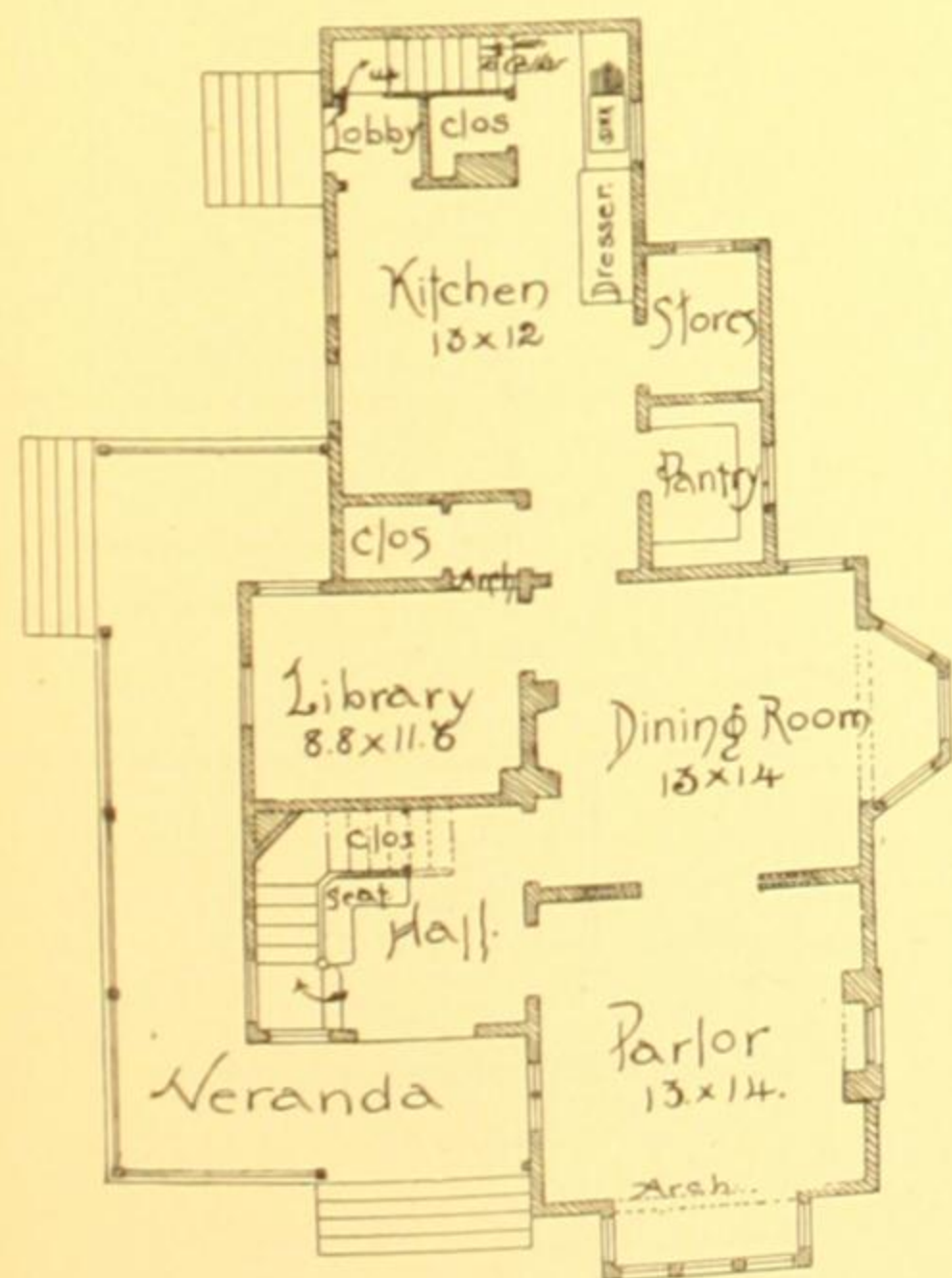
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under half of the house, outside chimney, with a window over the mantel in the parlor—a novel feature, much liked by all who have built it.

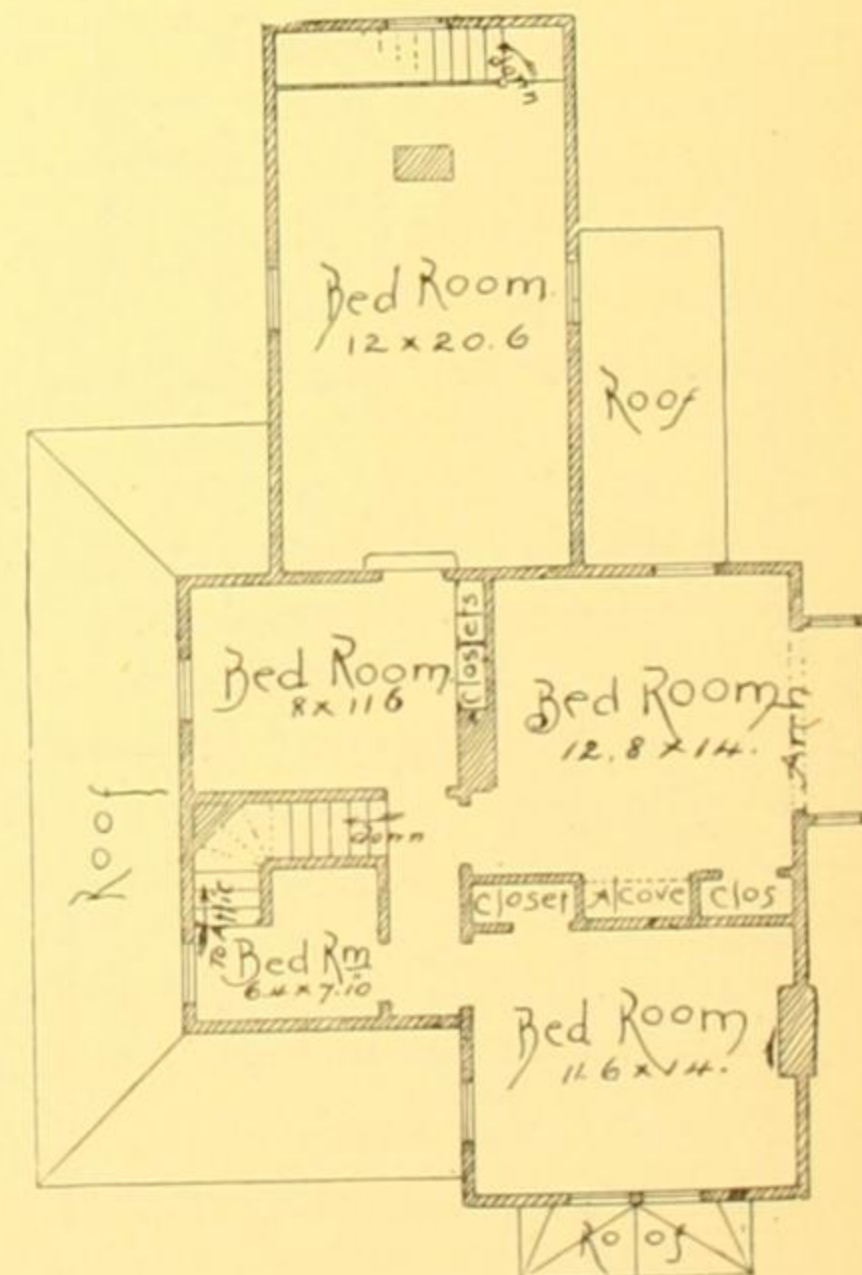
House heated by steam or furnace.

No plumbing, except what is required for the kitchen sink.

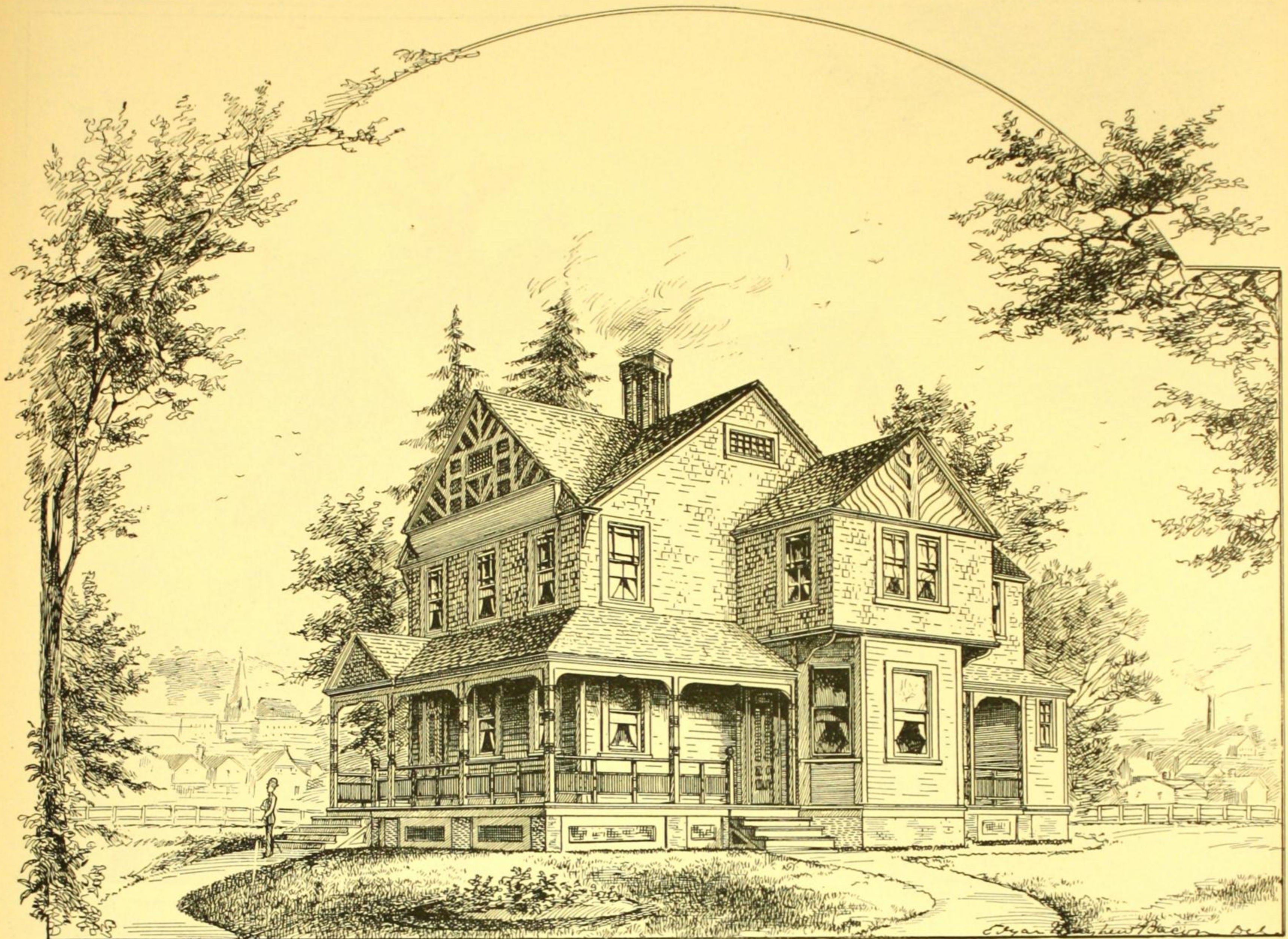
Very handsome stairway.



FIRST FLOOR. NO. 293



SECOND FLOOR. NO. 293



DESIGN No. 294. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 294

SIZE OF STRUCTURE: Front, 31 ft. Side, 45 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$3,300, all complete, except furnace, range, and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Col-

ors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house, with both outside and inside entrance to it.

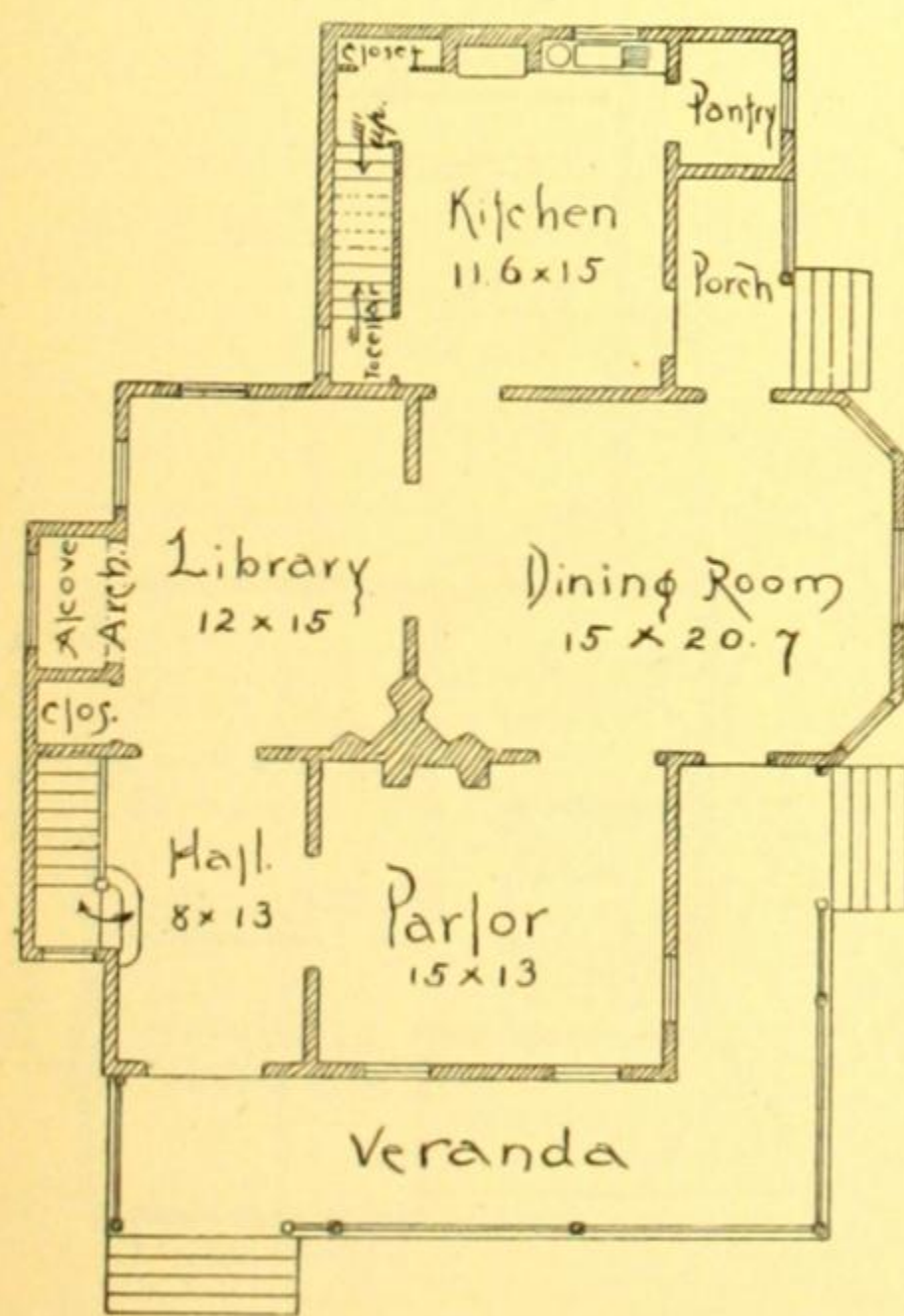
Attic unfinished, but it affords space for three rooms.

Heated by fireplaces and a furnace.

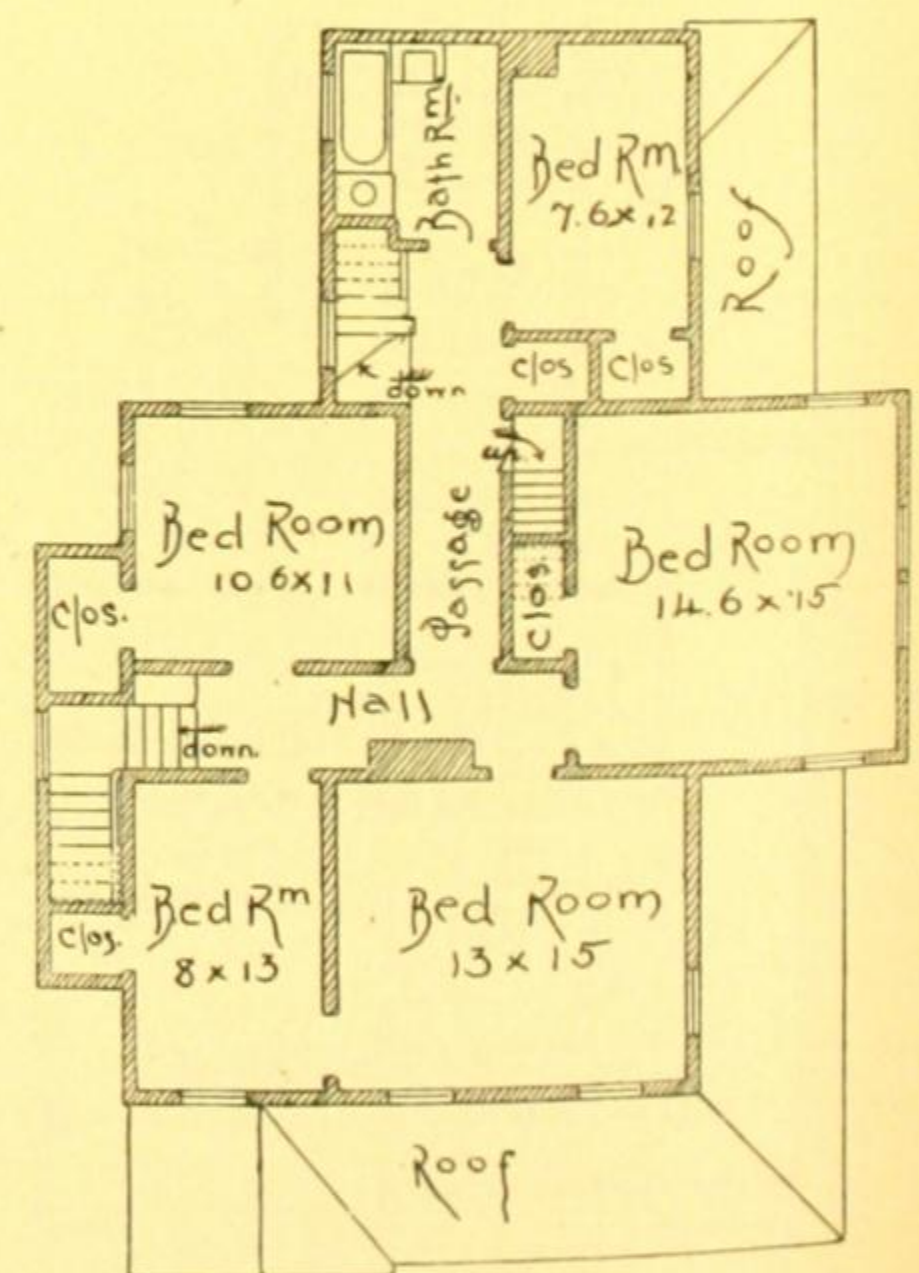
Has a large dining-room and plenty of bed-rooms—just the combination needed for a hospitable house.

The arched alcove in the library and the large bay in the dining-room are fine features.

Properly painted the exterior is very pleasing. The interior arrangement must commend itself to any one who has given much study to these matters.



FIRST FLOOR. NO. 294



SECOND FLOOR. NO. 294

DESCRIPTION OF DESIGN NUMBER 295

SIZE OF STRUCTURE: Front, including veranda, 34 ft., 6 in.; Side, 51 ft., 6 in.; including veranda, 58 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles and half timber; Roof, shingles.

COST: \$4,500, complete, except heating apparatus and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The elevations are similar in appearance to those of the preceding design, Number 294.

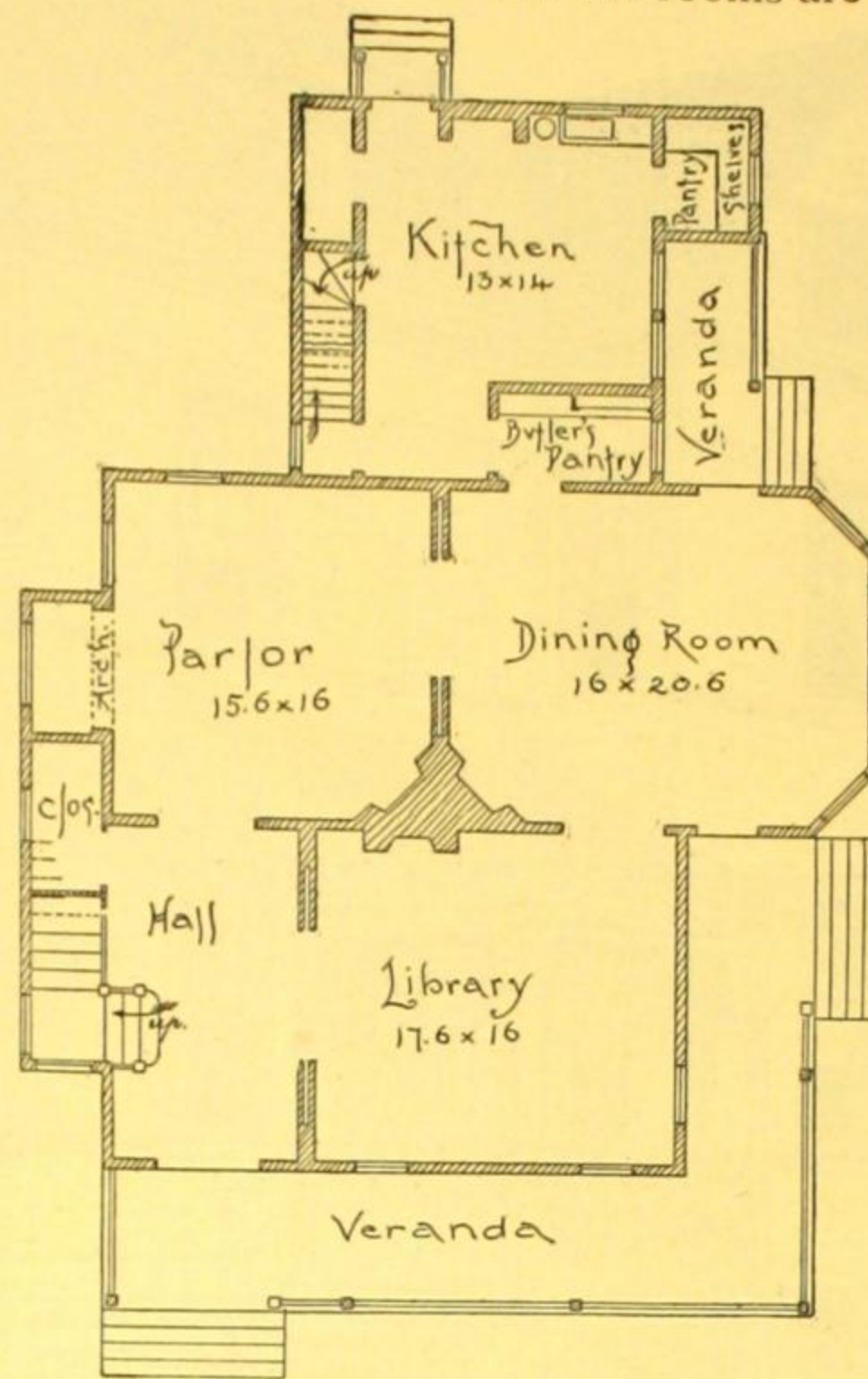
Cellar under the whole house.

Three rooms in attic. Plenty of closets.

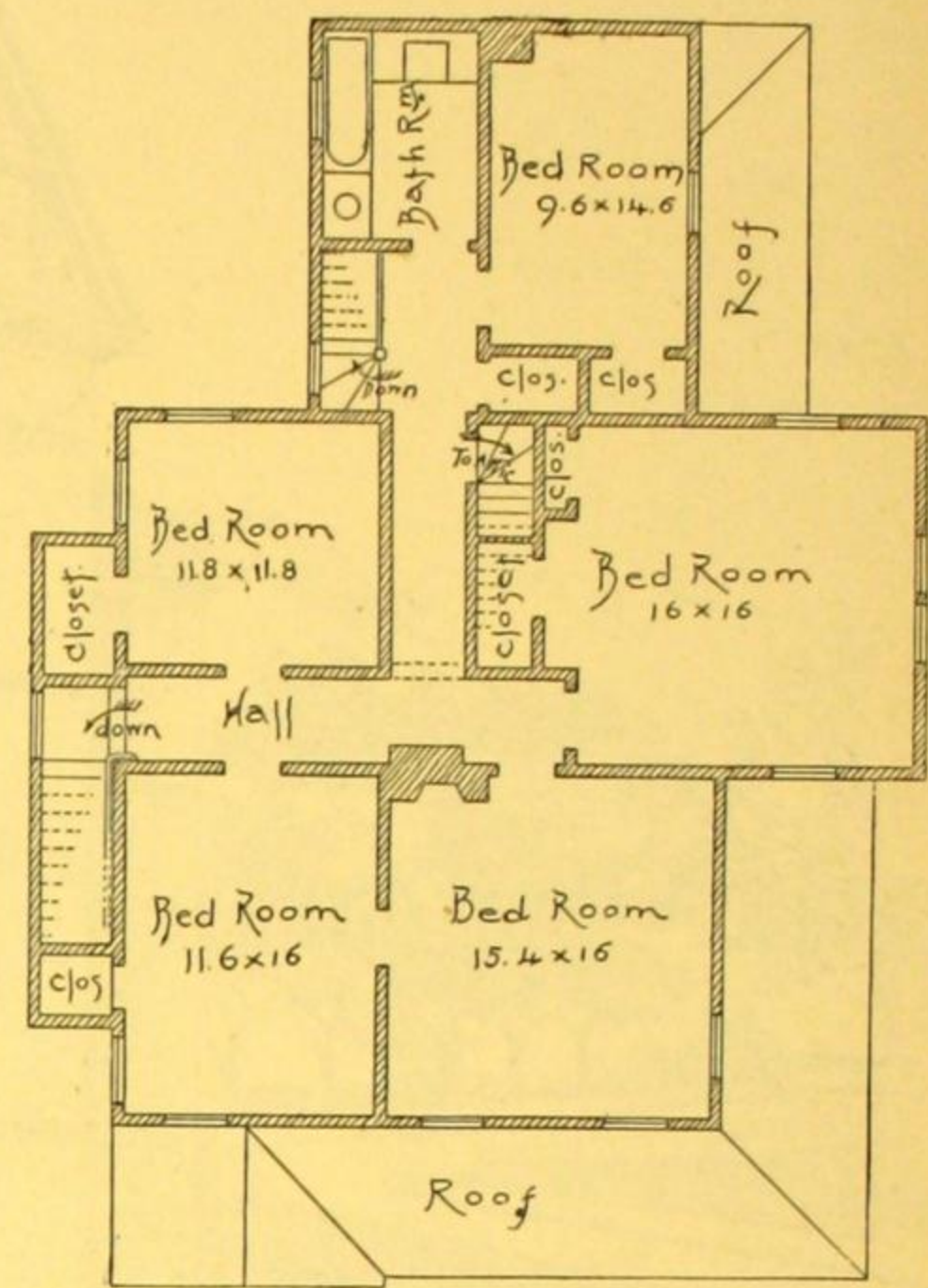
Heated by a furnace.

The stairway annex is a noticeable feature, leaving the hall clear and unobstructed, providing a large closet in the hall and a beautiful alcove in the parlor.

All the rooms are large.



FIRST FLOOR. NO. 295



SECOND FLOOR. NO. 295

A TALK ABOUT HOUSE-PAINTING

BY A PRACTICAL PAINTER

MANY persons seem to have the idea that it is the lead in the paint that preserves the wood, and an essay was read before "The Farmers' Club" in this city to that effect. I don't think any practical painter has such an idea. He knows that the oil is the preservative in outside painting. When the oil disappears the lead and other materials fall off, except Venetian red, which acts as a dye, and black, which seems indestructible. Neither of these is in much demand now. A house kept well oiled will stand the weather just as well as if painted. The pigments or colors are simply to please the eye.

If you prefer the old way, you will get good white lead, pure linseed oil and pure colors, and mix them to suit. If only an amateur, the best way is to get the lead tinted to the shades preferred, only requiring to be thinned to the proper consistency with oil.

The next thing is, how to apply it. The first requisite is to have the wood perfectly dry; a week without paint will not hurt, and gives time to shrink in dry weather. Of course this is not the usual way. The right way seldom is. Then cover all knots with a strong coat of shellac varnish. This will not prevent pitch or resin, if they are in large quantities, from coming through, however. Then give a flowing coat of very thin paint, as near the required color as you can. Next, with a putty-knife (not with the fingers), fill all checks, flaws and nail holes smoothly. This coat should stand another week. Then give a second coat, at least twice as thick as the first, and when this has had a week or ten days to harden, apply a third coat, not so heavy as the second, and trim with darker colors to suit. The trimming colors should be quite heavy, so as not to show streaks of the under color. There is a new way, which is to finish the painting with the second coat, and then give a coat of hard oil, spar varnish, or wood-preservative.

When a house is once well painted, a very slight expense will keep it in perfect order. A thin coat every second year will make it as fresh as ever. Then what makes so many houses appear

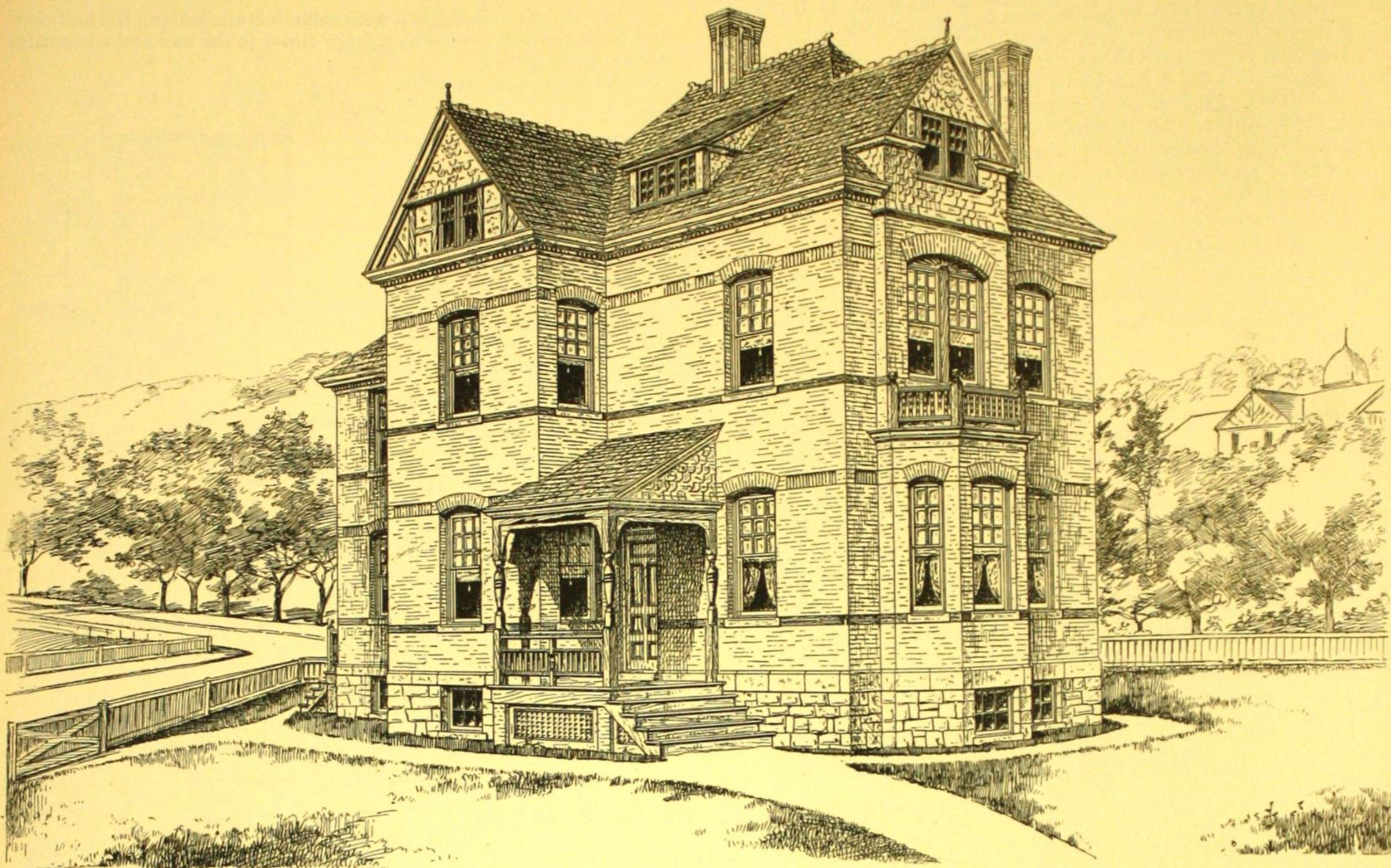
shabby, even within a year? What causes the fading, blistering and peeling? 1st, Hurry; not giving the wood proper time to season, so as to absorb the oil. 2d, Plastering two or three coats, one on top of the other, before they are thoroughly dry. 3d, Using cheap, "ready-mixed" paints, composed of lime, benzine, water, Paris white, oil, and alkali, all "warranted perfectly pure or money refunded." (I must not be understood to say that all ready-mixed colors are frauds, and that none are good.)

If you examine a manufacturer's price-list of colors you will find generally three prices, representing three qualities or grades. I presume there are ten pounds of the two latter grades sold to one of the first quality; in fact, the retailer often does not keep the first at all. There is little or no call for it. Yet, for real economy, one pound of pure color is worth five of the ordinary. As to the durability of colors, as a rule the simplest last the longest—that is, those having the fewest combinations, as black, with white, for pearl or gray; ochre, with white, forming cream to buff. The introduction of a third color is more liable to cause fading. Some of the most permanent colors when used alone, in combination with white become the most fleeting shades; as, for instance, Venetian red. The olives, drabs and creams, being the most enduring as well as least obtrusive, are very suitable and appropriate for the principal or body color. For the trimming colors the same rule applies. High colors fade the quickest.

Shingle-work should harmonize by contrast with the other parts. Creosote-stains, giving light to dark walnut tints, are prevailing now and look well.

As to the amount of lead and oil required for new work, it is safe to estimate that 25 pounds of lead and 2 gallons of oil will cover 150 square yards.

The foregoing remarks are not intended to make "every man his own painter." They simply recite a few leading facts proved by experience and contributed for the benefit of your readers.



DESIGN No. 296. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 296

SIZE OF STRUCTURE: Front, 19 ft., 8 in. Side, 49 ft., 2 in.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Gables, shingles and half timbered; Roof, shingles.

COST: \$3,500, complete, except furnace and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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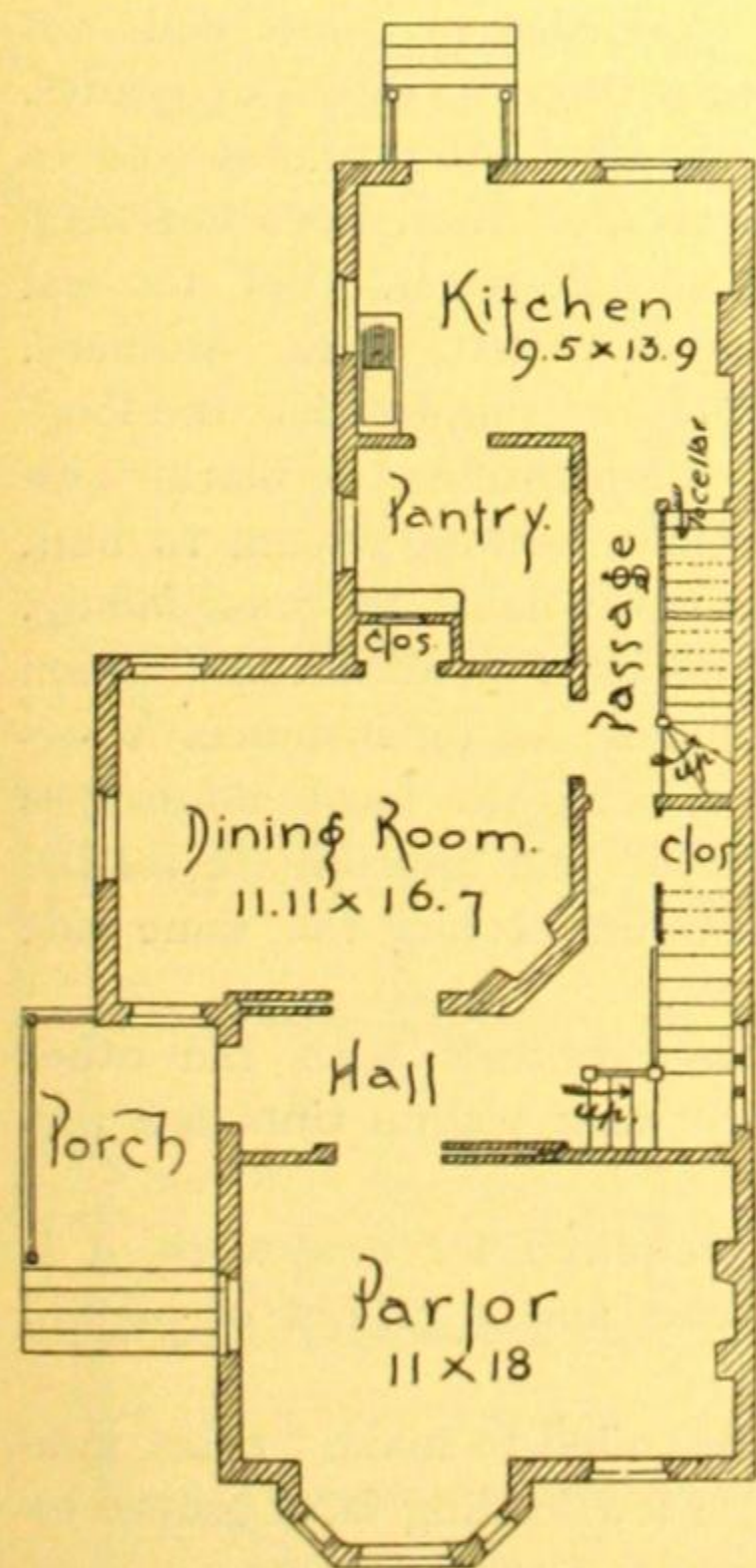
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house. Three good bed-rooms in the attic, beside the hall and a trunk-room. Laundry in the basement.

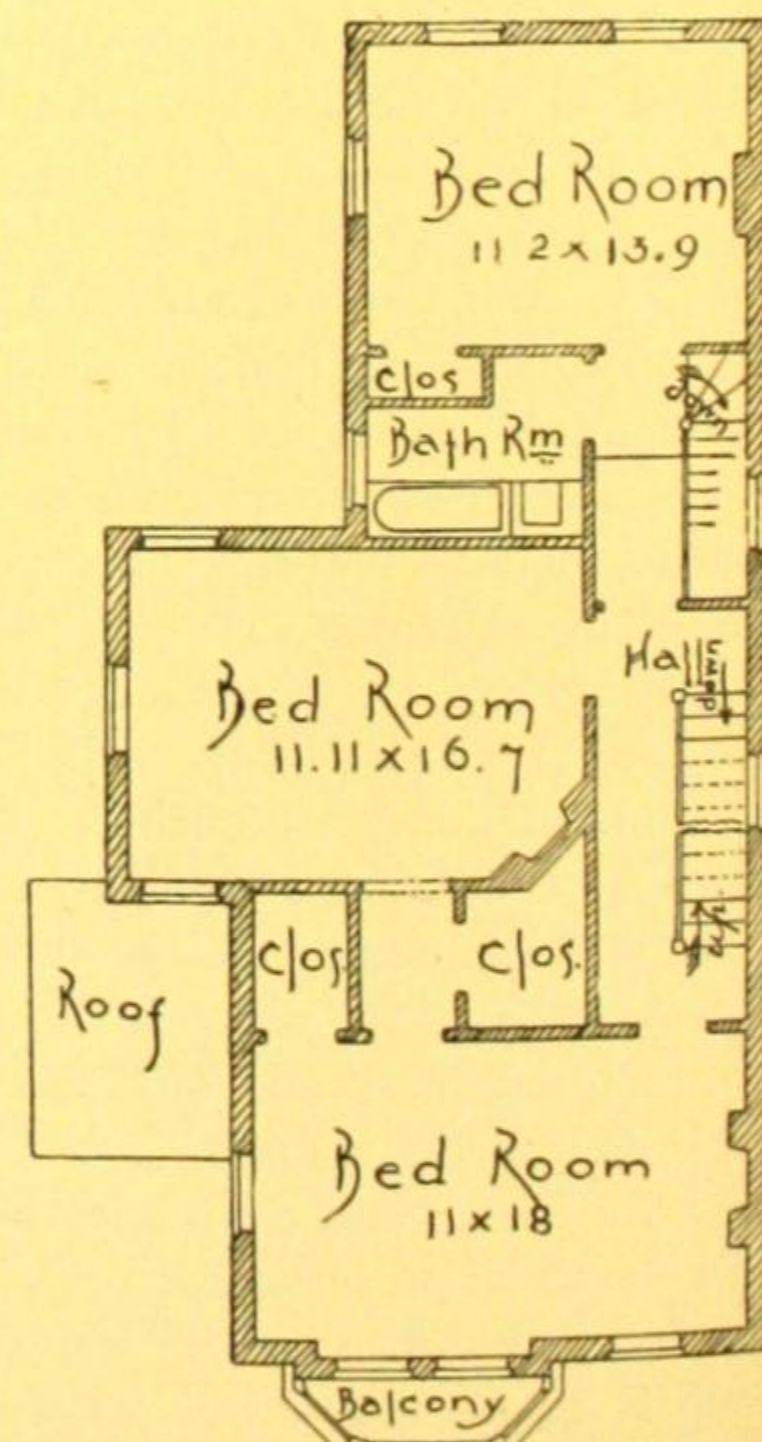
This house, being only 27 ft. in width at its widest point, is a good one for a city or village where ground is expensive.

The rooms are very compactly and conveniently arranged. A stained-glass window over the staircase lights the hall and stairs.

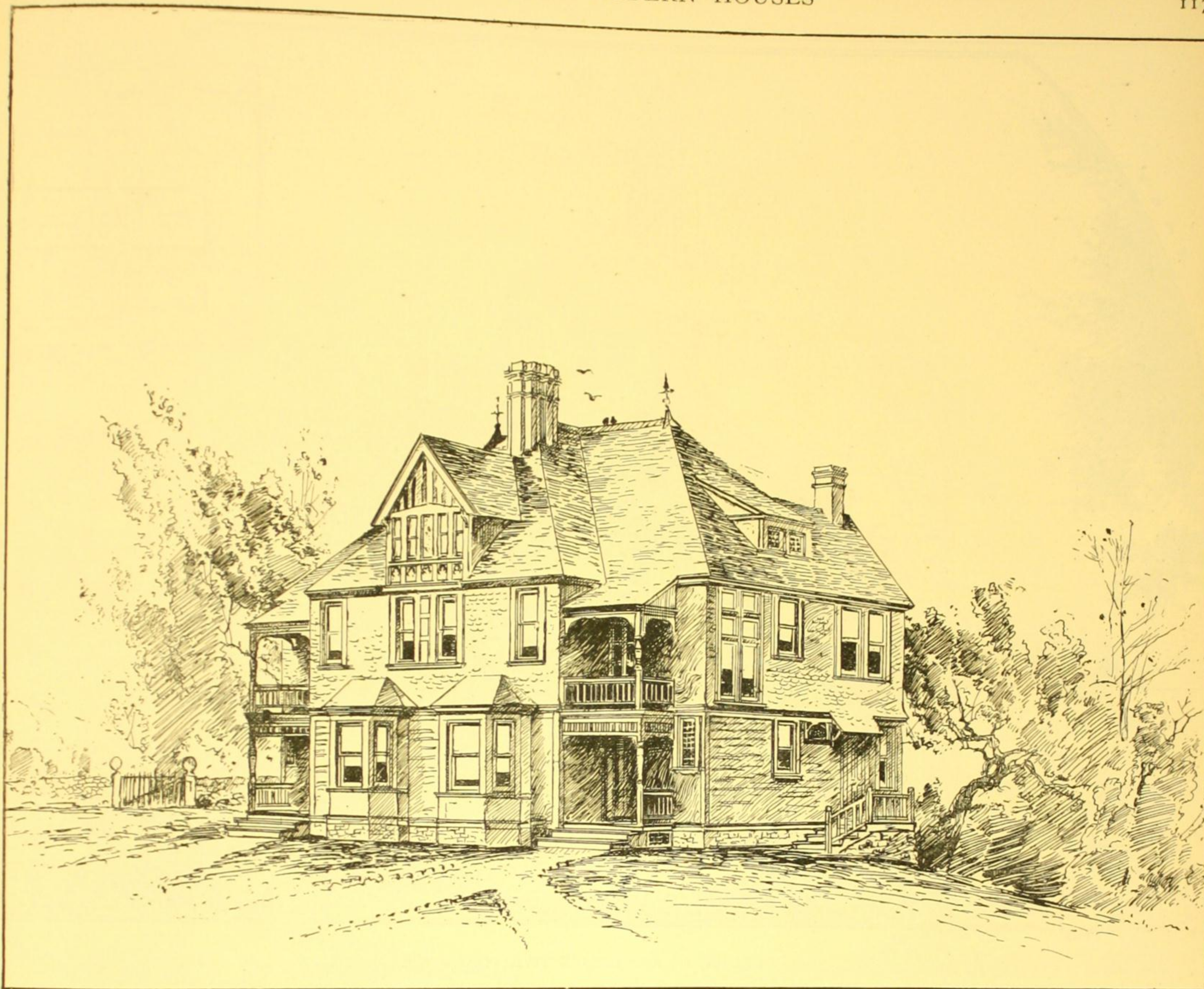
A large pantry, and large closets throughout.



FIRST FLOOR, NO. 296



SECOND FLOOR, NO. 296



DESIGN No. 297. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 297

SIZE OF STRUCTURE: Front, 50 ft. Side, 40 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$6,000, complete.

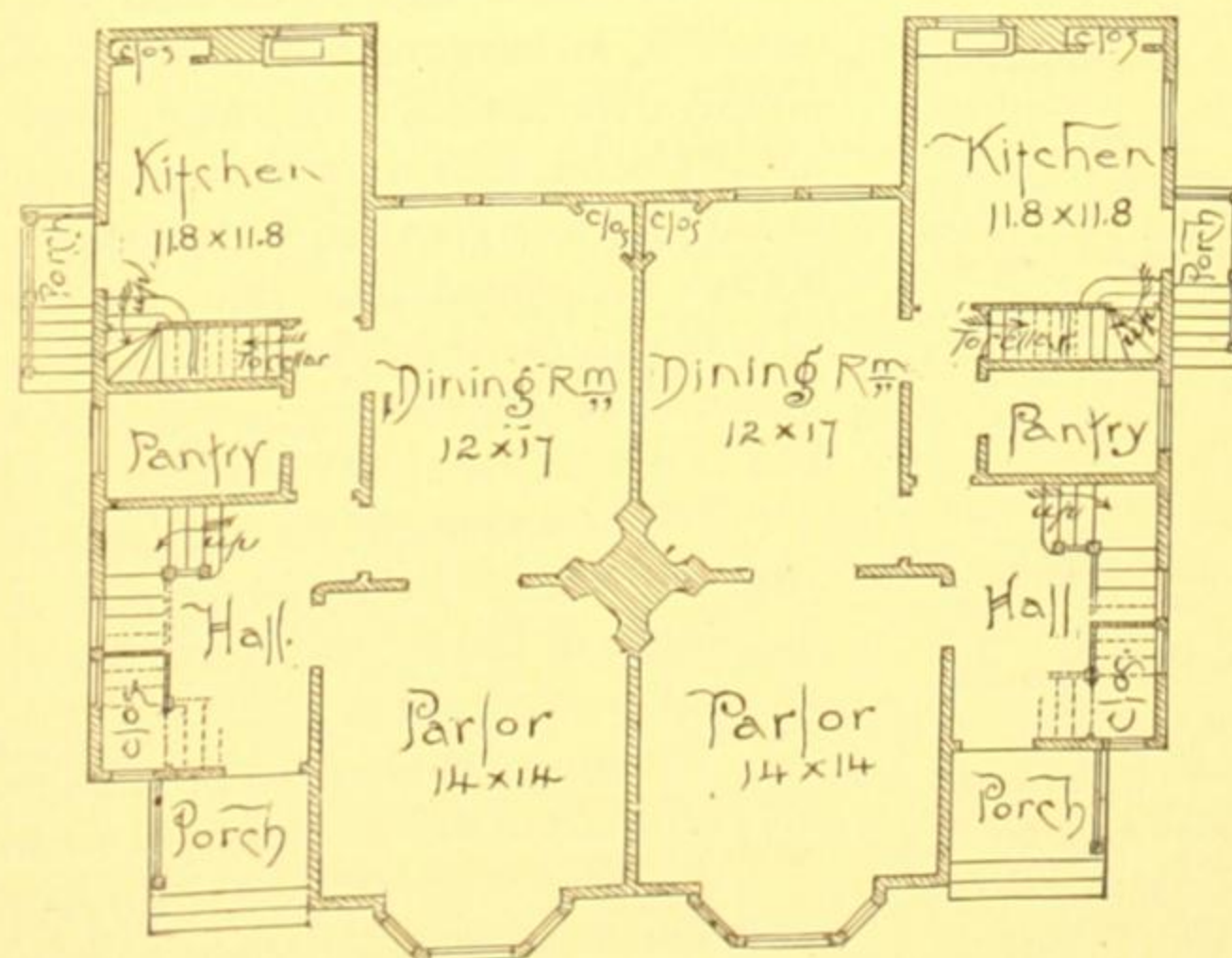
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A double house.

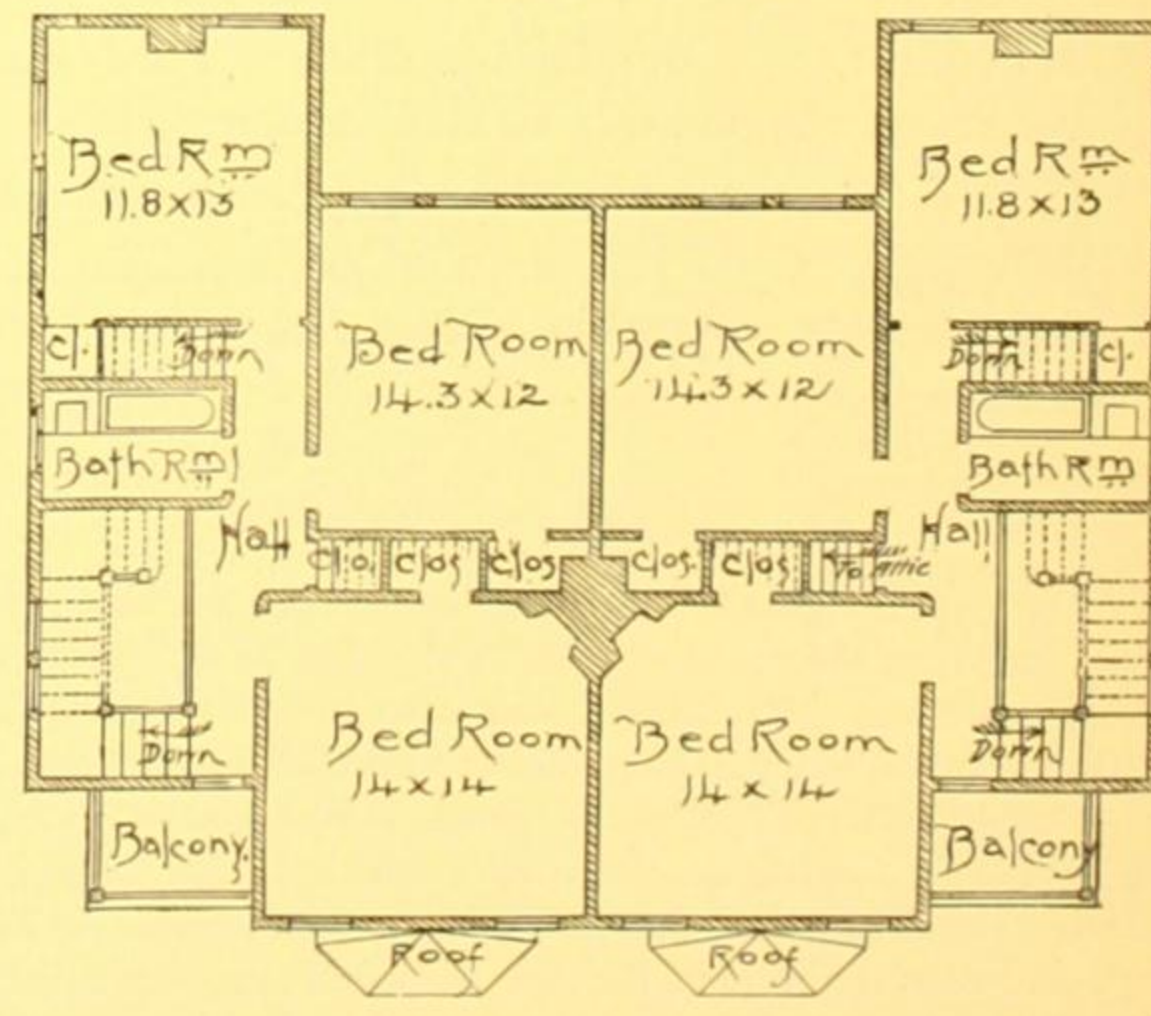
Cellar under the whole house. Three good rooms in the attic of each house.

Stained glass in the staircase windows.

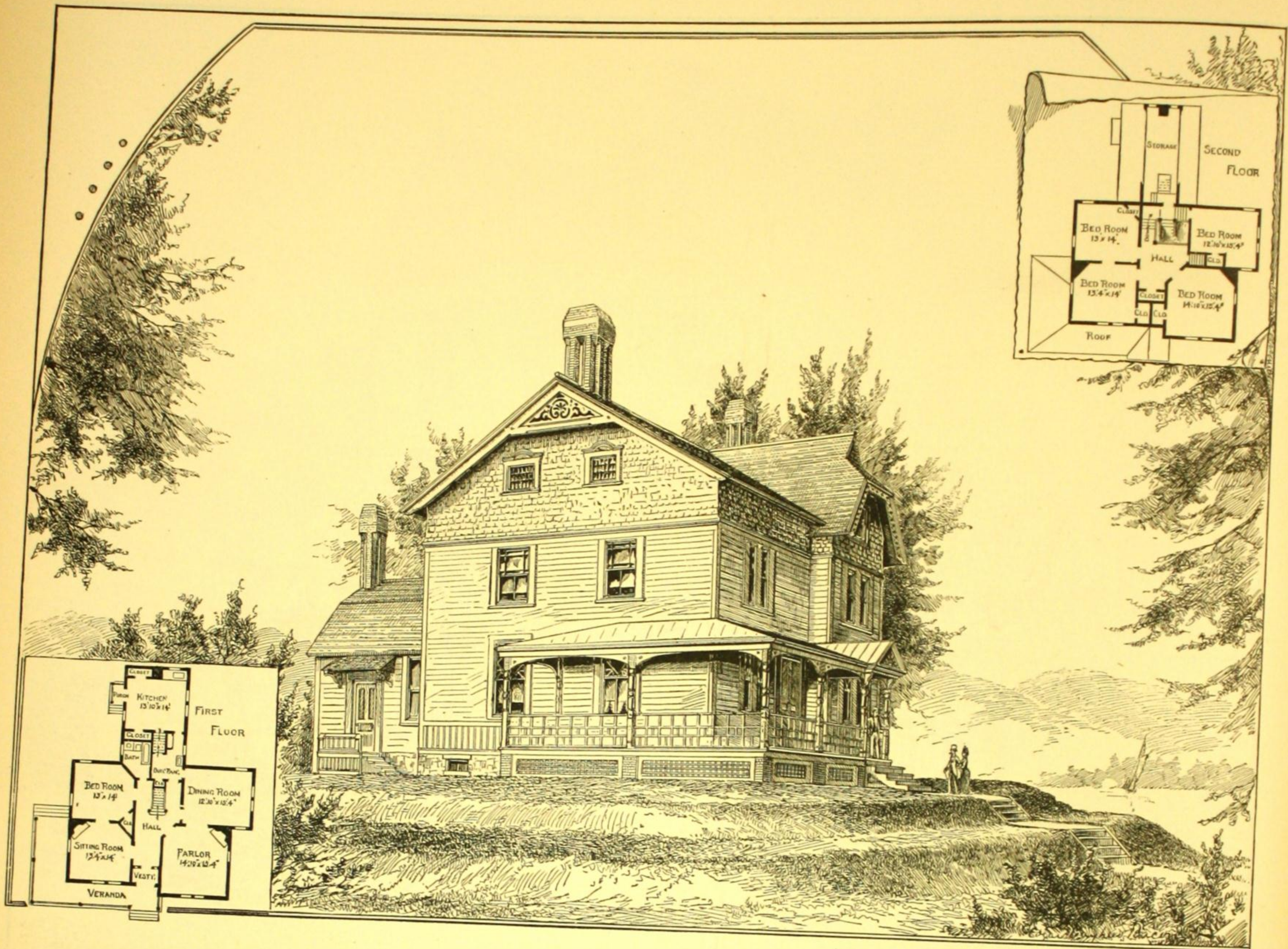
The houses are entirely separate and distinct one from the other. Each has a fine balcony. Beside the main staircase, there are servants' stairs from the cellar to the second story. Portières between parlor and dining-room.



FIRST FLOOR. NO. 297



SECOND FLOOR. NO. 297



DESIGN No. 298. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 298

SIZE OF STRUCTURE: Front, 45 ft., 4 in., inclusive of veranda.
Side, 58 ft., inclusive of veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 2 in.; Second Story, 8 ft., 9 in.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, slate.

COST: \$4,500, complete, except mantels and heaters.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants.

The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house with an outside stairway to it, in the rear.

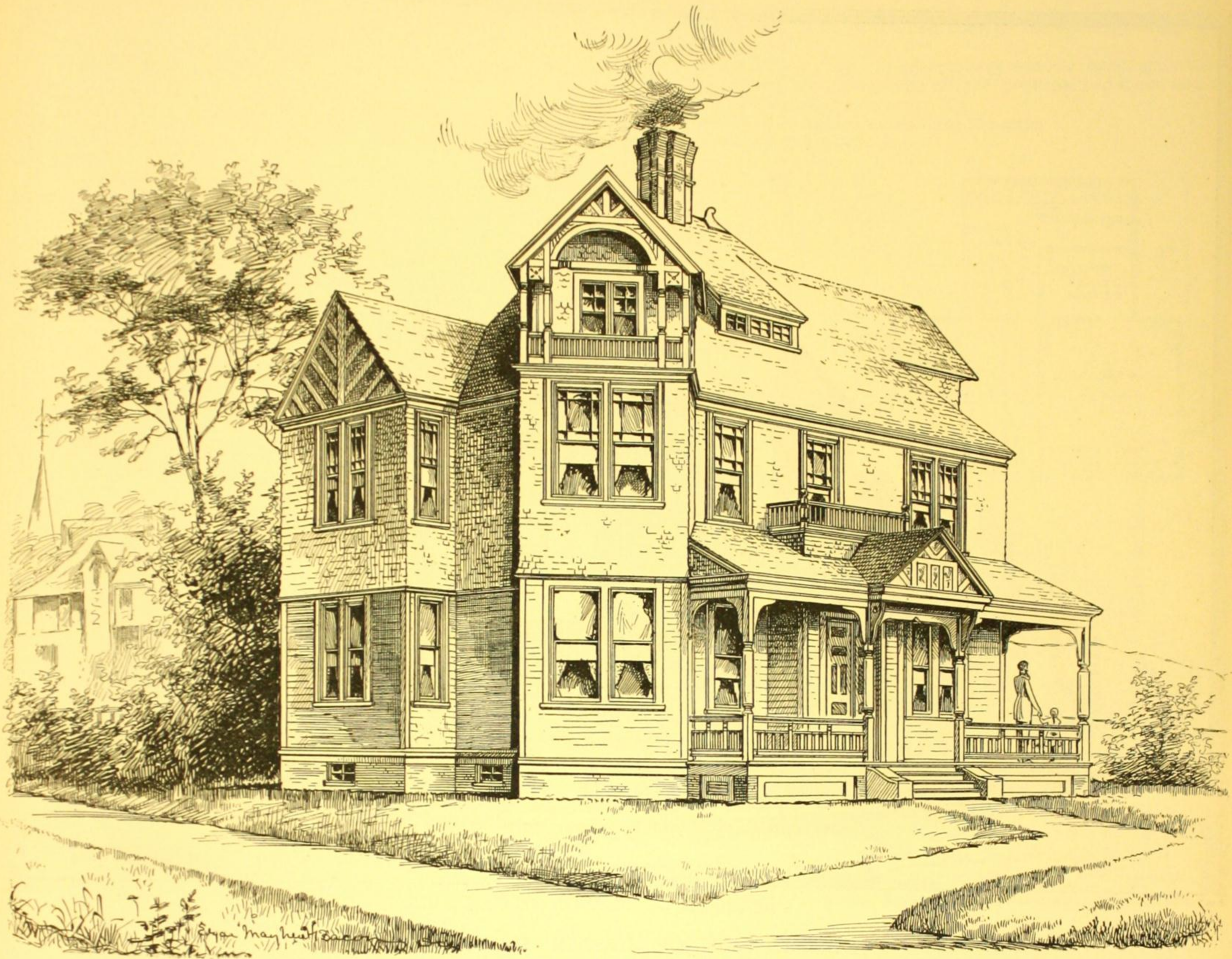
Four rooms can be finished off in the attic, if desired, the cost of which, however, is not included in the estimate. The utilization of the attic floor is often neglected. The walls and roof are there already, and it is only a small expense to put up the partitions in the plain style that is becoming for this floor. Servants can always be lodged there, and at times when the house is over-full of company, with the anxious ones wondering how they are all to be disposed of, a sensible guest or two will be very grateful for a clean bed in a neat room in the attic.

The arrangement for the bath-room on the first floor is convenient where there are elderly people or an invalid. If preferred it can be placed in the second story, over the kitchen, where "storage" is marked on the plan.

The front stairway is a prominent and beautiful feature, and very accessible from all the principal rooms.

An abundance of closets throughout the house.

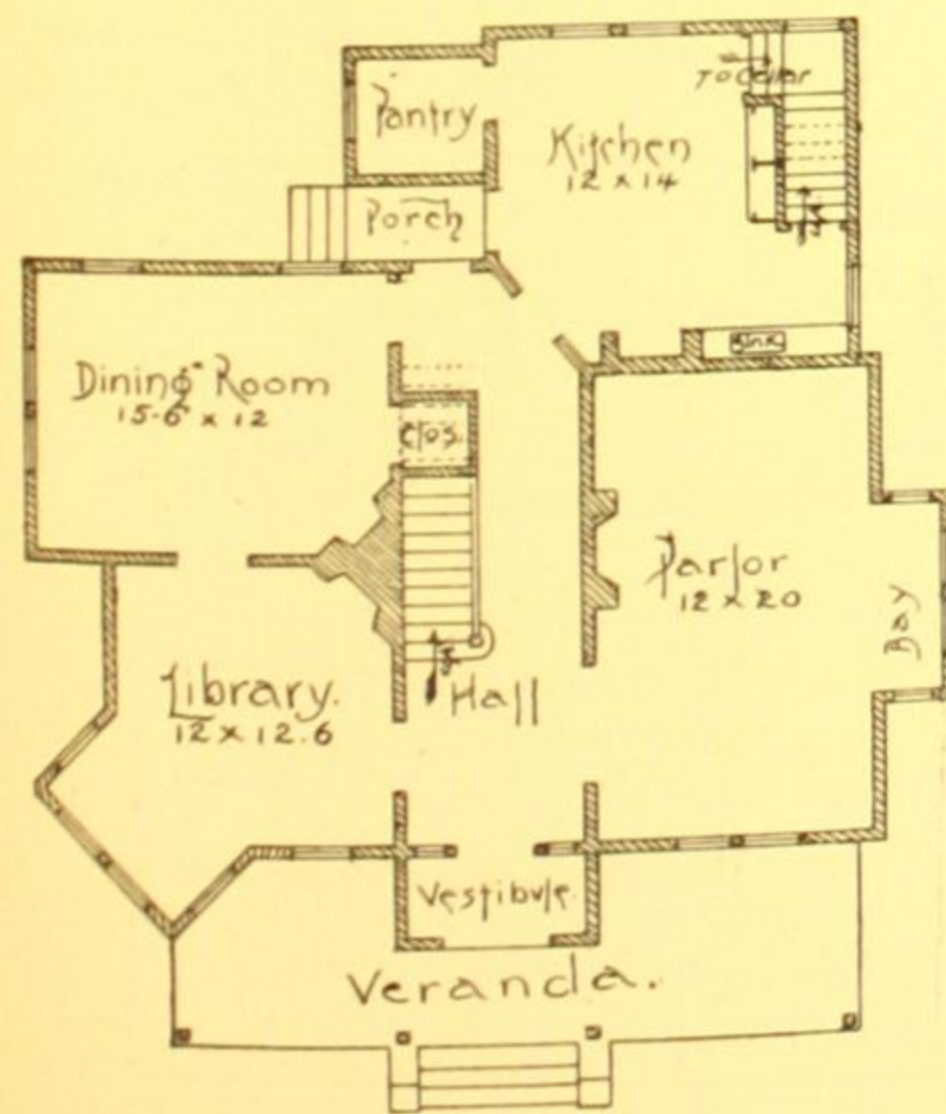
This is a good, plain, but handsome house, affording a great deal of room for the amount expended.



DESIGN No. 299. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 299

SIZE OF STRUCTURE: Front, 38 ft.; including bay-window, 41 ft.
 Side, 44 ft., including veranda.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 7 ft., 6 in.



FIRST FLOOR. NO. 299

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, half timbered; Roof, shingles.

COST: \$4,600, complete, except furnace and mantels.
 [See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less

—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

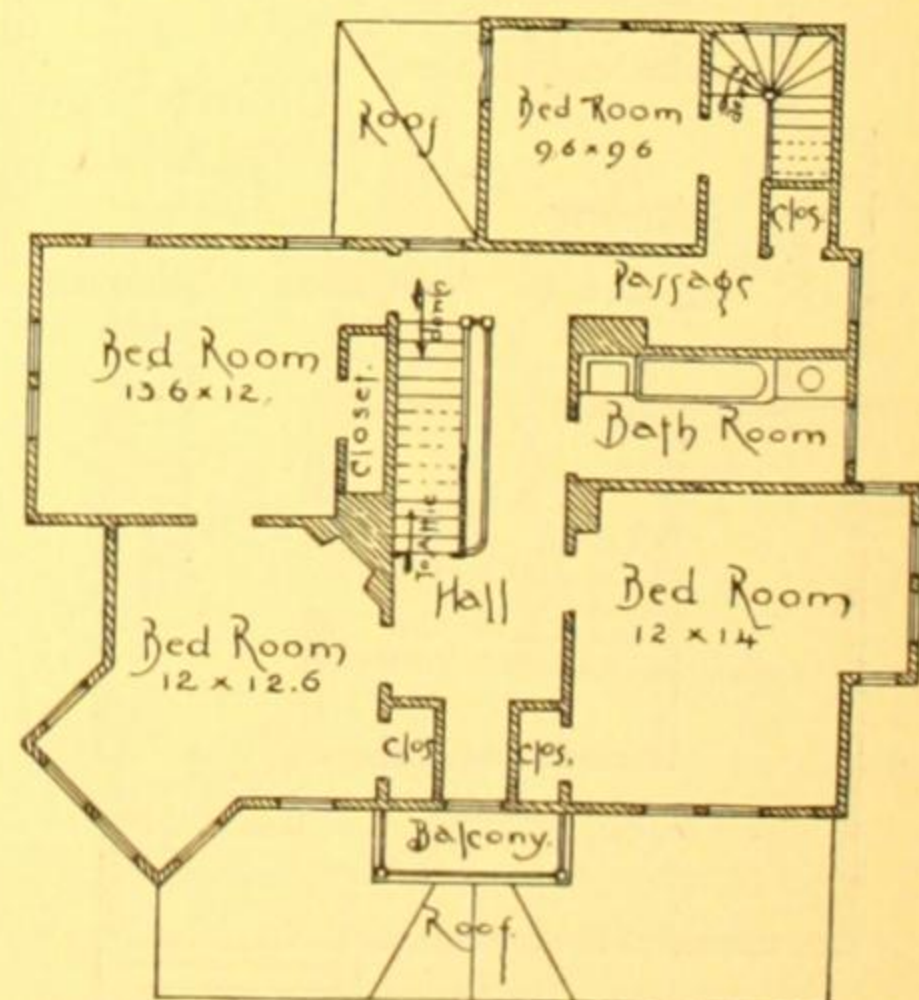
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house. Three rooms in the attic, and abundant store-room.

Reference to floor plans shows convenient and complete arrangement of rooms.

The exterior appearance is novel and striking. A large balcony out of front attic-room.

Heated by furnace or steam.



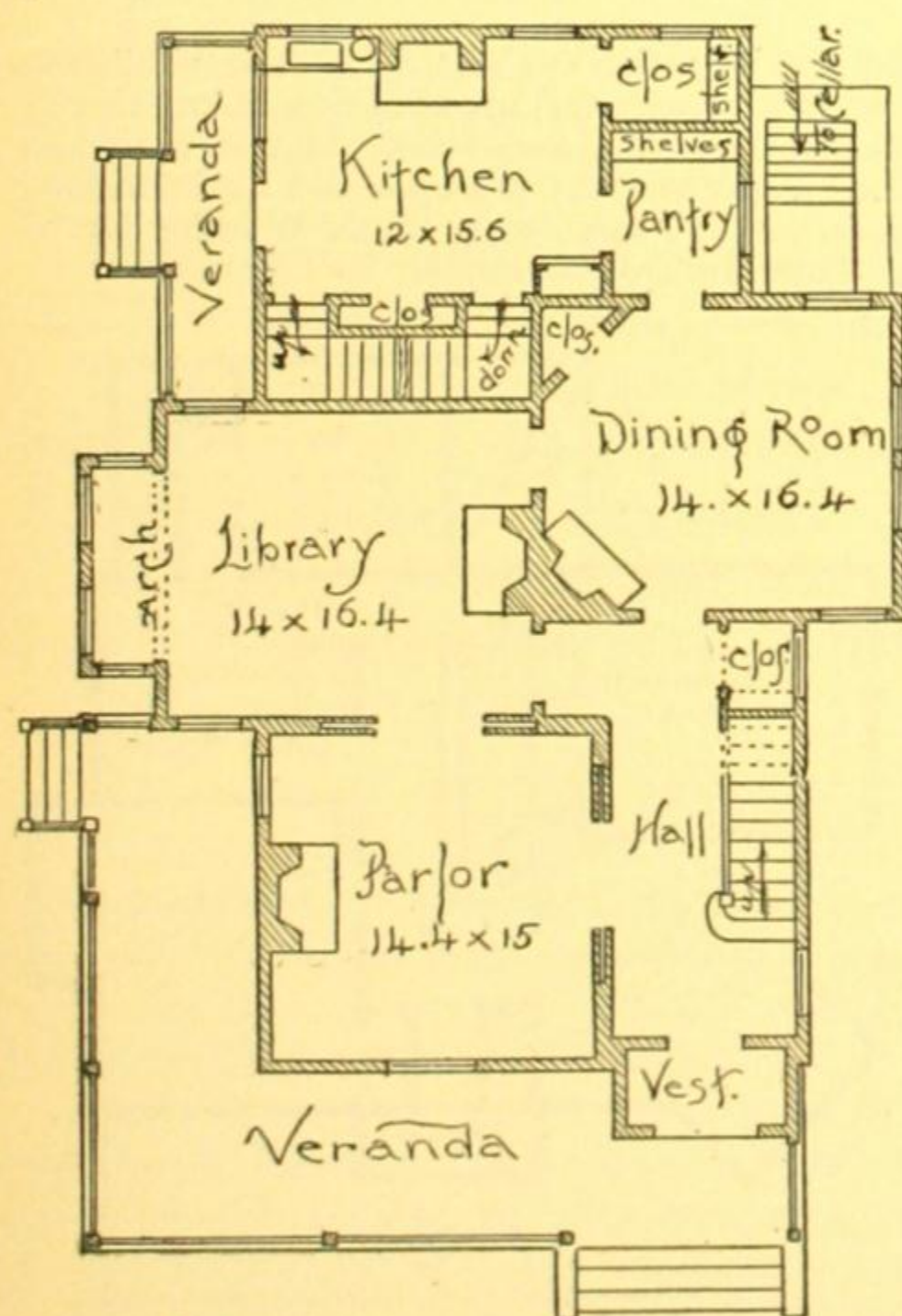
SECOND FLOOR. NO. 299



DESIGN No. 300. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 300

SIZE OF STRUCTURE: Front, 25 ft., 8 in.; including side wings and bay-window, 38 ft. Side, 48 ft., 6 in.; including veranda, 56 ft., 6 in.



FIRST FLOOR, NO. 300

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 4 in.; Second Story, 8 ft., 4 in.; Third Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards; Gables, half timbered, cement and shingles; Roof, shingles.

COST: \$4,500, complete, except furnace and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less

—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

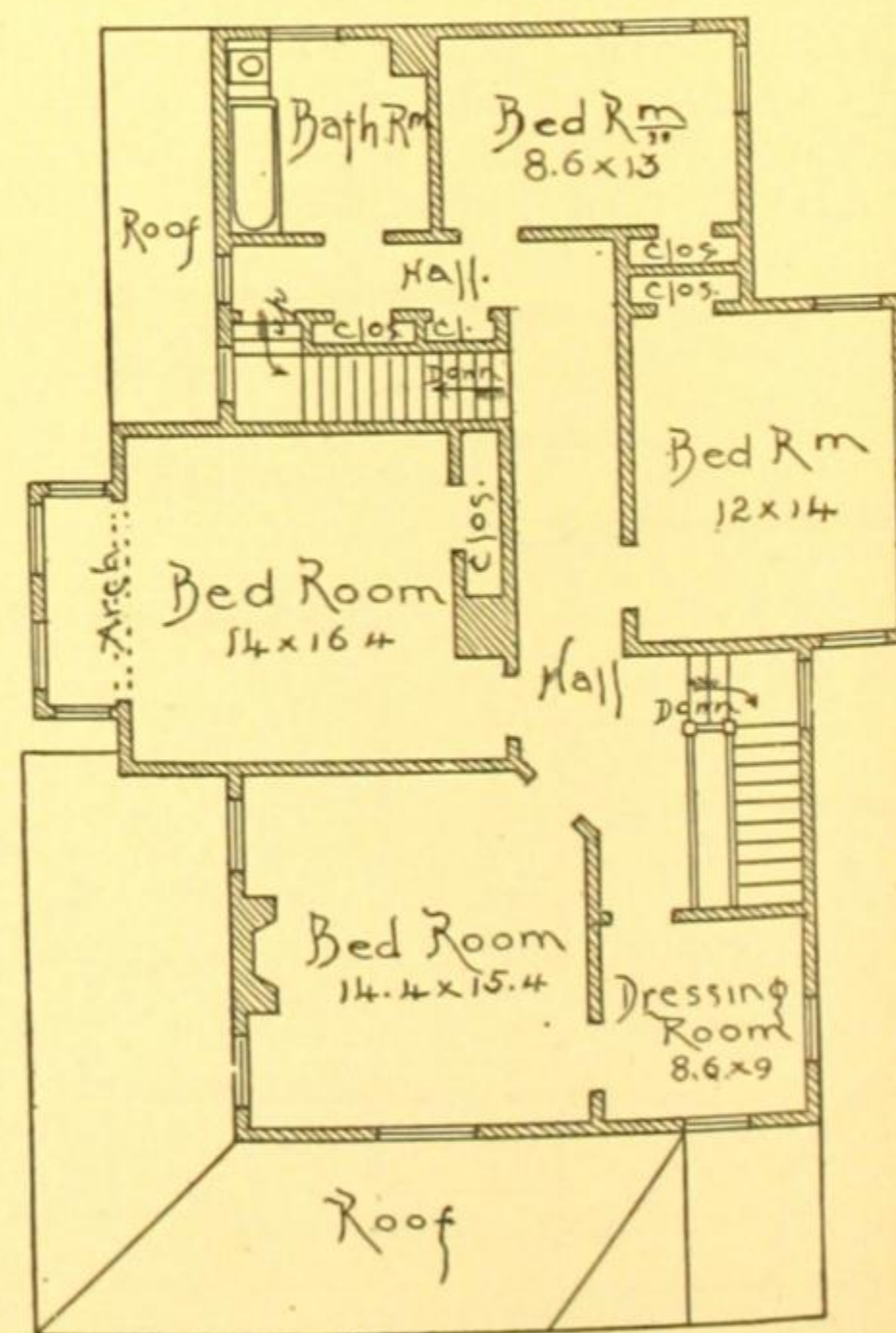
SPECIAL FEATURES.—Cellar under whole house, with both inside and outside entrances. A large and well-lighted laundry in the cellar.

Heated by furnace.

All rooms on the first floor are large and very conveniently arranged.

The attic contains two large bed-rooms and a lighted store-room, which could be utilized as a bed-room if preferred.

This is one of our most popular designs.



SECOND FLOOR, NO. 300

DESCRIPTION OF DESIGN NUMBER 301

SIZE OF STRUCTURE: Front, 33 ft., 8 in., including bay-windows. Side, 52 ft., 8 in.; including veranda, 61 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, half timbered and shingled; Roof, shingled.

COST: \$5,500, complete, except heating apparatus, kitchen range and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior in the same style as the preceding design, Number 300. The plans are also similar.

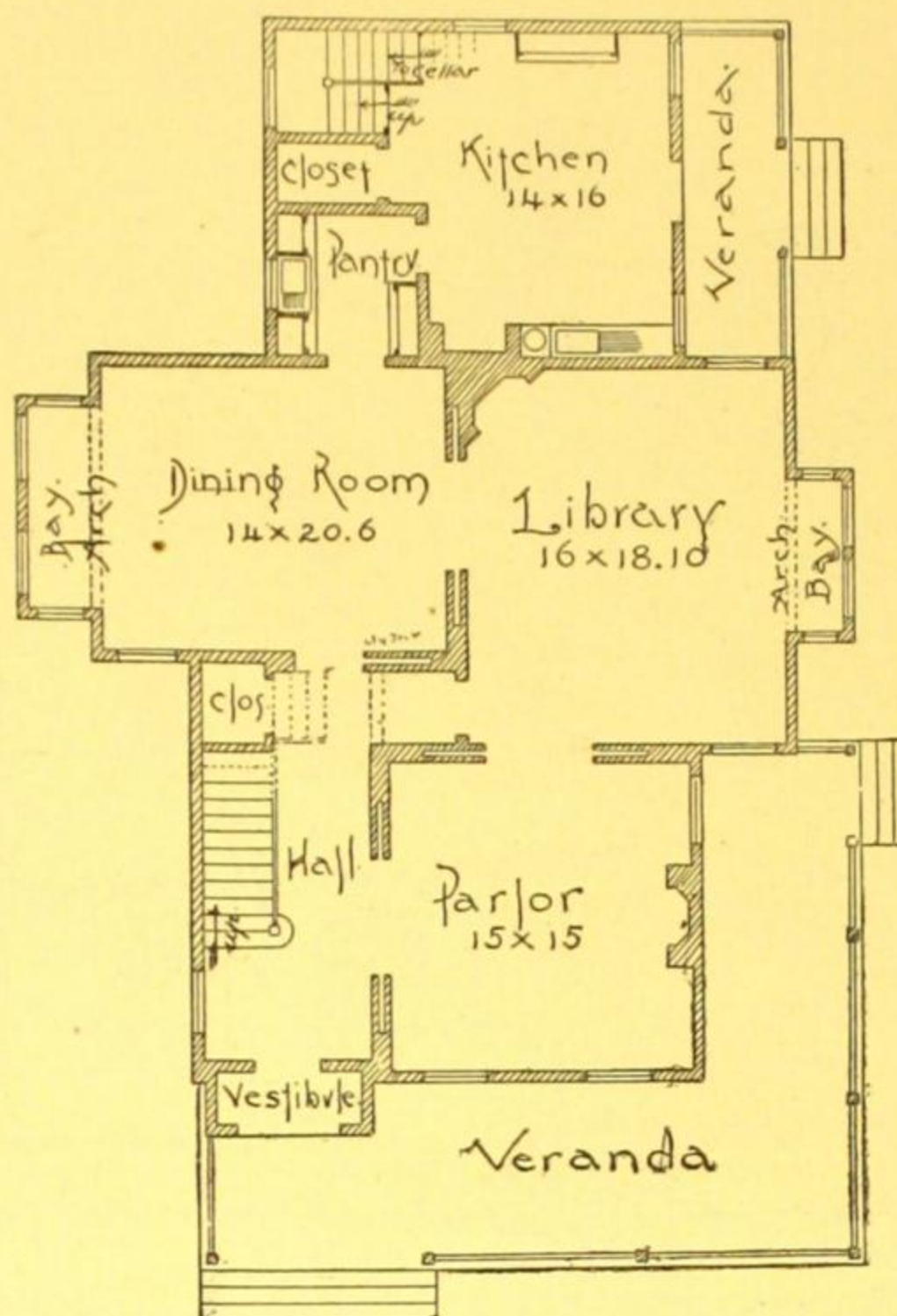
Cellar under the whole house; laundry under the kitchen.

No swinging doors on the first floor, all the openings wide, with sliding doors.

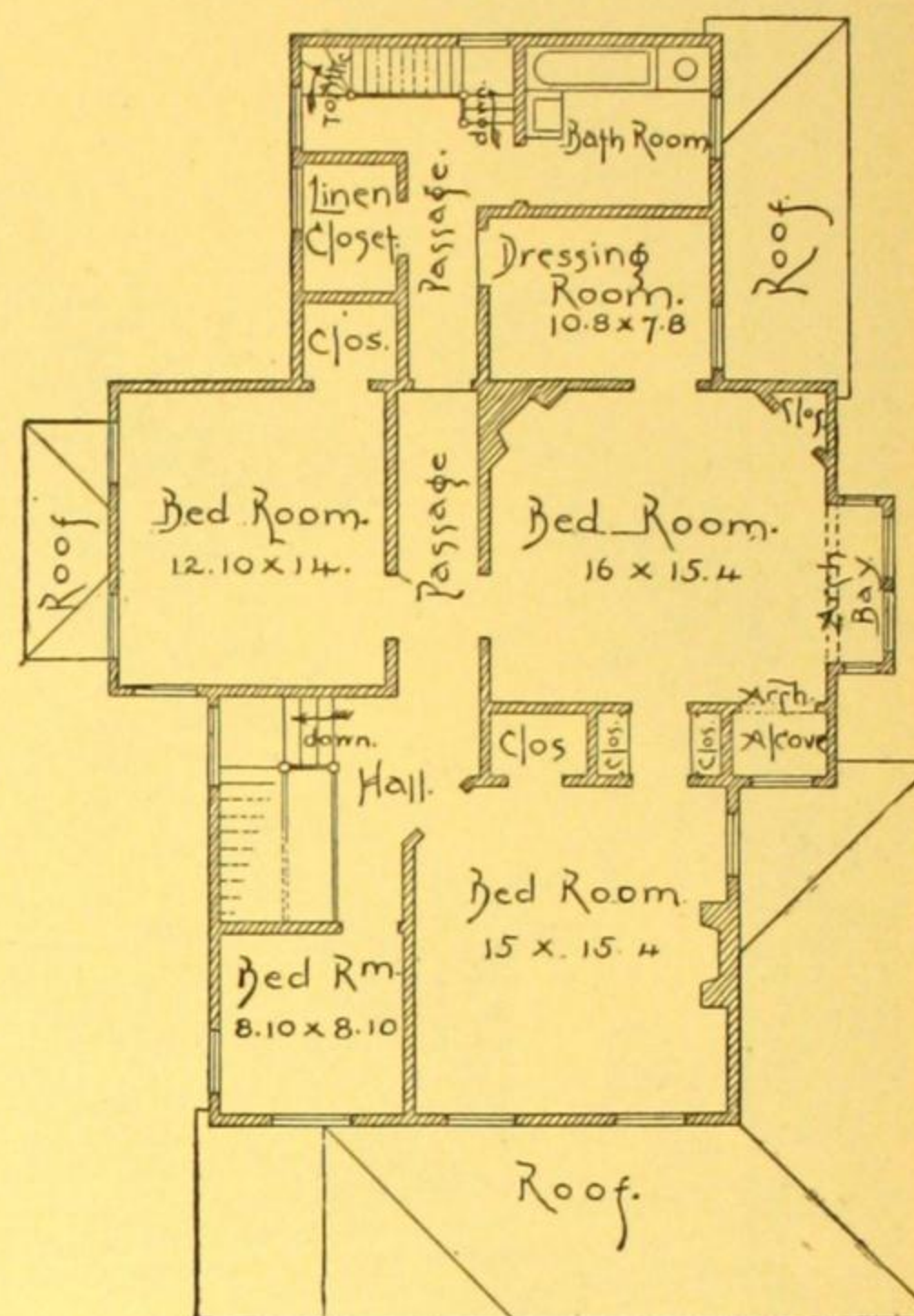
Ample veranda, large fireplaces, large window openings, abundance of closets, a dressing-room off the principal bed-room, and a back stairway from cellar to attic.

Four good rooms are available in the attic.

Heated by steam or furnace.



FIRST FLOOR. NO. 301



SECOND FLOOR. NO. 301

DESCRIPTION OF DESIGN NUMBER 302

SIZE OF STRUCTURE: Front, 31 ft., 6 in. Side, 53 ft., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards and shingles; Gables, half timbered and cement; Roof, shingles.

COST: \$4,500, complete, except heating apparatus, mantels and kitchen range.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The exterior of this design also is similar in appearance to Number 300, but reversed.

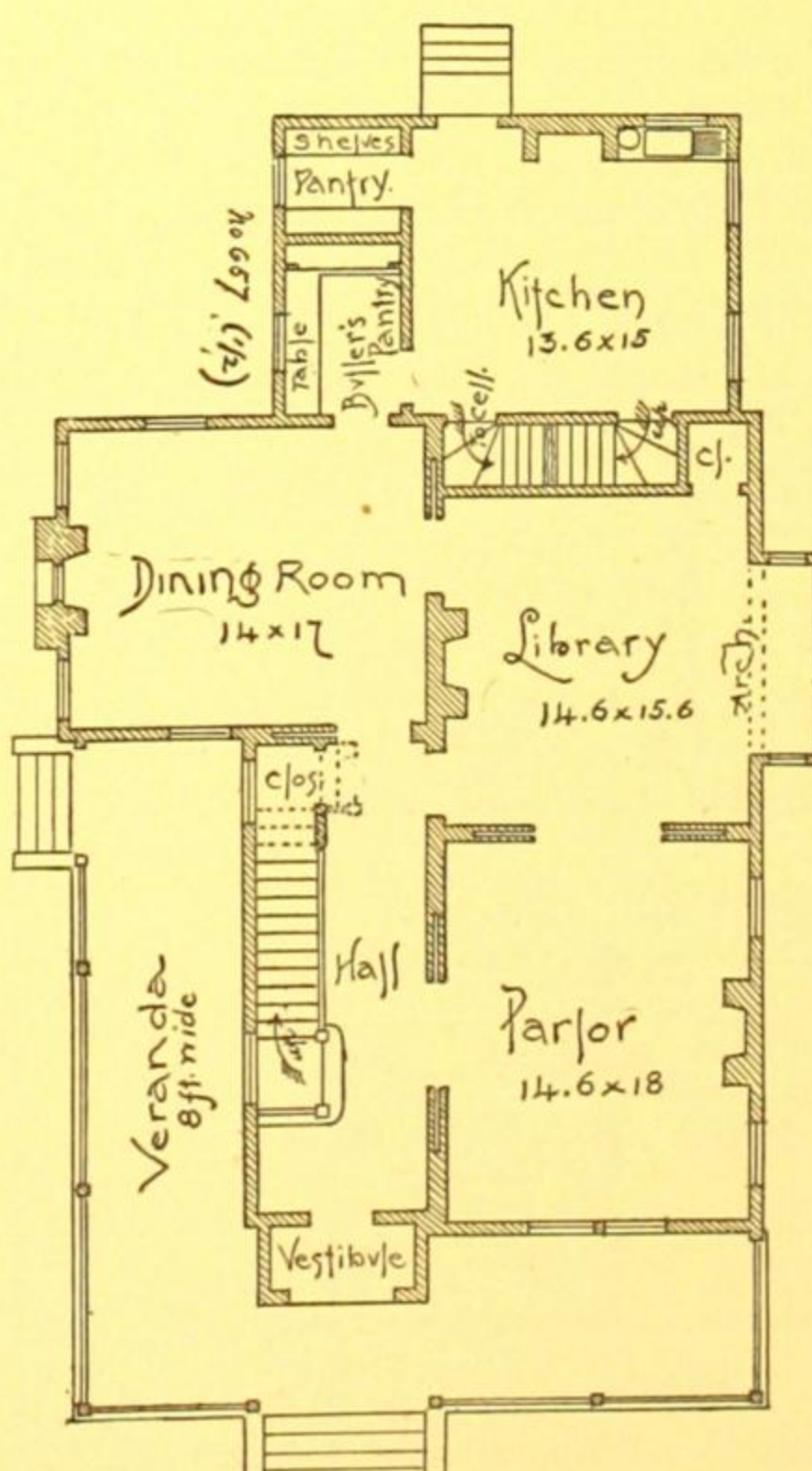
Cellar under the whole house.

Back stairway continuous from cellar to attic.

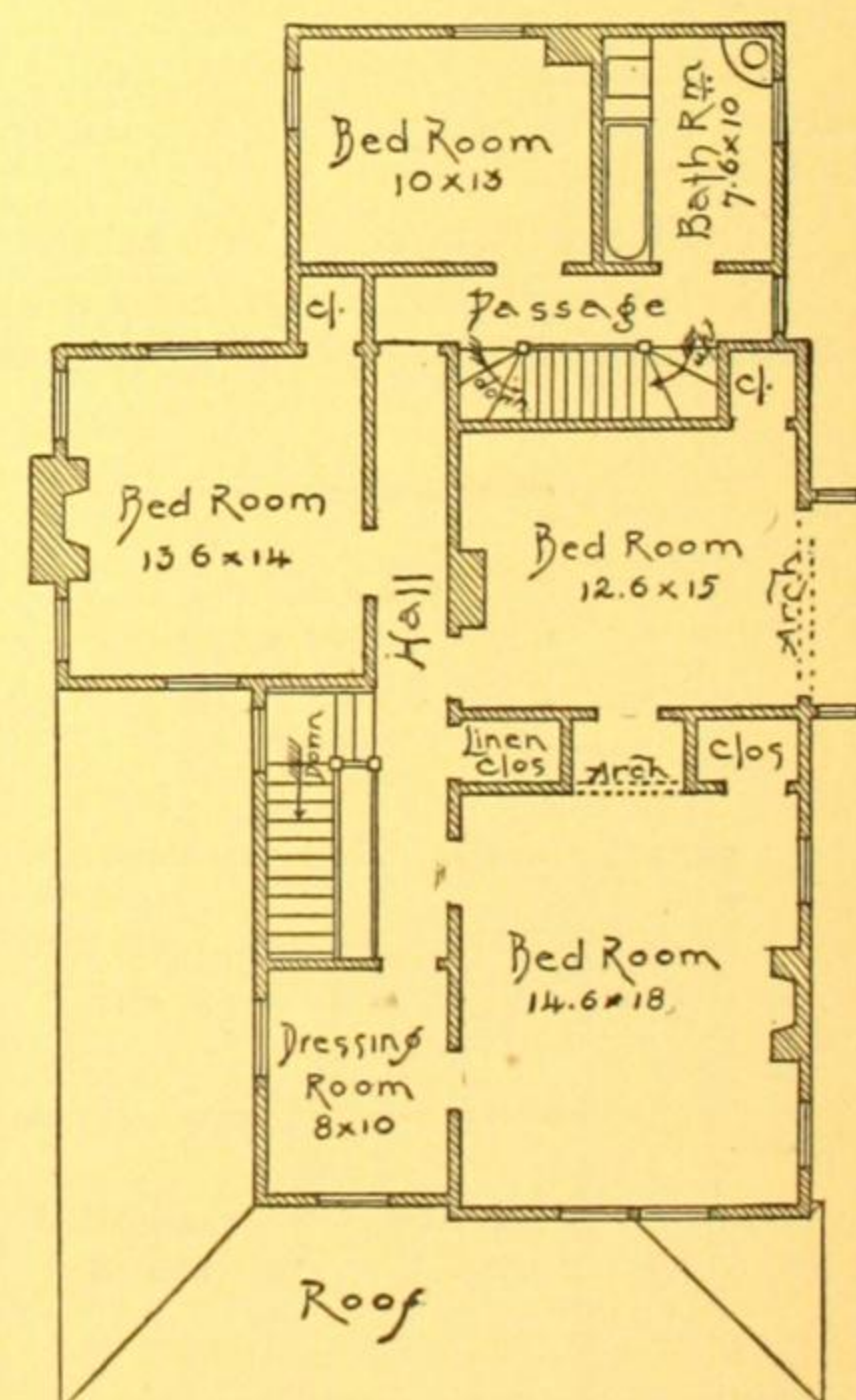
Sliding doors to all rooms on the first floor. Substituting portières or folding doors would reduce cost.

A pretty feature of the dining-room is a fireplace with a stained-glass window over the mantel-shelf. The chimney is carried up outside of house, and makes a striking appearance in the gable.

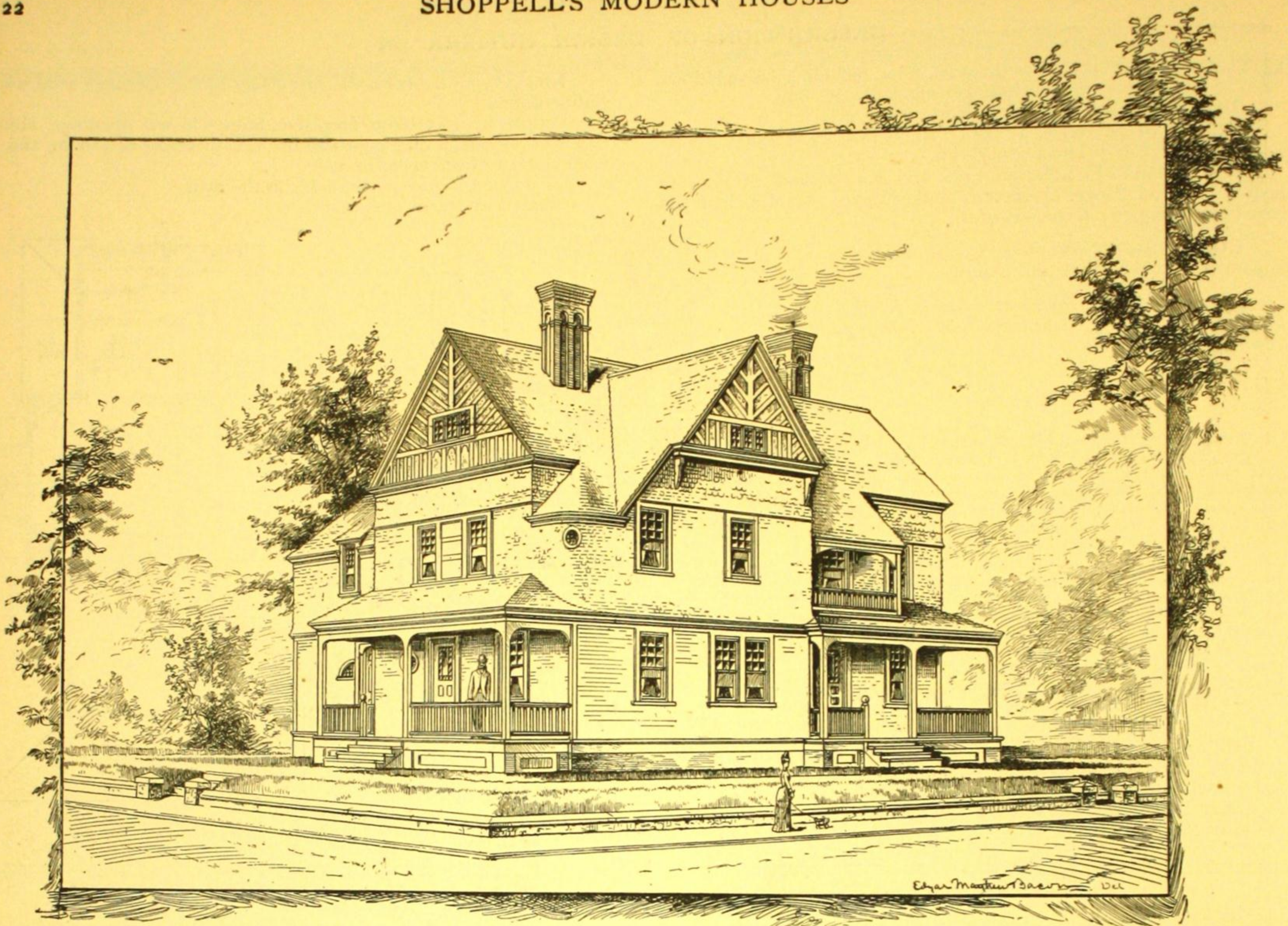
Three rooms in attic. Laundry under the kitchen.



FIRST FLOOR. NO. 302



SECOND FLOOR. NO. 302



DOUBLE HOUSE DESIGN No. 303. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 303

SIZE OF STRUCTURE: Front, 51 ft.; including veranda, 57 ft., 4 in.
Side, 41 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.; Attic Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingled and half timbered; Roof, shingles.

COST: \$5,500, complete, except mantels and kitchen ranges.

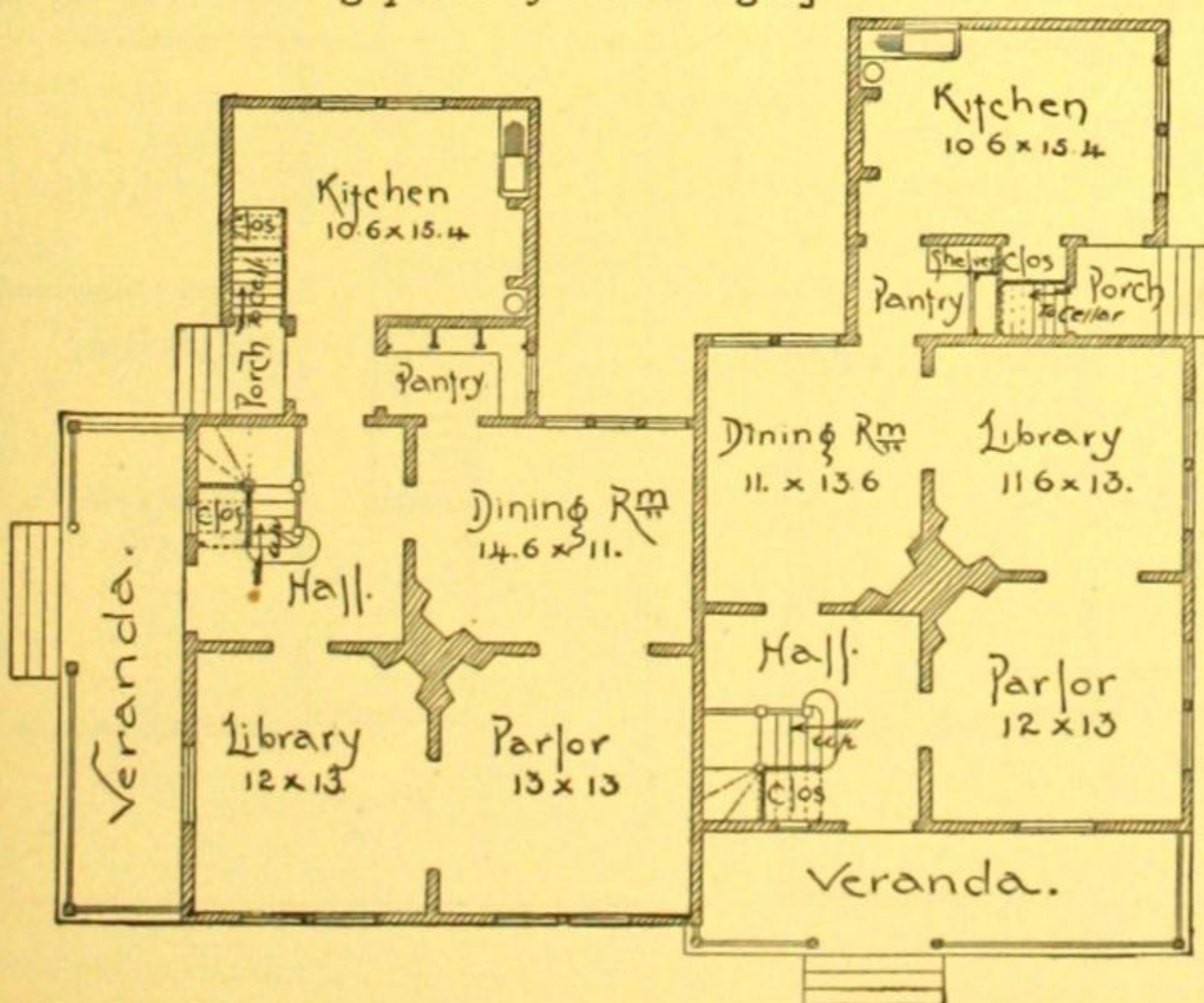
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Cellar under the whole structure. Three rooms can be finished in the attic of each house.

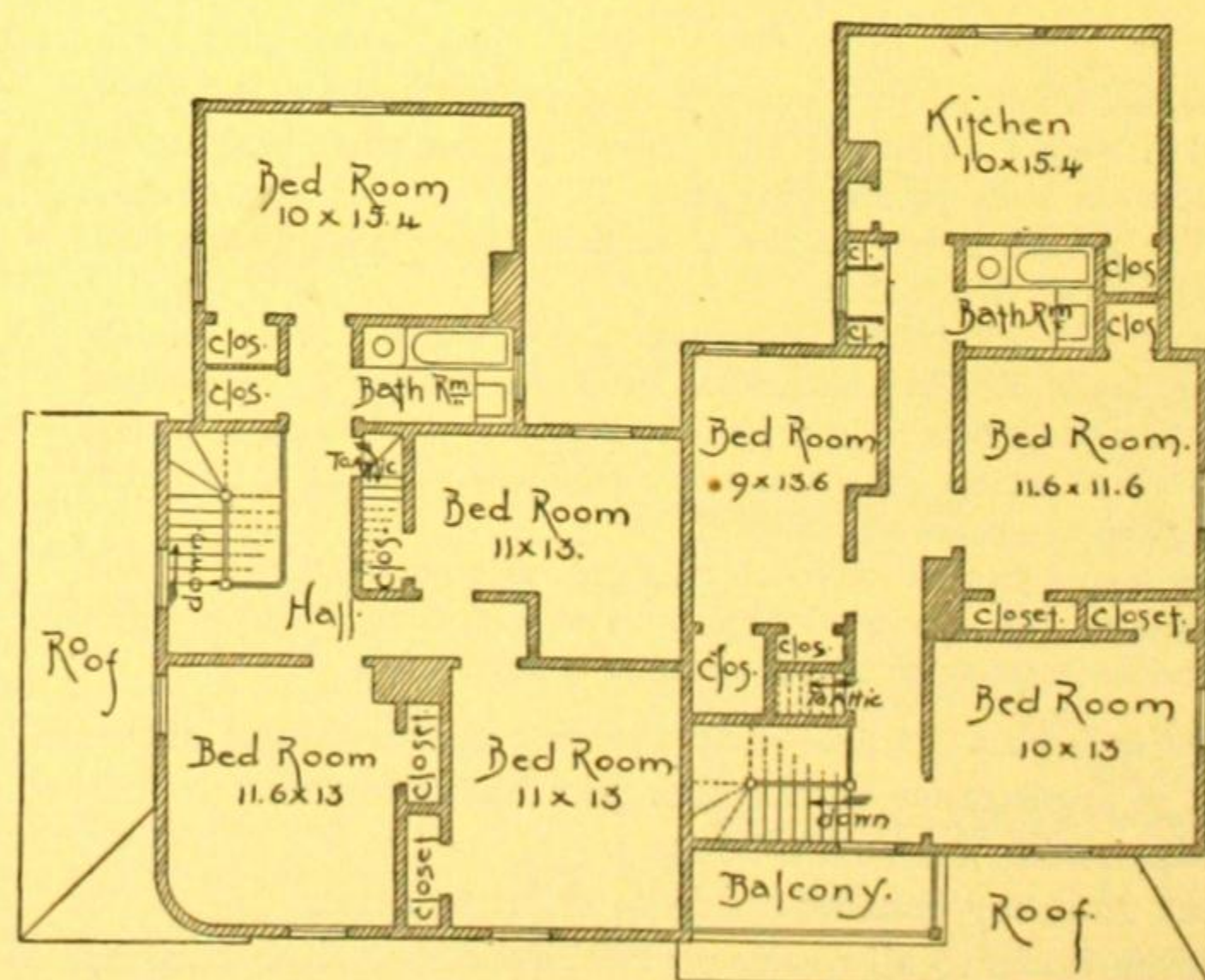
While each house is separate and complete in itself, the exterior effect is such as to give the impression of a single commodious and handsome residence. Built on a corner, gives each house a front.

This is a good design for brothers-in-law and intimate friends, or for city people who contemplate moving into the country, but who are afraid that it will be "so lonely at night."

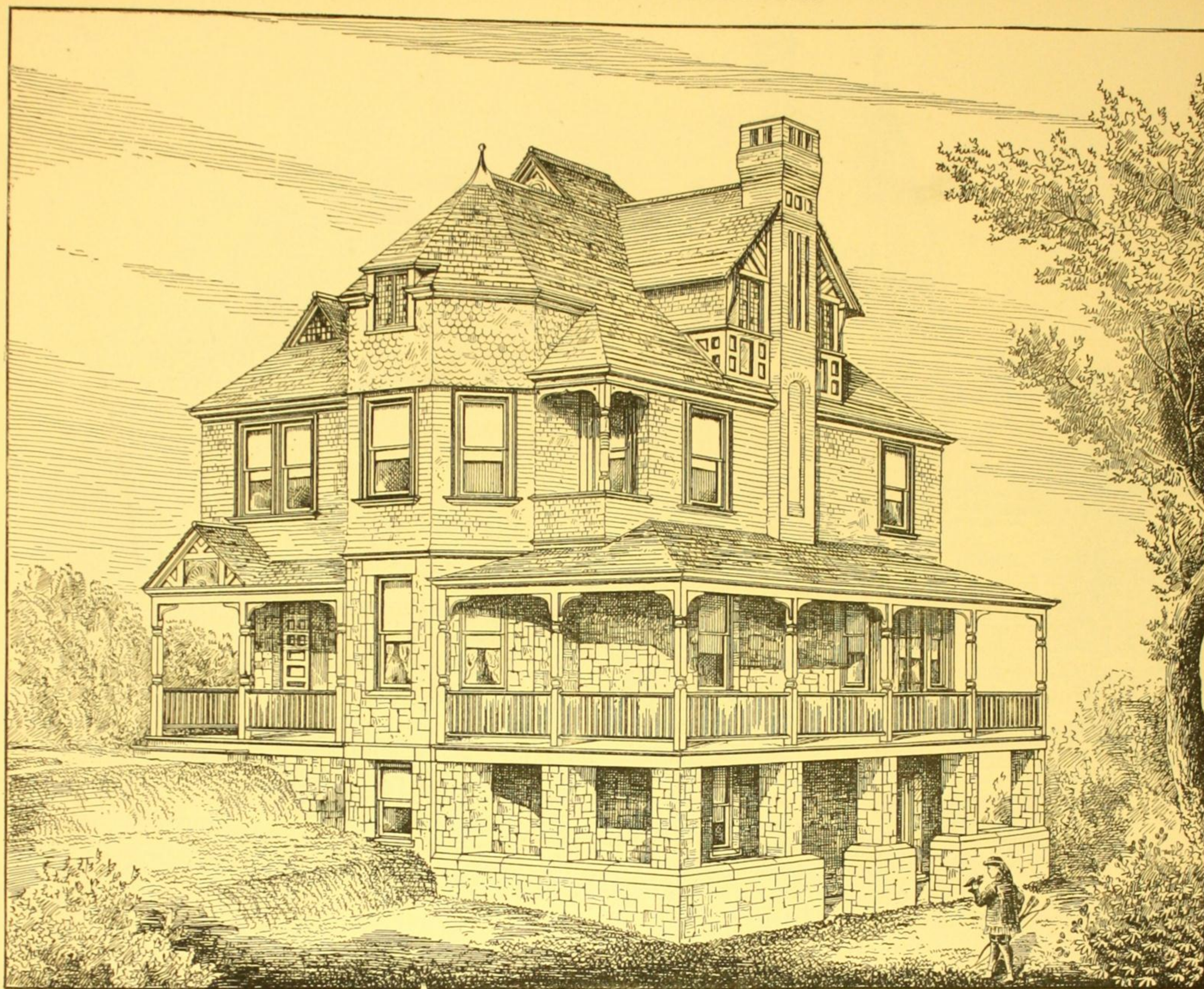
A hall fireplace and mantel could be added to each house for an additional \$100.



FIRST FLOOR OF DOUBLE HOUSE. NO. 303



SECOND FLOOR OF DOUBLE HOUSE. NO. 303



DESIGN No. 304. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 304

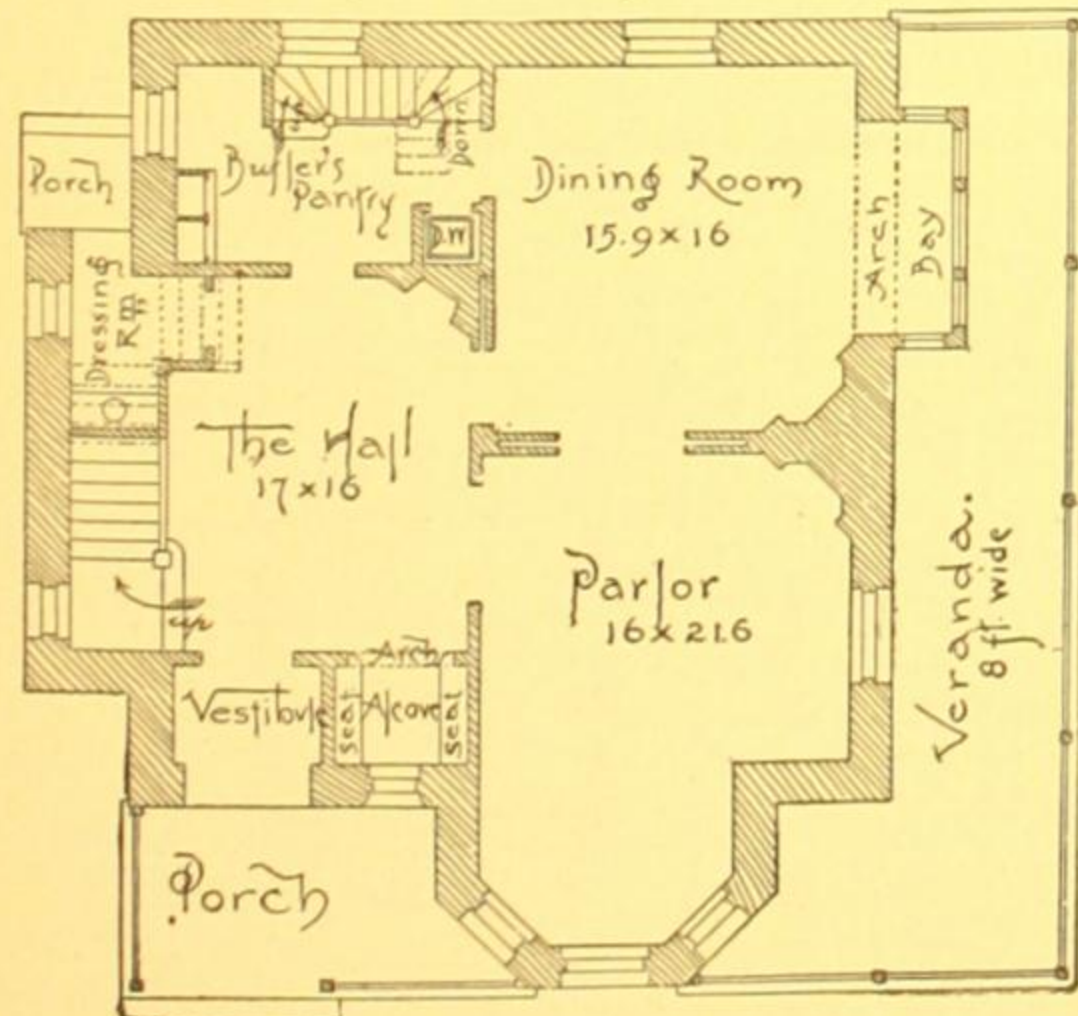
SIZE OF STRUCTURE: Front, 33 ft.; including veranda and staircase extension, 45 ft., 6 in. Side, 42 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Basement, 8 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, stone; Second Story, shingles; Gables, half timbered and cemented; Roof, shingles.

COST: \$6,000, complete, except heating apparatus and mantels.



FIRST FLOOR. NO. 304

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This house was designed for sloping ground, allowing a sufficient height for a kitchen and laundry in the basement. There is also a very large furnace and coal-cellar, and a separate cellar for vegetables and the like; also a

dumb-waiter service from kitchen to butler's pantry. The staircase leading from basement to butler's pantry is entirely separate from the kitchen, and is continued to the attic.

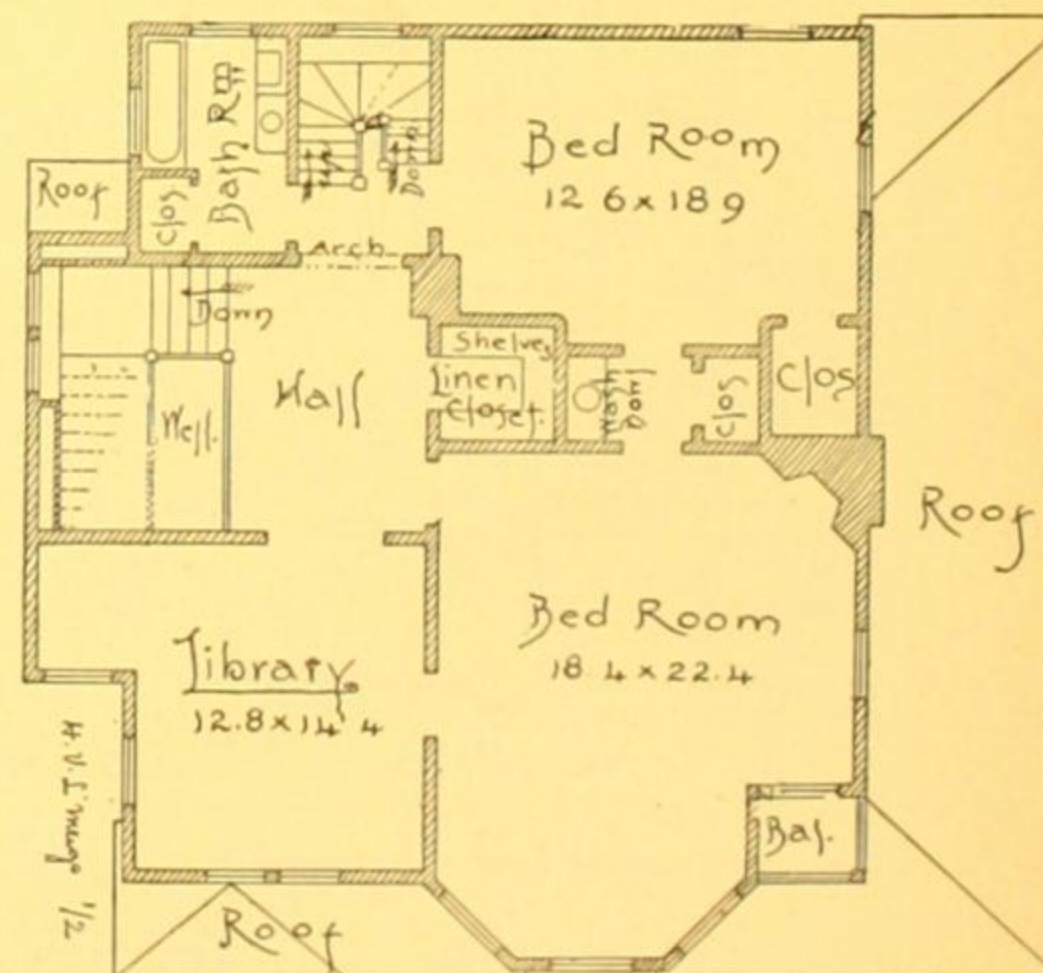
The fine hall, with its oak staircase, makes one of the handsomest rooms. The hall alcove is a charming lounging-place. There is a wide portière between the hall and parlor, sliding doors between parlor and dining-room, and between hall and dining-room.

Under the main staircase, with an entrance from a side porch, is a small dressing-room, fitted with a wash-bowl, which is supplied with running water, making a convenience which is appreciated by the amateur gardener.

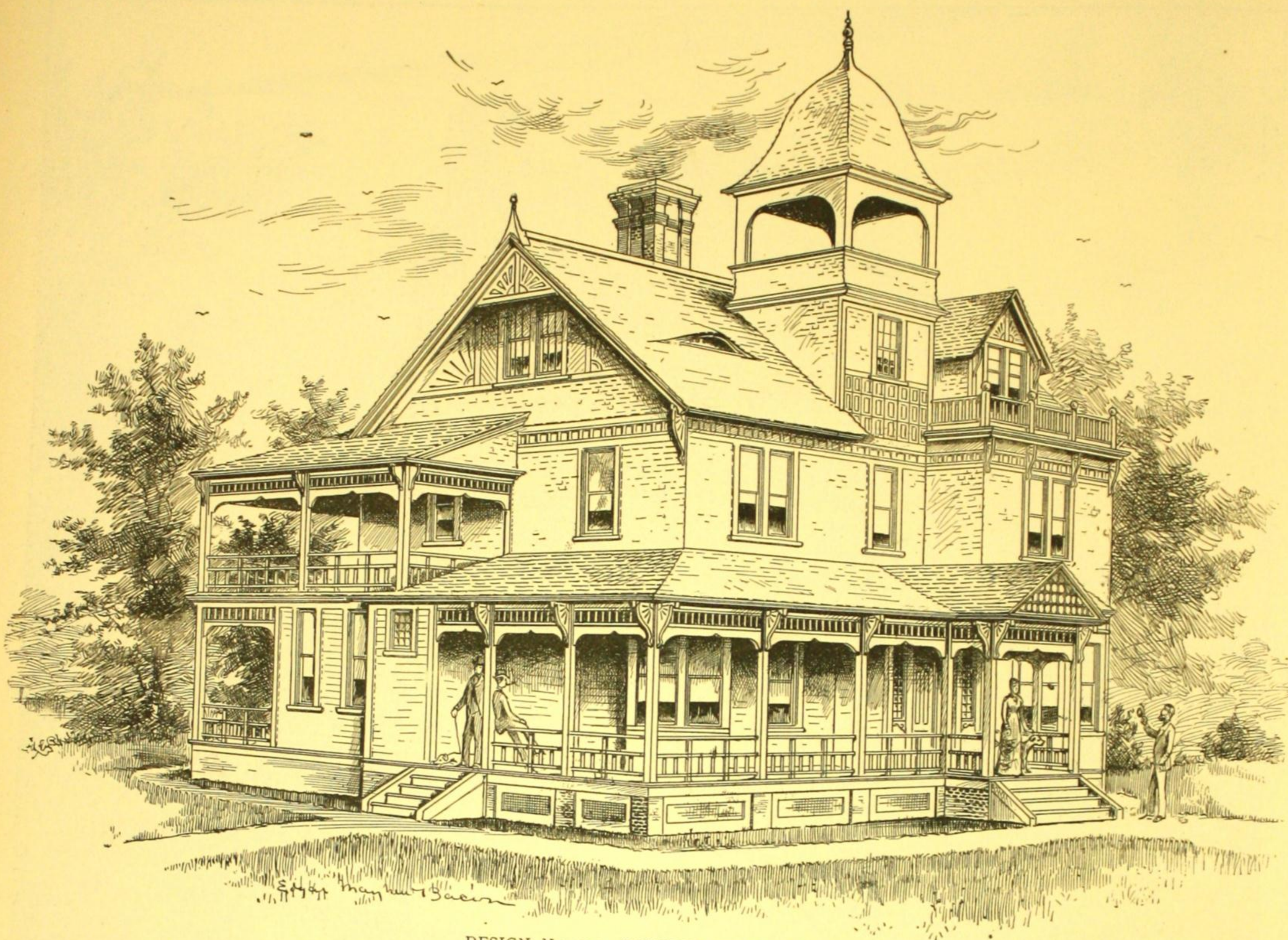
The hall and staircase are lighted by windows glazed with stained glass.

In the attic there is a large hall, three bed-rooms and store-room.

Upon level ground the arrangement of the rooms could be preserved by adding a kitchen extension.



SECOND FLOOR. NO. 304



DESIGN No. 305. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 305

SIZE OF STRUCTURE: Front, 58 ft. Side, 36 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 12 ft.; Second Story, 11 ft.

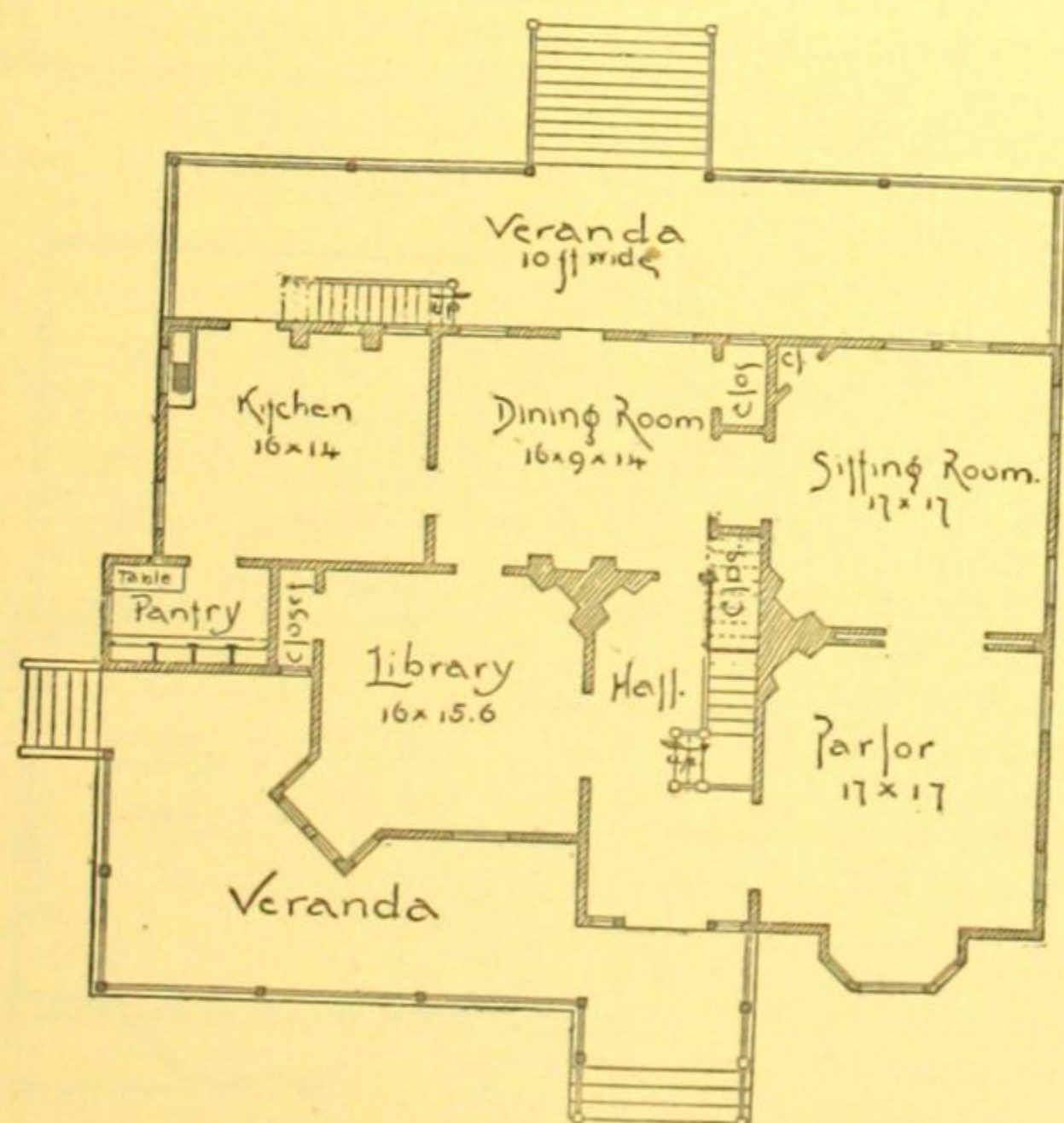
MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$7,000, complete, except mantels.

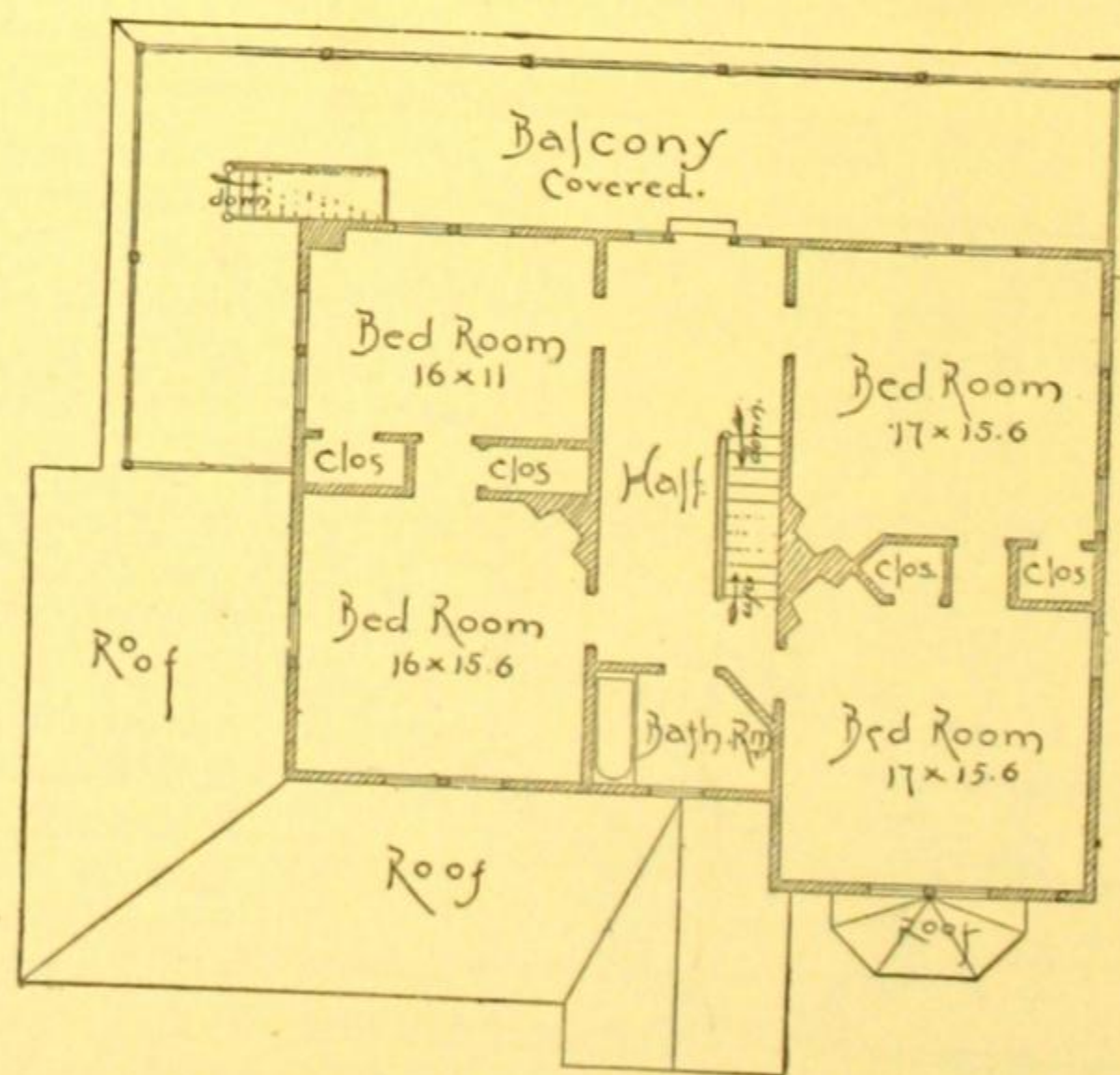
[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This house was built in the South. It has high ceilings, immense verandas and balconies, large rooms and a generous expansiveness throughout. It has no cellar, but one can be built under the rear part, with entrance under the veranda stairway.

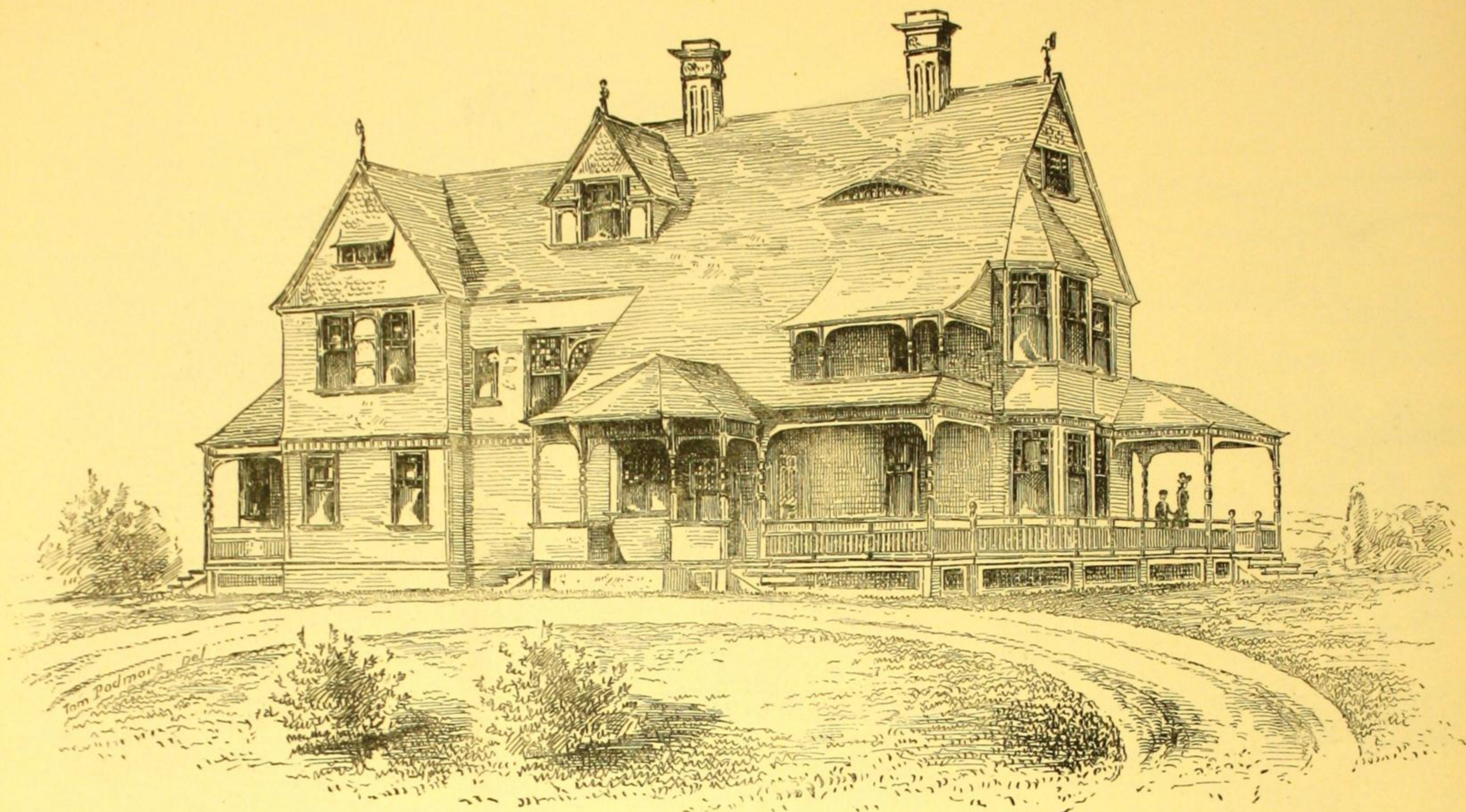
The attic contains four large bed-rooms and a hall.



FIRST FLOOR. NO. 305



SECOND FLOOR. NO. 305



DESIGN No. 306. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 306

SIZE OF STRUCTURE: Front, 78 ft., 6 in. Side, 28 ft., 6 in.; including veranda, 50 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$7,000, complete, except heating apparatus and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase,

Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the hall, library, drawing and dining-rooms.

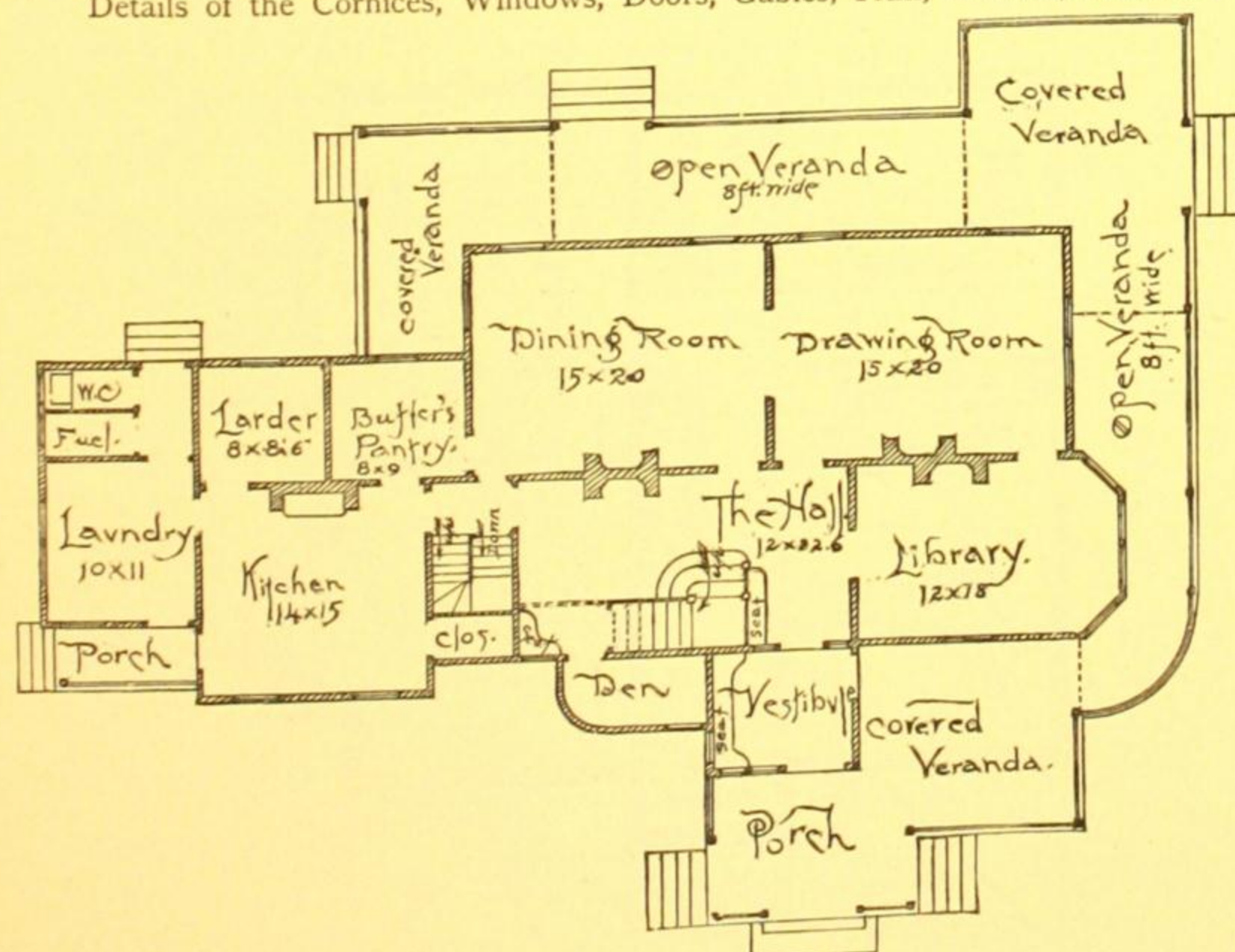
Heated by steam.

Open fireplaces in all the principal rooms.

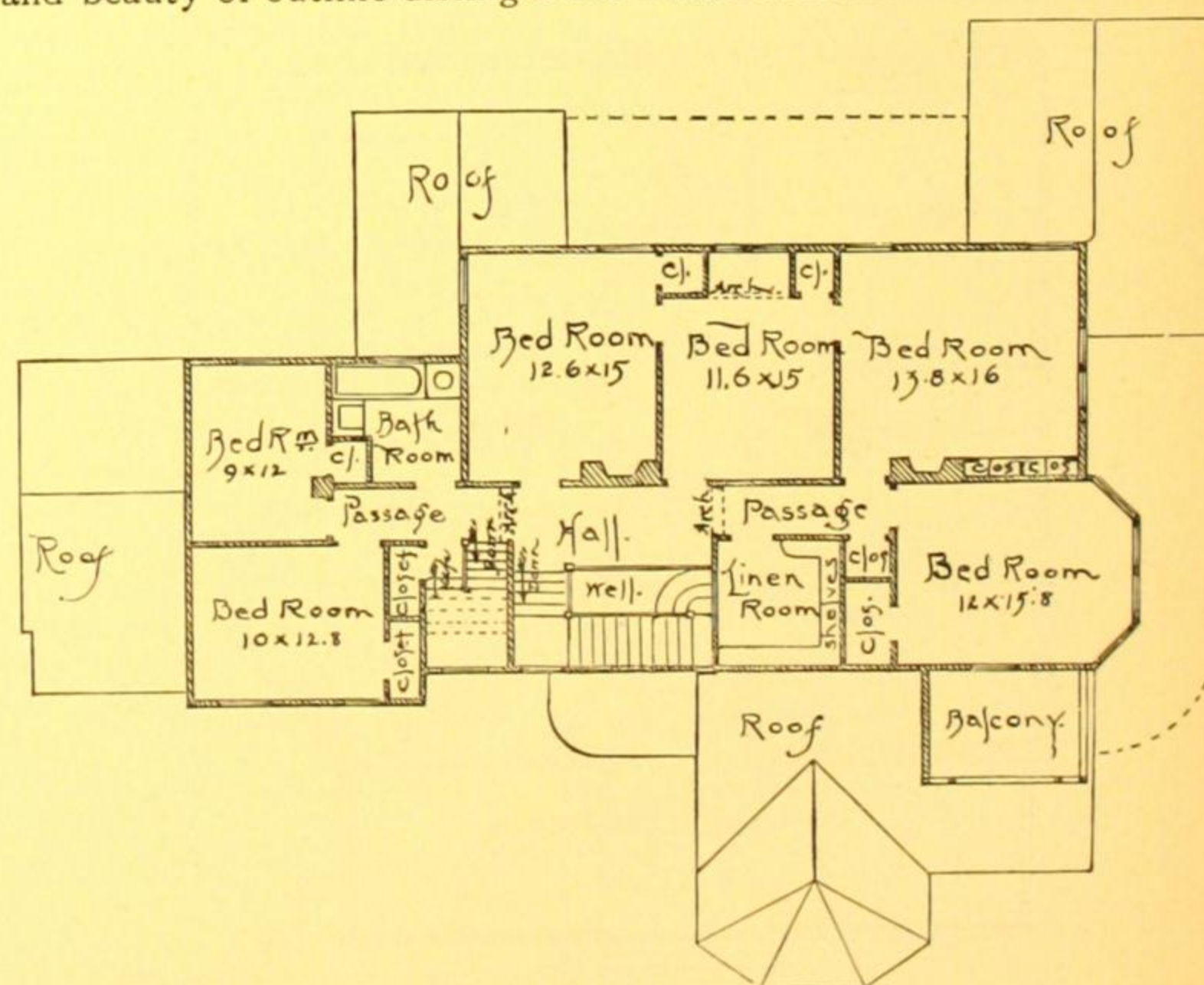
Ample closet room a feature. Children's play-room of large size, and four bed-rooms in the attic.

Immense verandas, part of them uncovered, in order not to wholly obstruct the sunlight.

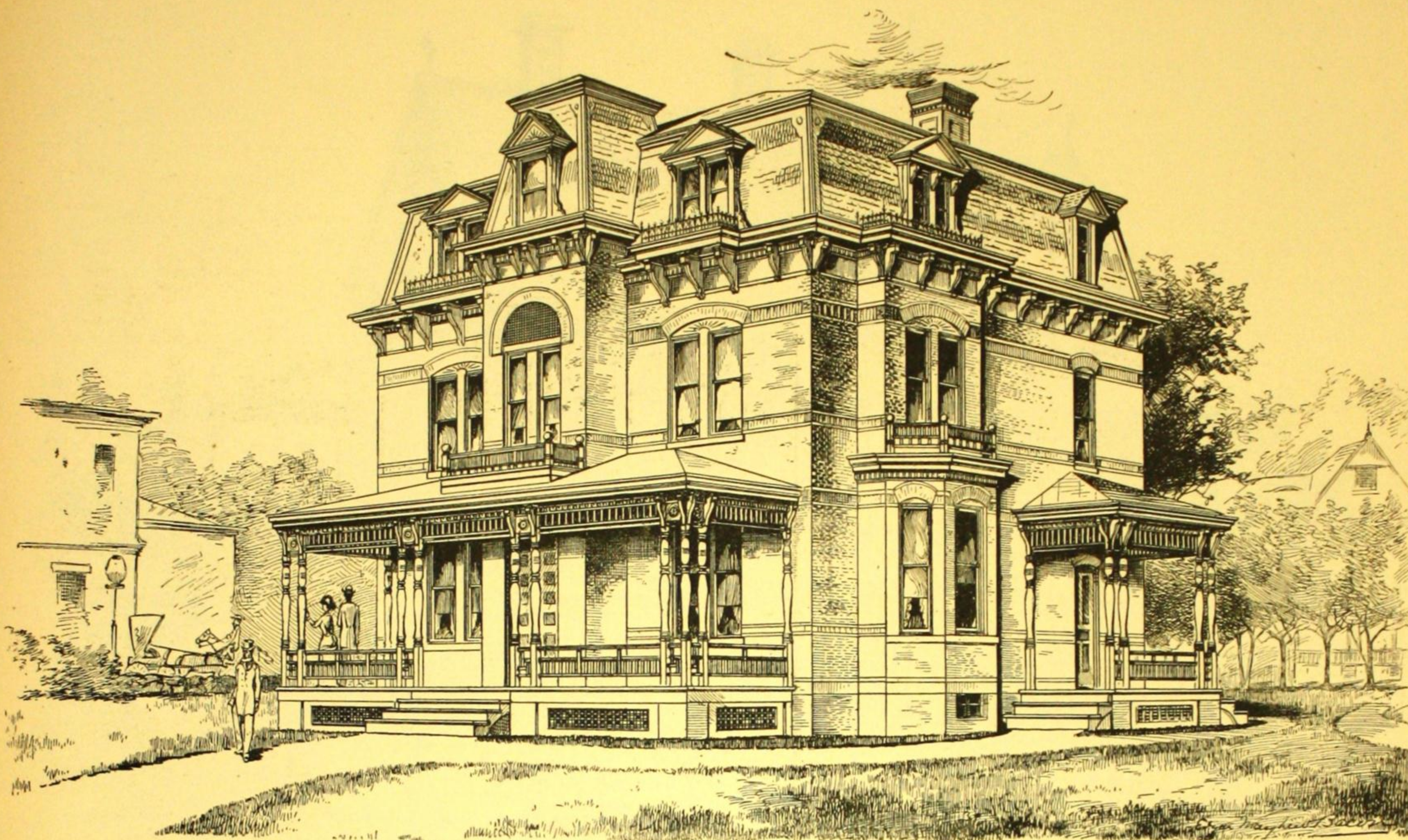
A country house of this size needs little or no ornamentation. It can be finished plainly but substantially throughout. Its size and beauty of outline distinguishes it and makes it attractive.



FIRST FLOOR. NO. 306



SECOND FLOOR. NO. 306



DESIGN No. 307. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 307

SIZE OF STRUCTURE: Front, 42 ft., 8 in. Side, 41 ft., 8 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 12 ft.; Second Story, 10 ft.; Attic Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Roof, slate? decktinned.

COST: \$9,000, complete, except mantels and heater.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

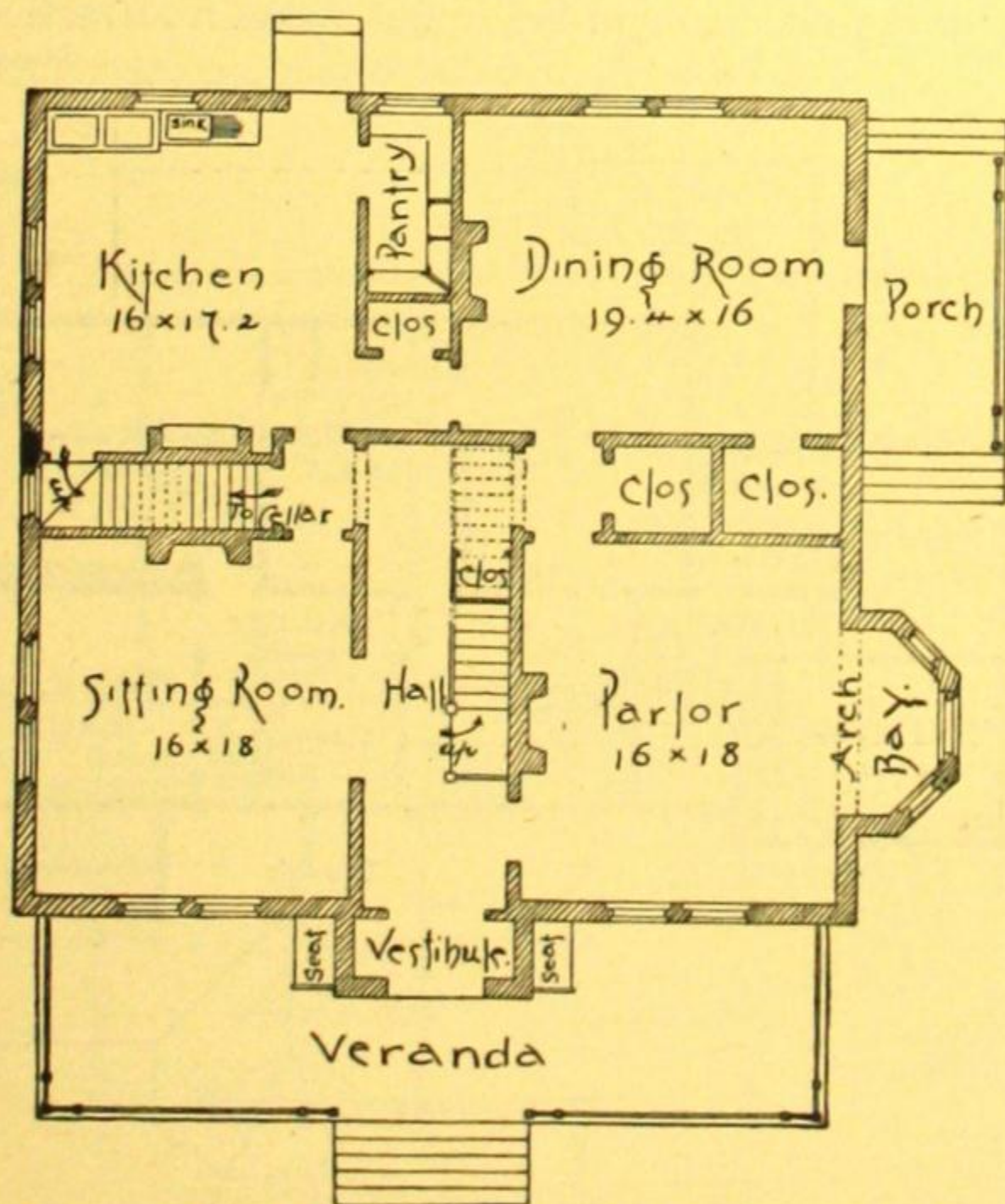
SPECIAL FEATURES.—Cellar under half of house.

Heated by furnace or steam.

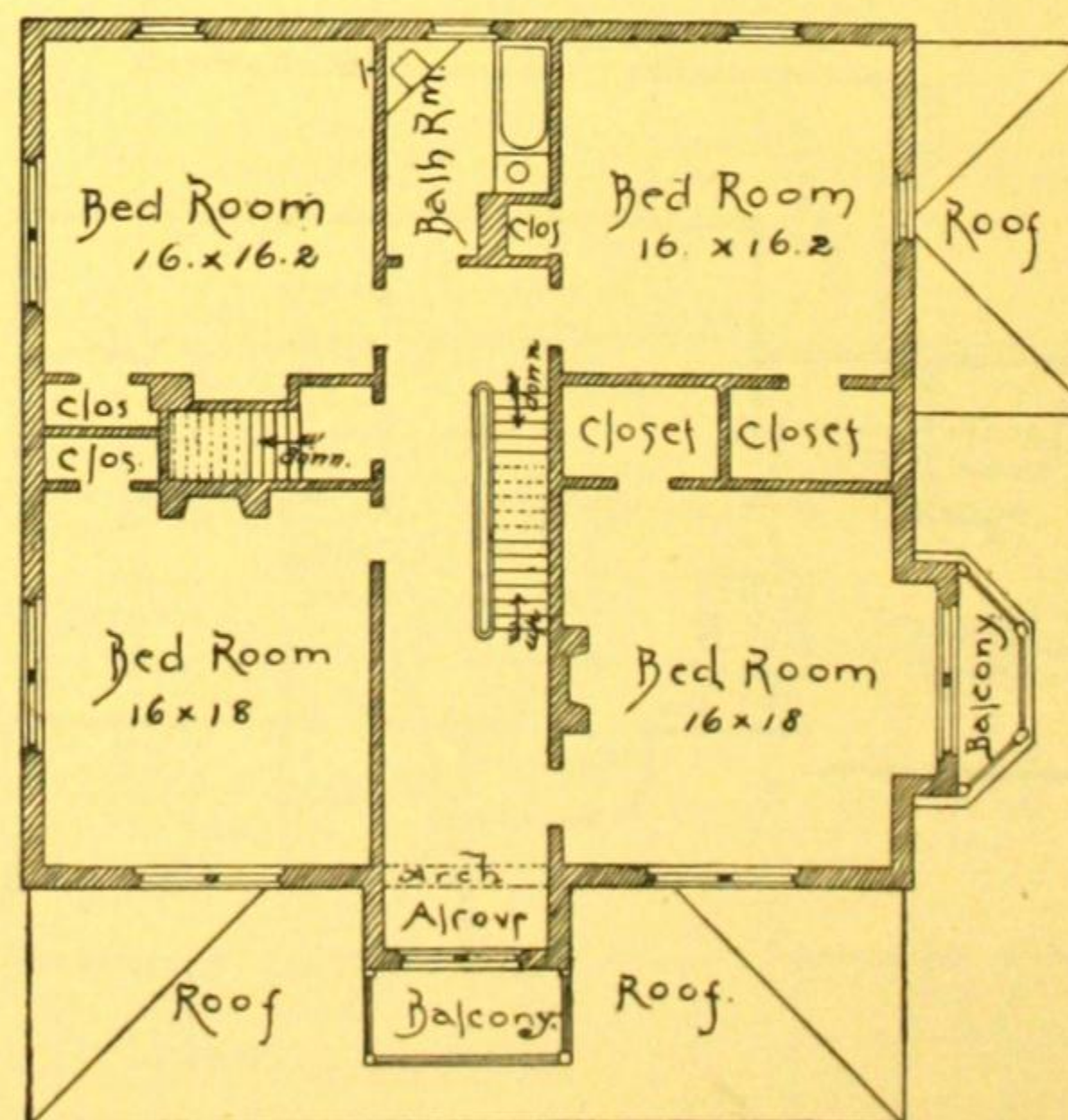
The attic or third floor contains the same number of rooms, with the same arrangement, as the second floor.

The details of the veranda and other parts of this house are very handsome.

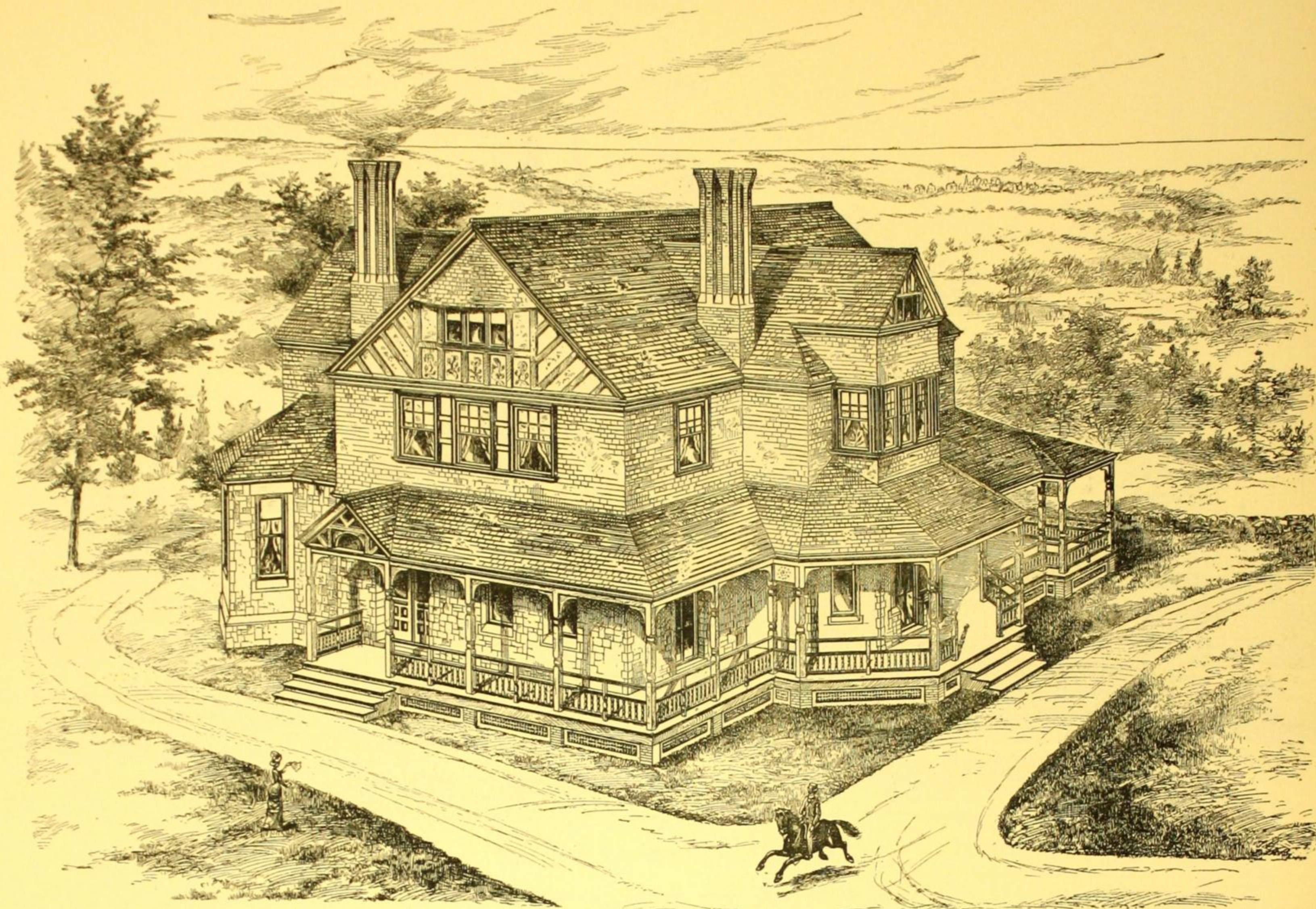
From an artistic point of view, we do not admire the Mansard or French roof, yet it has some advantages over other forms; it gives a third story of equal size and accommodation as the second story. In a gabled or hipped roof the attic rooms are greatly diminished in size by the slant of the roof. Where a large number of bed-rooms are required the Mansard roof will supply them.



FIRST FLOOR. NO. 307



SECOND FLOOR. NO. 307



DESIGN No. 308. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 308

SIZE OF STRUCTURE: Front, 63 ft., 6 in., including veranda. Side, 65 ft., 6 in., including veranda.

SIZE OF ROOMS: See floor plans.

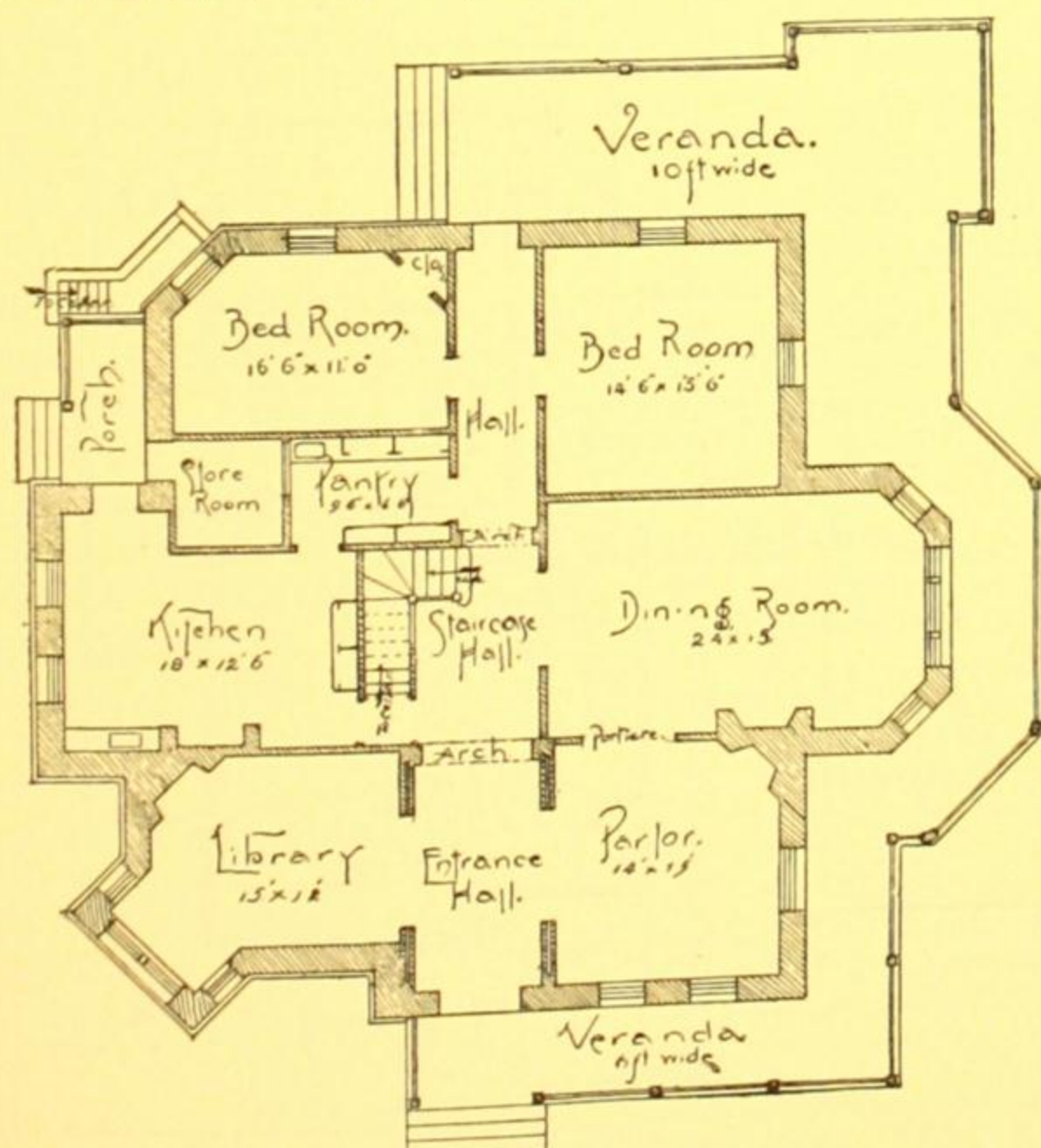
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 7 ft., 6 in.

MATERIALS: Foundation, stone; First Story, stone; Second Story, frame, shingled; Gables, timber and cement; Roof, slate.

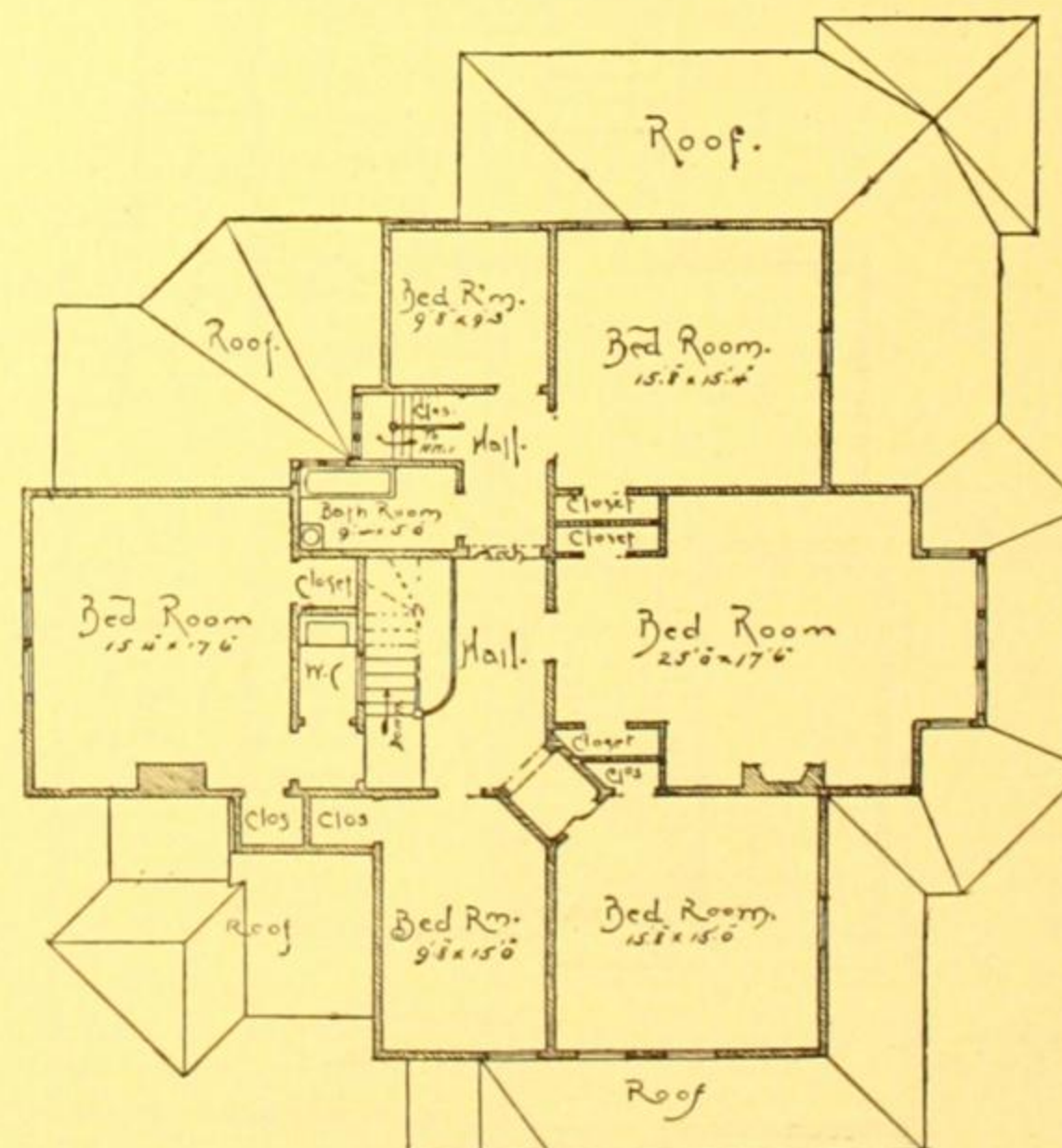
COST: \$6,500, complete, except mantels and furnace.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

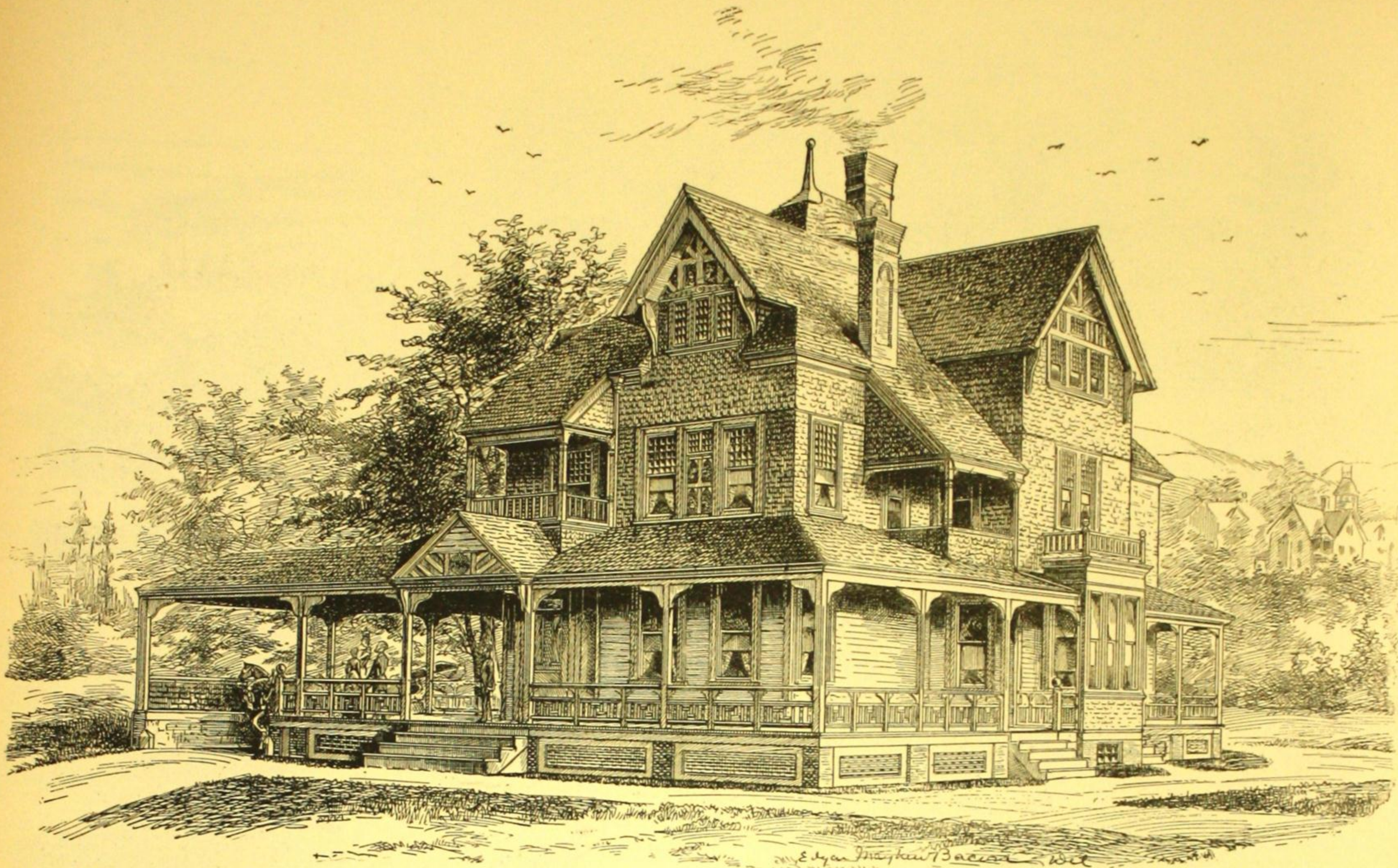
SPECIAL FEATURES.—The immediate front portion of the house is not excavated; the remainder is. One well-lighted and comfortable room in the basement is finished and fitted up for a man servant. Large fireplaces. Large skylight in roof gives light to the staircase hall; stained glass in ceiling over second-story hall. Four good rooms in the attic. Very fine veranda. Cellar floor concreted. Sliding doors between hall and library, and hall and parlor.



FIRST FLOOR. NO. 308



SECOND FLOOR. NO. 308



DESIGN No. 309. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 309

SIZE OF STRUCTURE: Front, 27 ft., 6 in.; including veranda, 43 ft., 6 in. Side, 55 ft., 10 in.; including veranda, 67 ft., 8 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft.; Second Story, 10 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles, half timber and Portland cement work; Roof, slate.

COST: \$6,000, complete, except heating apparatus and mantels.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

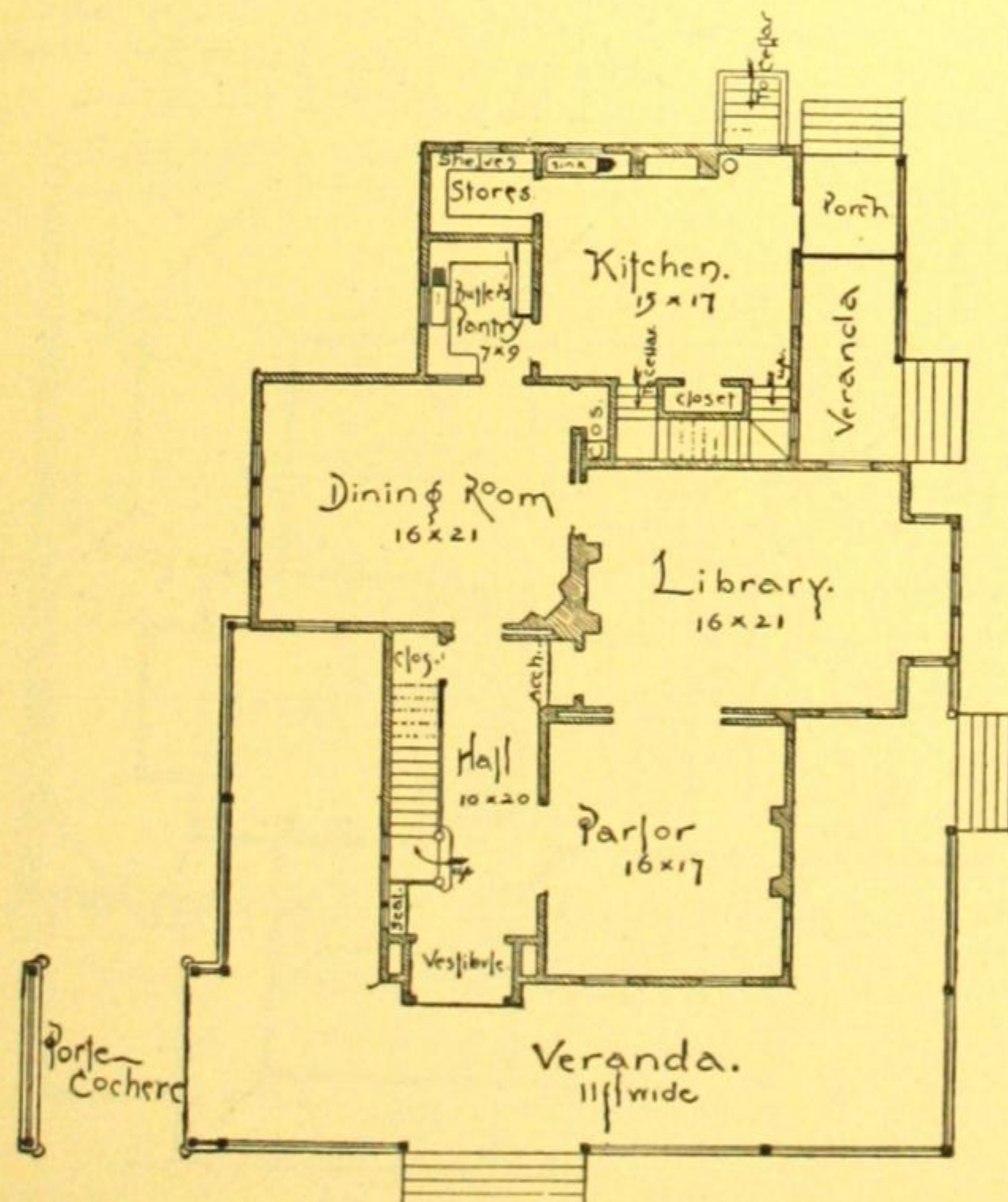
SPECIAL FEATURES.—Cellar under the whole house, with inside and outside stairways thereto.

In the attic there are three bed-rooms, and a billiard-room 16x21, which is perfectly and fully lighted.

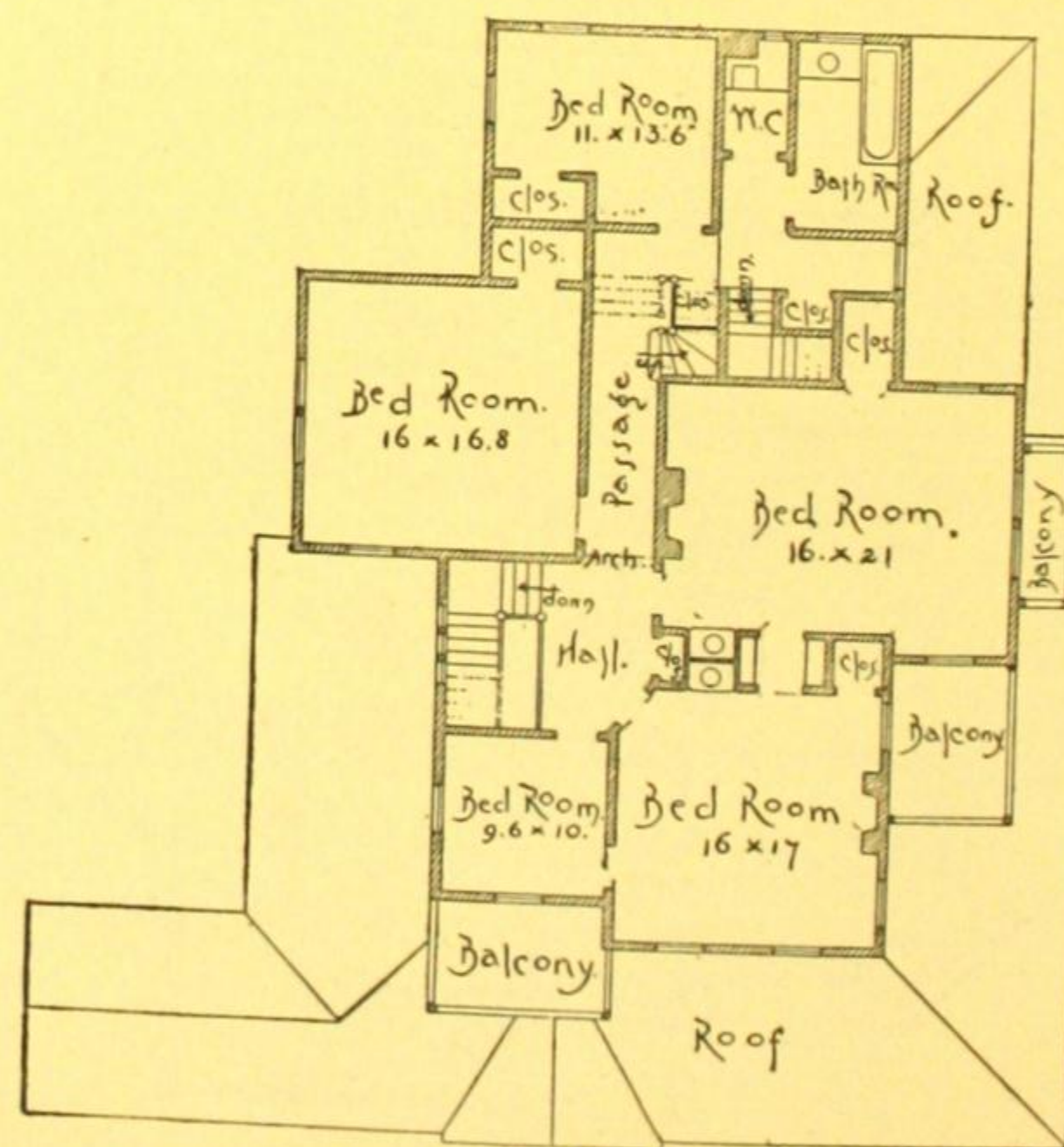
The windows lighting the staircase are glazed with stained glass in lead bars. The vestibule door also has stained glass.

An abundance of closets on the second floor, and wash-bowls in the two principal bed-rooms.

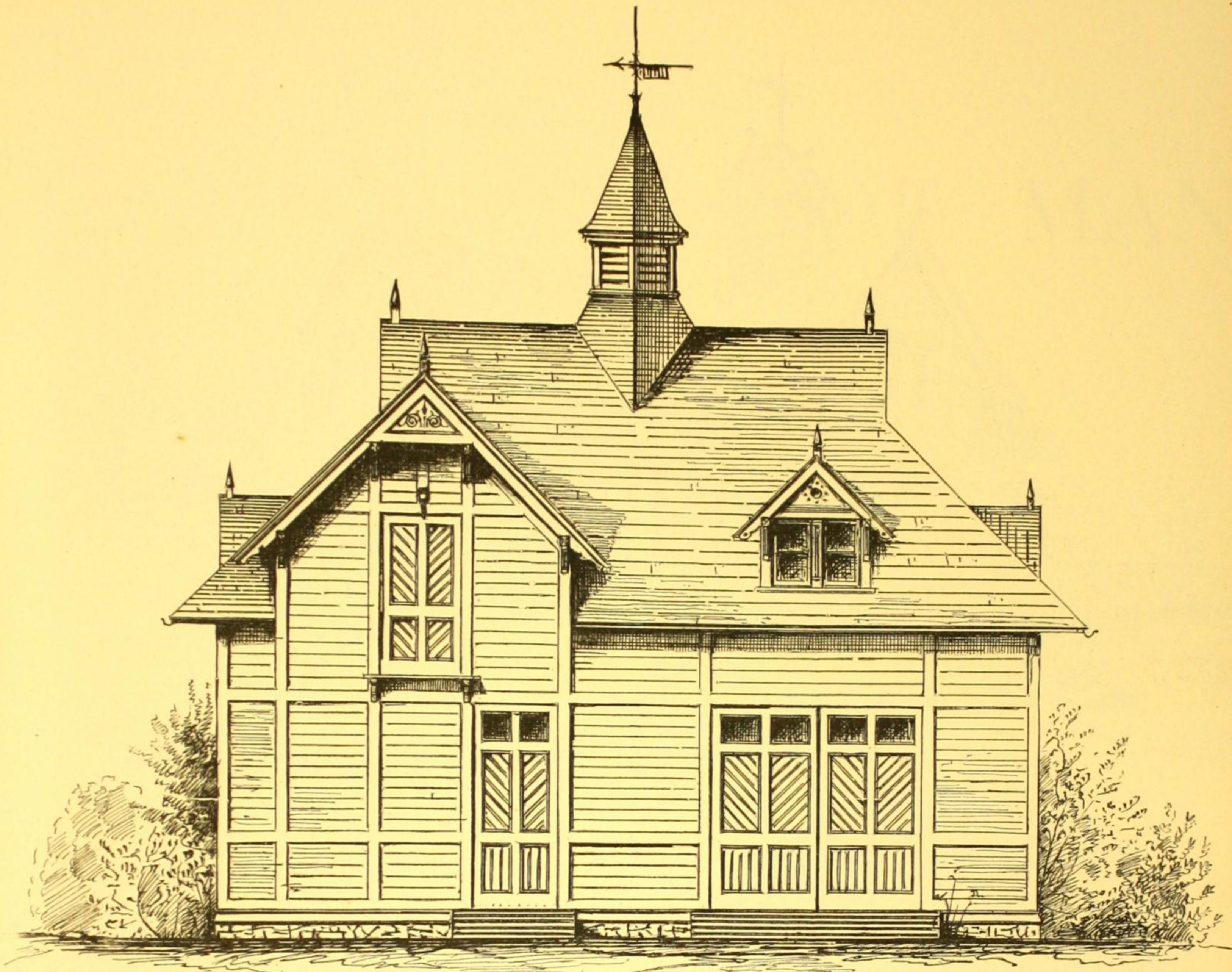
Fine balconies, an immense veranda, and a *porte-cochere*.



FIRST FLOOR. NO. 309

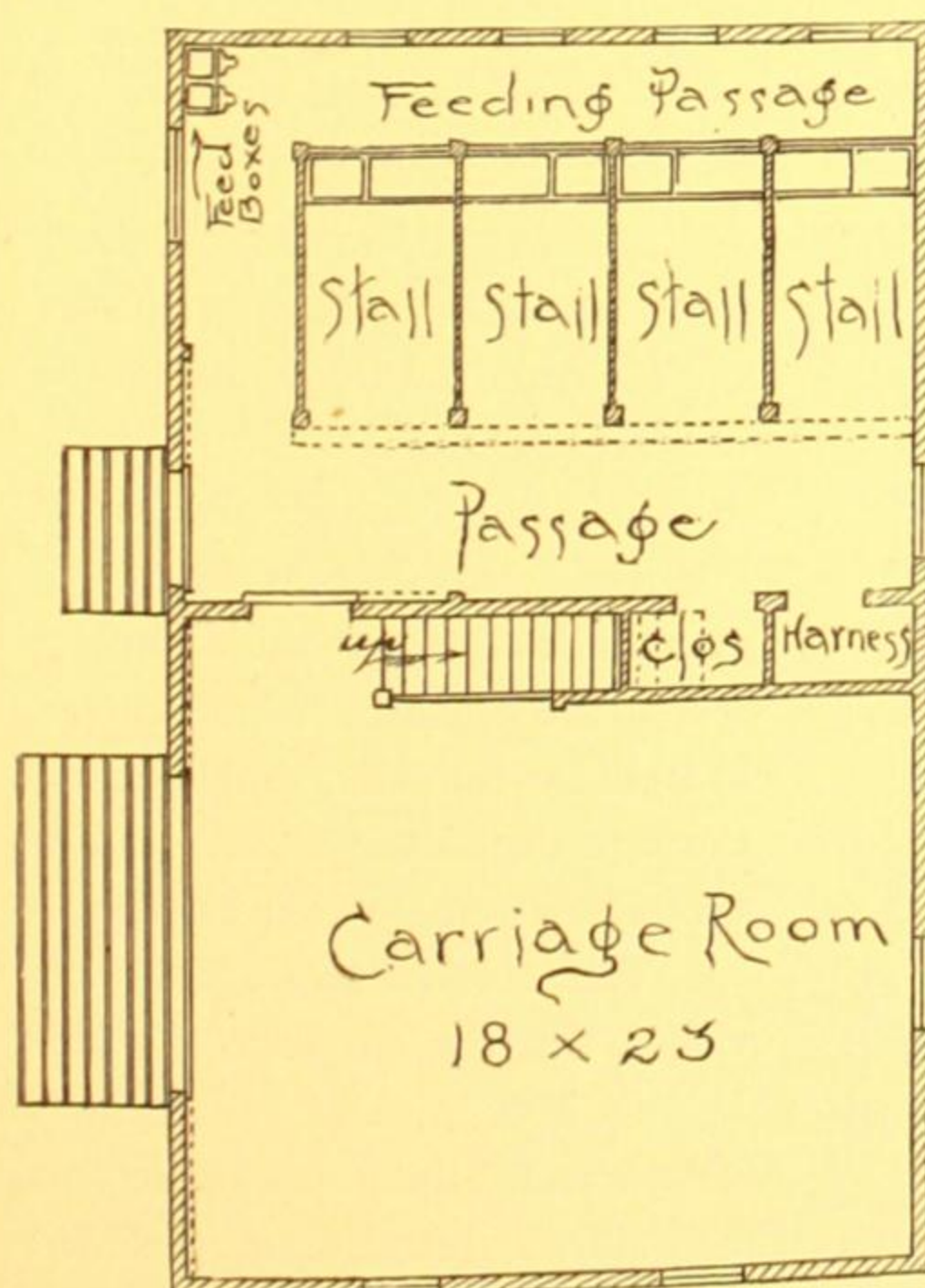


SECOND FLOOR. NO. 309



CARRIAGE-HOUSE AND STABLE DESIGN No. 310. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 310



GROUND FLOOR. NO. 310

SIZE OF STRUCTURE: Front, 24 ft. Side, 40 ft.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story extends to rafters.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$750, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

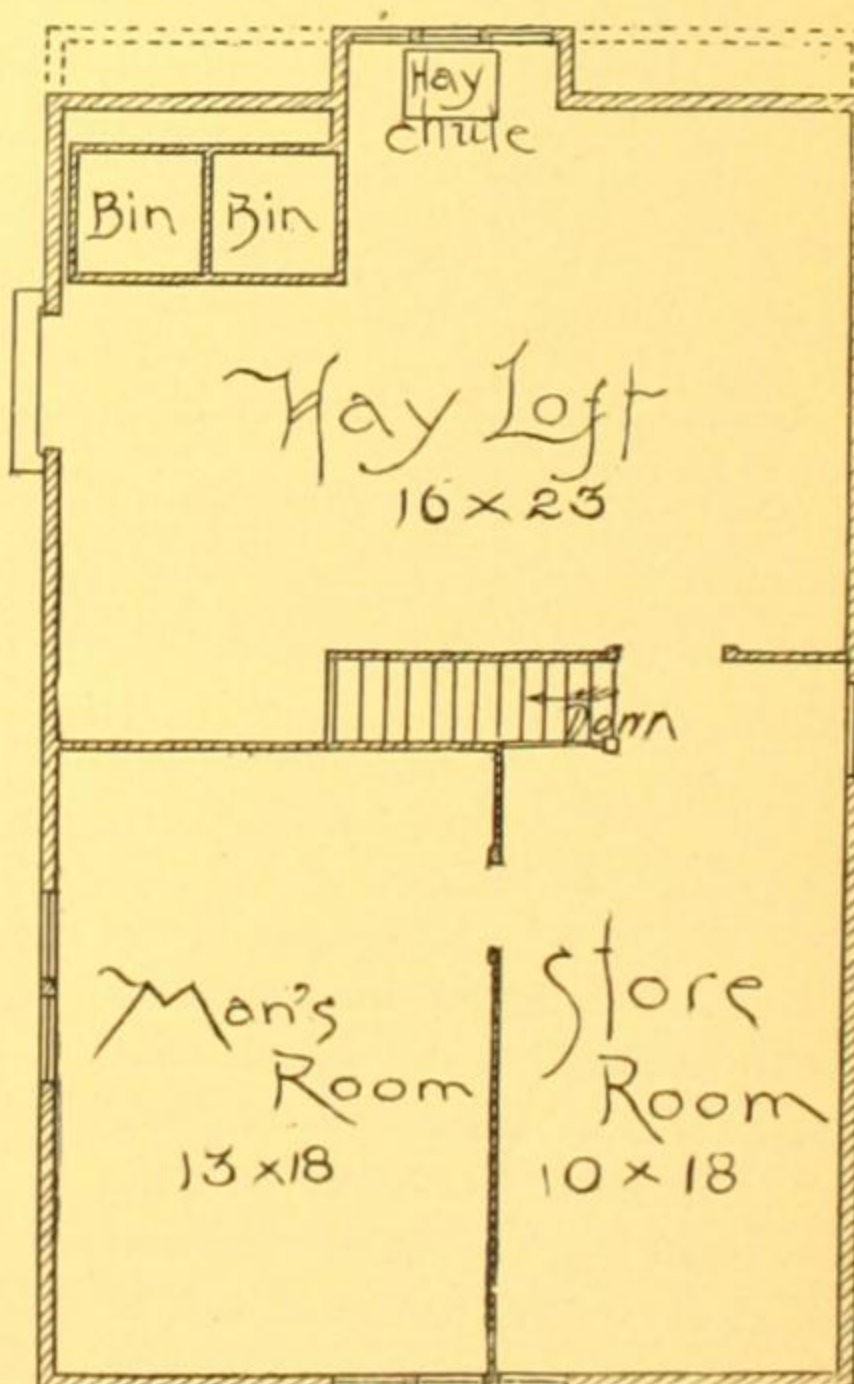
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

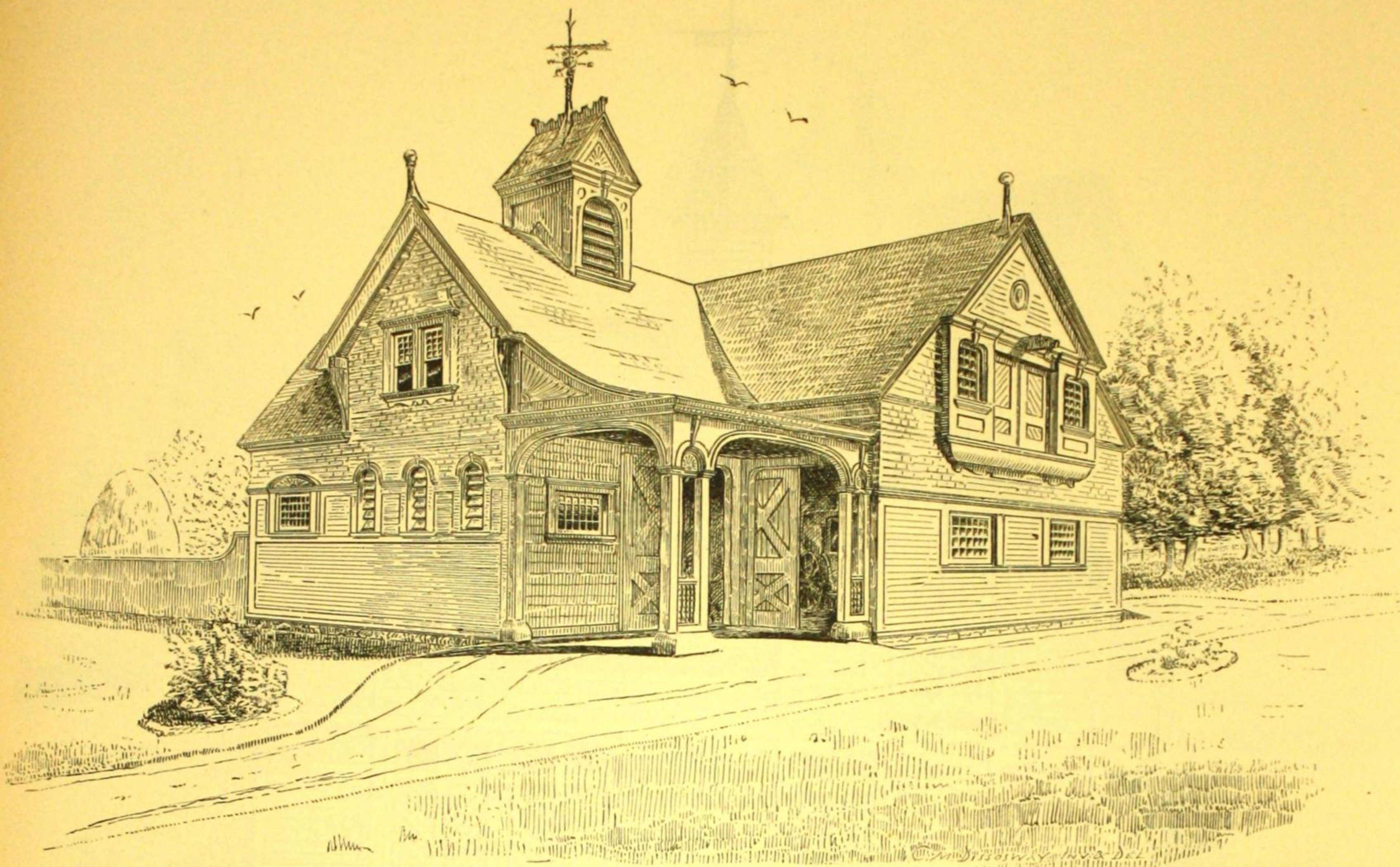
Details of the Cornices, Windows, Doors, Gables, Colors, &c., &c., are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Stalls for four horses, feeding passage-way, harness closets and large carriage room. On the second floor a room for the coachman, large hay-loft and a store-room.



SECOND FLOOR OR LOFT. NO. 310



CARRIAGE-HOUSE AND STABLE DESIGN No. 311. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 311

SIZE OF STRUCTURE: Front, 39 ft., 6 in. Side, 36 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Second Story, from floor to highest point, 12 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,500, complete.

[See page 75 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, March, 1886. In most other localities the cost is less—in some places much less. A different date also modifies cost. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

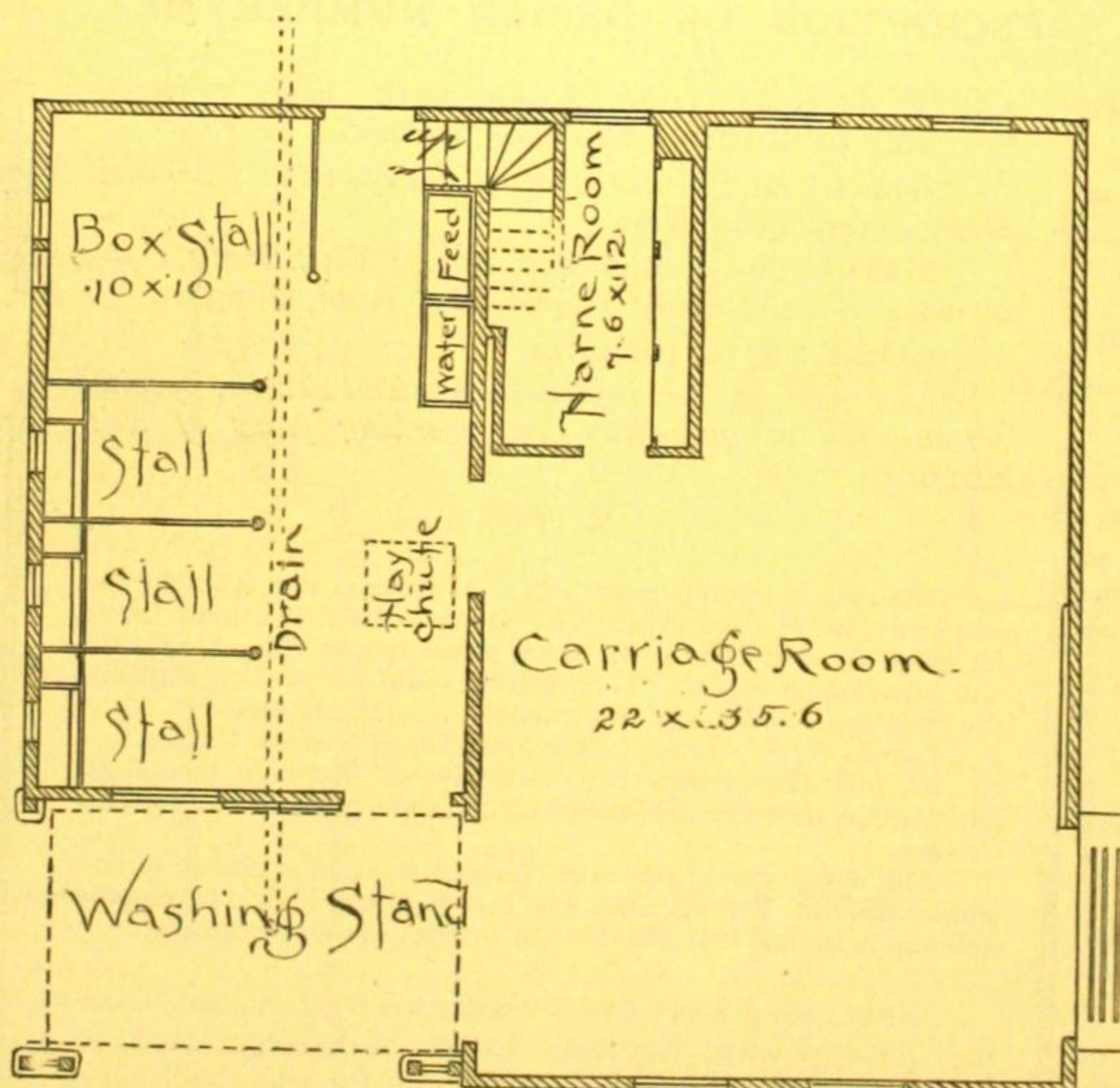
Details of the Cornices, Windows, Doors, Gables, Colors, &c., &c., are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.— Stall accommodations for four horses, and for three or four carriages in the carriage-room.

A small chimney is carried up from the harness-room. A man's room is provided on the second floor, which is sufficiently heated by the flue which passes through the room; a stove can be used in extremely cold weather.

The stand for washing carriages, with cement floor, is placed in the floor of the open porch. The water used for washing can be made to flush the drains of the stable.



GROUND FLOOR. NO. 311

THE HABITATIONS OF MAN IN ALL AGES

By VIOLLET-LE-DUC

Translated by BENJ. BUCKNALL, Architect

CHAPTER V

THE EMIGRANTS

THE sun was sinking on the horizon. At the entrance of a wide valley on an undulating plain were to be seen a long train of men on foot and on horseback, coming down the lower slopes of the mountains through the woodlands and prairies; behind them were heavy wagons drawn by oxen, and filled with women, children, and furniture; while a dense body of horsemen brought up the rear.

The men in the rear of the column came to a stand in a wide turfy glade, formed in a circle, and gradually the wagons and their escort reached the centre, and were ranged in several lines. The horses were tied to trees or to stakes driven in the ground. The women and children got down from the wagons, and without losing time, set to work to prepare the evening meal. Fires were quickly lighted between the wagons, while the men took the yokes off their teams, and allowed the oxen to graze. The air was still, and the smoke from the various fires rose slowly to the sky like so many gray columns. The last rays of the sun gilded only the tops of the mountains, and the valley was already plunged in the blue shades of evening. Grave songs with long-drawn notes then rose from every quarter of the opening, and shortly after the company separated into groups around the fires.

The meal finished, night had supervened, and far away toward the extremity of the valley only a few summits still retained a purple tint. The moon was rising, and the night was mild. In the centre of the camp the emigrants assembled, and one of their number, mounted on a wagon, turning toward the star which appeared on the crest of the farthest hill to his left, gave out with a powerful voice a sacred hymn, commencing thus:

"The moon, pursuing her flight through the billows of air, moves onward in the sky. O beams of day, with golden trail, the eye cannot trace your path!" . . .

The people repeated each strophe in a full and simple melody.

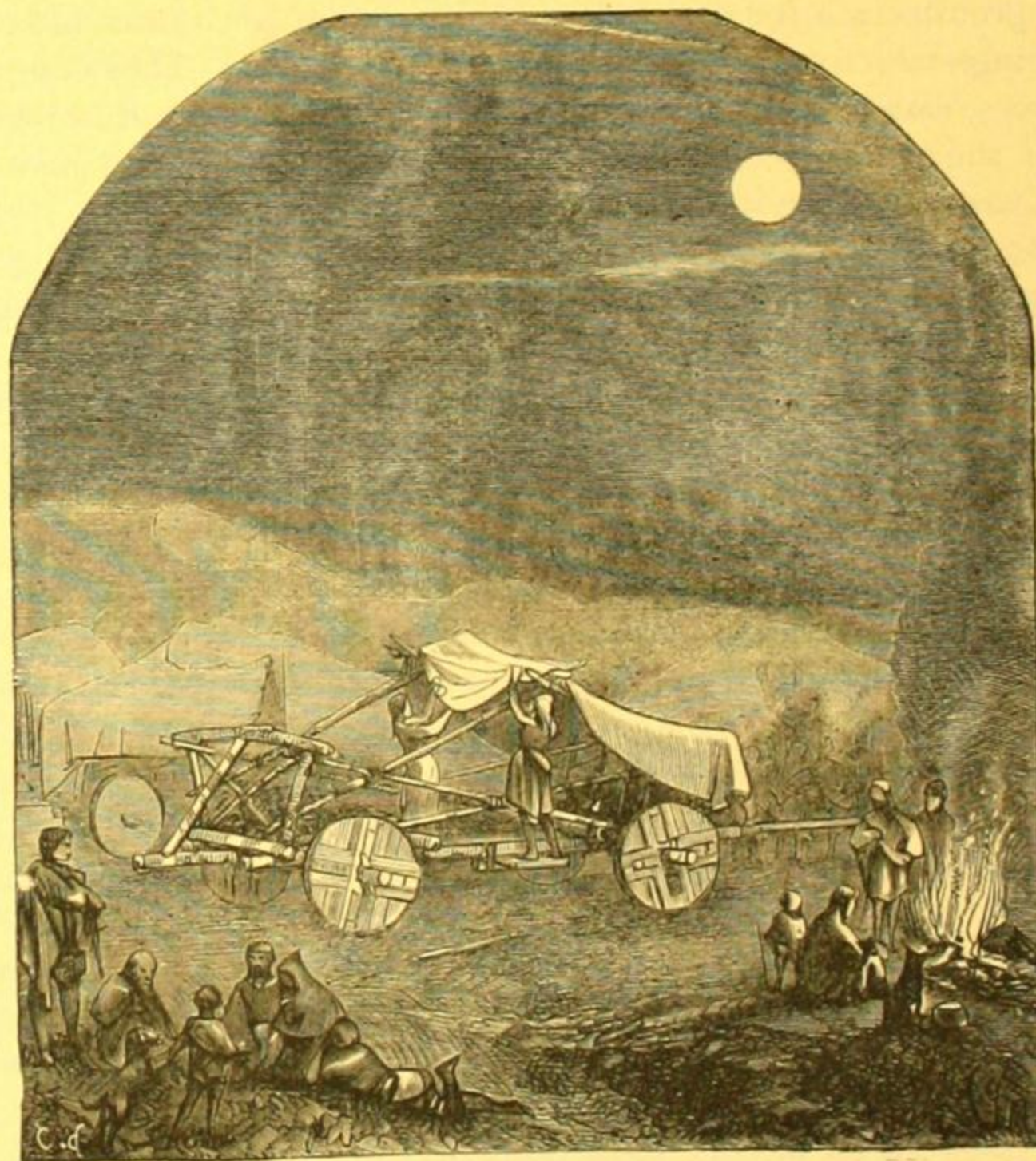
When the hymn was finished, the women covered the wagons with woollen stuffs (fig. 16), and each family having retired within these movable dwellings, silence reigned in the camp.

A small body of men were watching around the glade, and keeping up a circle of fires, conversing in a low voice.

"Since we left our mountains we have not yet come up with the Dasyus; are they still at a considerable distance?"

"They are in the plain," returned another; "perhaps we shall see them to-morrow. They live there amid the riches of a fertile soil,—

those unclean beings; we will drive them away; we will take possession of the ground which they defile, for they are incapable of defending themselves against the Aryas; or we will make them work for our families. In these rich plains, we shall no longer have to protect ourselves against the snow; there will be no more long winters, no more devastating torrents."



THE ARVAN WAGON.—FIG. 16.

The first speaker was, however, looking in the direction of the mountain and sighing: "Wilt thou believe me," said he at last to his companion, "it seems to me as if when we left our mountain gorges, so difficult to descend, and where we had to help our wagons along with our arms, I had left a part of my own being up there; sadness overcomes me at sight of this boundless plain, and I seem to pant for air."

"We could not go back to our mountains; we have been vanquished by the great families from the North; they came down upon our pastures, and spread devastation everywhere when we tried to drive them back. More numerous than ourselves, these men were holding us in bondage. We are not made for subjection; we there-

fore had to leave our dwellings. Cease thy regrets. When a child, I came down with my father, who used to sell wool in these happy plains, where grow trees loaded with fruit, where the rivers flow gently through the shades; where man never suffers either from hunger or cold. The Dasyus have large and well-built houses, and flocks and herds in plenty. When all these possessions become ours, thou wilt forget thy hut on the mountain."

CHAPTER VI

EARLIEST SETTLEMENTS OF THE ARYAS ON THE UPPER AFFLUENTS OF THE INDUS

THE earliest emigrants who descended the slopes of the Himalayas found the region occupied by a race of men of yellow complexion, destitute of energy; and had no difficulty in subjugating them. Of great stature, handsome and brave, the Aryas presented themselves amidst these colored peoples like superior beings, born to command; and despite their number, the effort to resist was soon abandoned. Industrial occupations were, however, more fully developed in the plain among these peoples of inferior race than in the mountains. They worked metals, had a considerable stock of tools, fashioned wood, and knew how to make bricks and work stone. They employed painting to embellish their dwellings, and wove linen, cotton, and woollen stuffs of very fine texture, which they skilfully dyed.

When all efforts at resistance had been suppressed, the Aryas began to think of settling permanently in the conquered lands. But the dwellings of the conquered race, constructed of bricks and canes, light and unsubstantial, were unsuited to the new-comers, who required substantial weather-proof houses, capable on occasion of resisting attack.

The predilection for durability, innate in the Arya, was intolerant of dwellings which a puff of wind might carry away. They compelled the natives, therefore, to erect habitations for them more durable than those of the country; but disdaining manual labor, they gave only general orders, involving conditions of increased stability—leaving their execution to the natives. The latter were therefore obliged to make use of the forms with which they were acquainted, while employing stronger materials and a more durable system of structure. And such is the force of habit, that the new-comers insisted on the reproduction of certain appearances with which they were familiar, and which reminded them of the old houses they had abandoned. In their native mountains the Aryas scarcely used any material in building but dry stones and small unsquared trunks of trees; the races among whom they settled built with pise and with canes. This pise was only a coarse concrete of mud and small pebbles rammed between wicker-work, and which, dried in the sun, acquired a certain degree of solidity. The basement thus formed, the natives erected upon it light timber framing, whose open spaces were filled in with canes which they plastered with the same mud mixed with straw; so that these habitations presented the appearance shown in figure 17. The timbers remaining visible were painted, as well as the ends of the roofing, which greatly overhung the walls in order to shelter them well. This, however, did not appear to the Aryas a sufficiently substantial structure, or the dwellings thus built worthy to house them.

They insisted on having walls built of stone or of substantial timber-work, solid, like that of their mountain homes, and better than walls made of reeds covered with thin plastering; accustomed as they were to dwell within walls of piled-up trunks of trees firmly joined at the corners. The wretched natives had great difficulty in satisfying the requirements of their new masters, inasmuch as the latter were perfectly able to tell what they did *not* want, while they but vaguely explained what they actually desired. Accordingly, in spite of blows, the new buildings were raised with difficulty, and were often abandoned by the workmen, who themselves also emigrated, being unable to satisfy the whims of the new-comers. The country thus became gradually depopulated; and the Aryas, in order to keep men to work for them, found themselves obliged to confine the inhabitants that re-

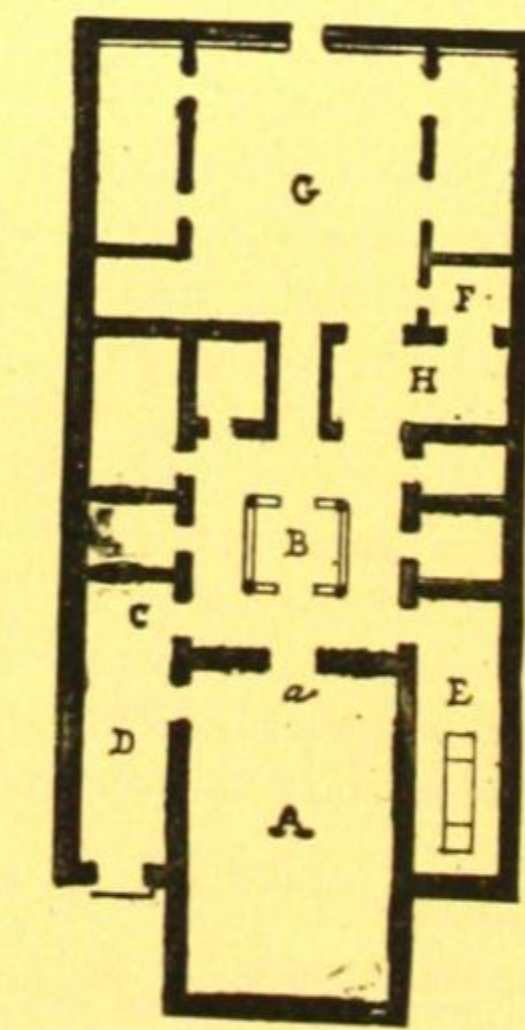


HOUSE OF THE PRIMITIVE INHABITANT OF THE UPPER INDUS.—FIG. 17.

mained, and to take from them the few horses they possessed. The poor people were divided into classes; some had to till the ground, others to tend the cattle, and the most intelligent, or those who already followed some industrial calling, were compelled to work at buildings, the weaving of stuffs, and the manufacture of implements and utensils. To each family of the Aryas was apportioned a certain number of these natives, with the obligation to look after them and make them work. If any of them attempted to escape, the Aryas immediately mounted their horses in pursuit; he was soon brought back and imprisoned, receiving for a week or two more blows than food. After a year of this treatment the cases of flight had become very rare, and the natives appeared resigned to their fate. All the results of their labor, whether in cultivating the ground or in other industrial pursuits, belonged by right to the Arya families, who from that time took upon themselves to provide food and raiment for their serfs.

As a result of this social condition the dwellings of the conquerors might soon be seen rising amidst the huts inhabited by the natives attached to their service. Their huts were of the most humble appearance, but were built according to the methods adopted by the natives;

while the houses of their masters had a more durable aspect, although their structure resembled in some of its forms that of the aboriginal dwellings, especially in the arrangement of the roofing. Moreover, the Aryas vied with each other as to which should have the most spacious and beautiful house. After some years' sojourn in this land, that equality of condition, which had in great measure existed among the families of the conquerors, was no longer to be found. Those whose chiefs were active, vigorous, and intelligent, knowing well how to govern the domain of which they had become the possessors, and to manage their serfs so as to render their condition supportable, beheld their wealth increase to the detriment of the families whose chiefs did not take such pains or display such energy. The latter, unable to support their slaves, were obliged to part with some of them, and with the portions of land on which they lived; for the soil and the serf who lived on it went together.



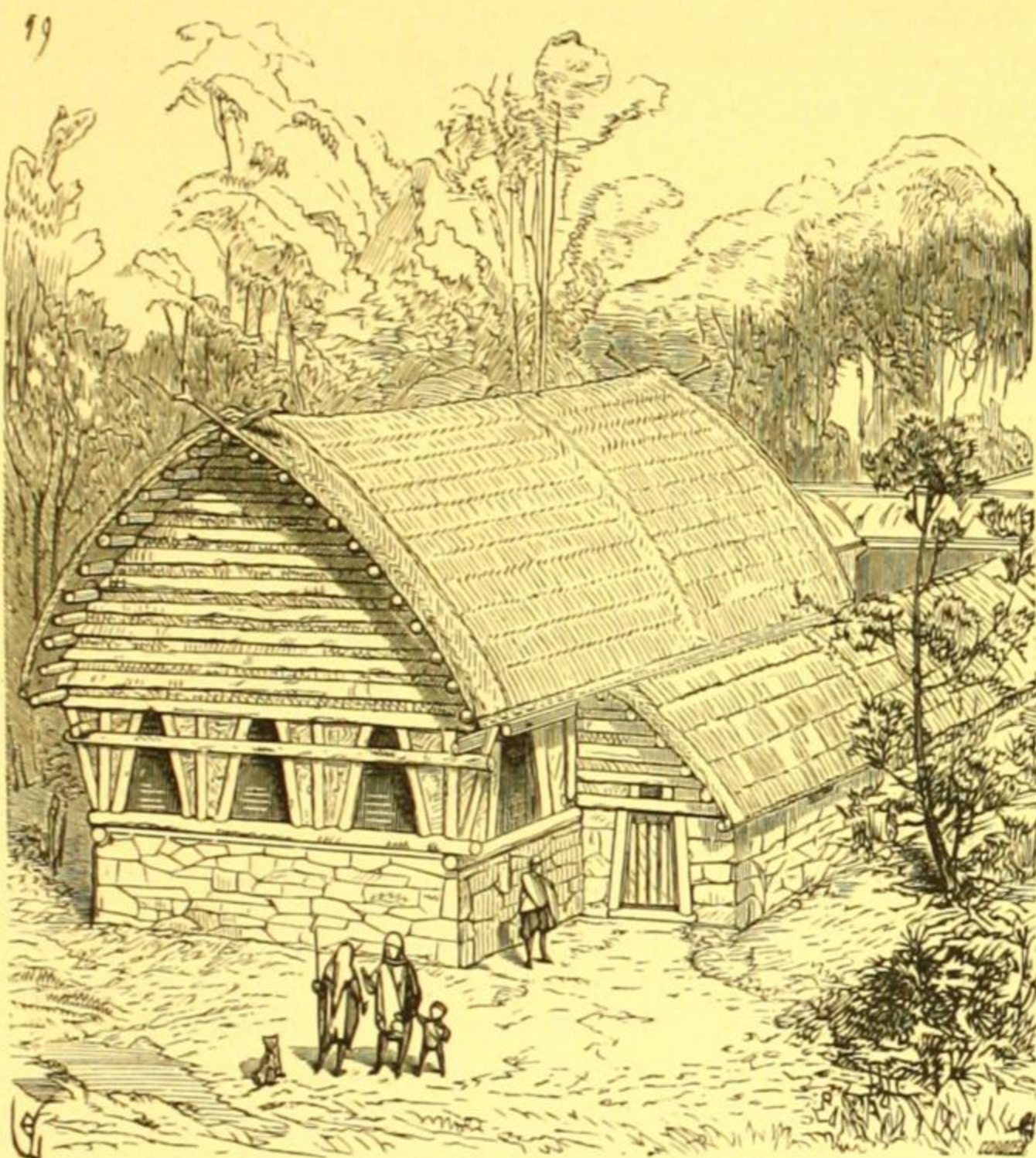
PLAN OF HOUSE OF THE ARYAS SETTLED ON THE UPPER INDUS. FIG. 18.

After twenty years' sojourn of the new-comers in this fertile territory, there might, therefore, be reckoned about a dozen great families distinguished by their power and riches from the remainder who were less fortunate, though in the assemblies they had equal rights in deciding on matters

under discussion. But whether spacious or small, the Aryan dwellings were all built on the same plan.

They invariably consisted of a large hall in which the family and their neighbors assembled, and an interior court, more or less spacious, sometimes surrounded by porticos, beneath which opened the bedrooms. These habitations were closed on the outside ; for the Aryas, surrounded by serfs whom they could not trust, did not wish to be overlooked by the curious, or their dwellings rendered too easily accessible. An outer enclosure contained the cattle-sheds, the stables, and the quarters for the servants attached to the house, with barns and provision stores.

Figure 18 presents the plan of one of the largest and best arranged of these houses. At A, the hall entered by two doors—one from the outside, the other from the inner court. From this large hall there is no communication with the habitation except by the second door *a*. At B is the interior court with its portico, and the bed-chambers all round. The entrance to the dwelling part is at c, with the apartment D, in which the chief daily receives the people from without.



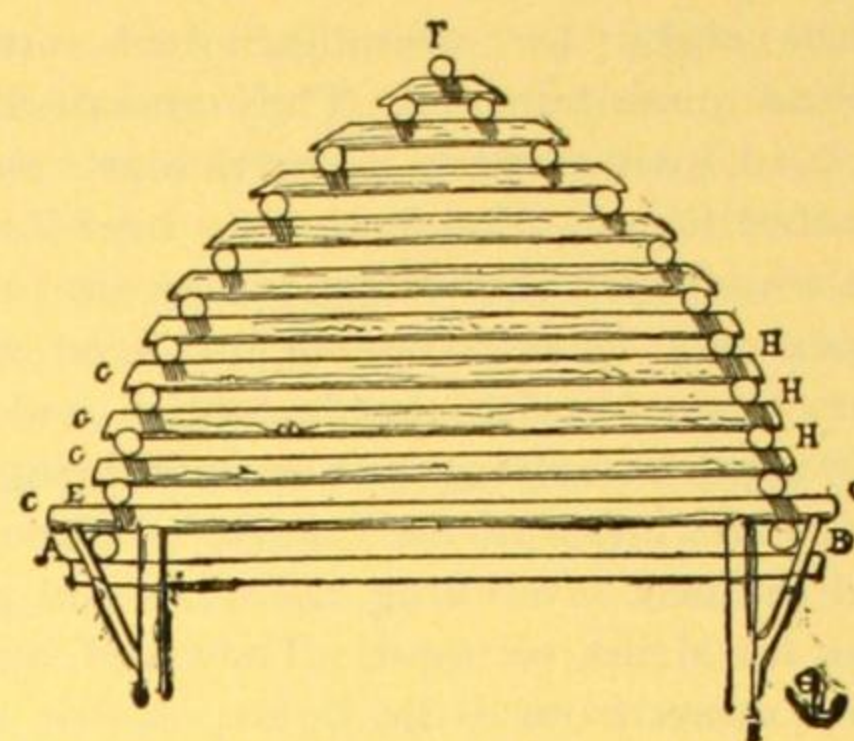
VIEW OF HOUSE OF THE ARYAS SETTLED ON THE UPPER INDUS.—FIG. 19.

At E is the consecrated part, reserved for sacrificial rites, and where the family treasure is deposited; for at that time the head of the family used to perform amid his household the three religious ceremonies of the day: the first at sunrise, the second when the sun was at its highest, and the third at the setting of the star that generates life. At G is the outer court with its wall, its special gate, and the stables, servants' quarters and storerooms, a small room at F for the preparation of food, and at H the room in which the family meet to take their meals.

Fine trees surround this dwelling, which is built of stone and timber, and of which figure 19 presents the external aspect on the side of the great hall. But we must enter somewhat into detail respecting the mixed system of construction employed.

The master of this habitation had determined that all the lower part toward the outside should be built of stone. For this purpose he had employed a part of his serfs in quarrying blocks of stone along the neighboring limestone hills; these blocks were brought to the site on wagons drawn by oxen. On this basement was erected, to form the upper part of the great hall, a framing of heavy timber-work; and on this box a roof constructed according to the method shown in figure 20.

Upon the upper wall-plates *AB* were laid cross-timbers *CC*; on these the side-pieces *E*, then other shorter cross-timbers *G*, side-pieces *H*, and so on up to the ridge *F*. Thus were obtained gables of open-work at either end and one midway, thoroughly strong. To the side-pieces were fastened long poles, and on these reeds lengthwise,—



GABLE FRAMING OF UNHEWN TIMBERS.—FIG. 20.

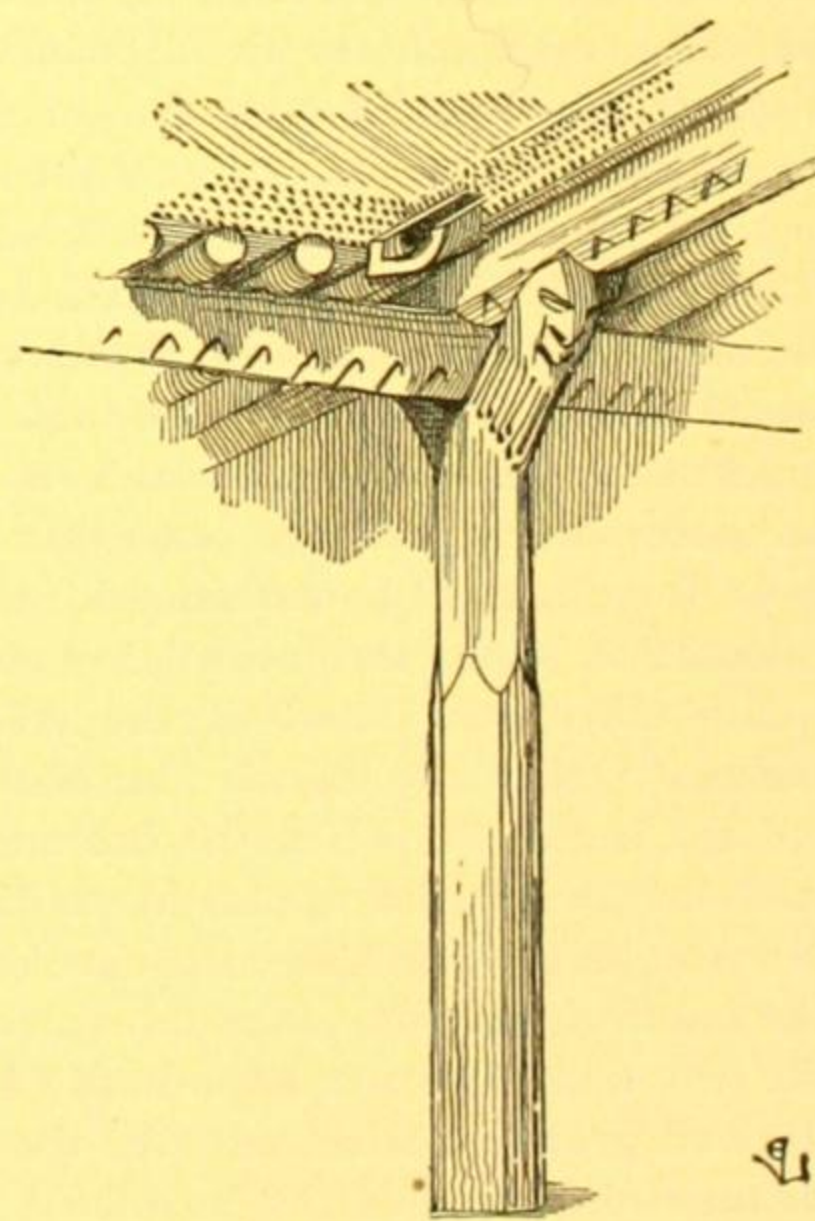
then a thick layer of rushes thatched according to the method adopted by the natives, so that the rain could not penetrate this roofing.

The same procedure was adopted for the buildings designed for habitation,—that is to say, with a series of open-work gables or *lean-to's*. The supports of the portico were made of trunks of trees forked at the top, as shown in figure 21; and as the master of the house was rich, and had serfs and skilled in the art of working wood, instead of leaving these trunks in the rough, he had them wrought as richly as possible, so that this portico presented a very striking appearance, and was considered by all an excellent work.

The doorways left in the stone basement were made of two planks meeting at the top so as to form triangular openings, perfectly strong, and whose inclined jambs were enclosed by the walls made of irregular blocks carefully fitted, according to the method used by the Aryas in their mountain home. The partitions separating the rooms consisted merely of coarse trellis-work of canes on which were hung skins of beasts. The repasts were prepared in the smaller hall F (fig. 18), as stated above, and the family took their meals in the apartment H, opening on the portico.

The bed-chambers were lighted only by the doorways opening on the portico, and the great hall by the openings left in the upper timber framing, these openings being closed only by wicker-work.

Vâmadevâ, the master of this beautiful residence, which was surrounded by some thirty huts inhabited by his serfs, was a tall old man. His white beard, his clear blue eyes, his wide forehead, which, in spite of his years, was still unwrinkled, his tall and erect stature and noble bearing, imposed respect on equals as well as dependents. Although he had enriched himself at the expense of his neighbors, he never failed to help them in distress ; he therefore enjoyed a considerable influence in the deliberative assemblies, and was consulted on all matters under discussion. His great hall could readily accommodate two hundred persons, and it was one of the places where the Aryas liked to assemble ; for the speech of the master was persuasive, and he had the art of bringing over others to his own opinion. On certain occasions, therefore, banquets were held in this hall, which were pro-



FORKED POST.—FIG. 21

longed far into the night; for abundance had corrupted the sober habits of the Aryan mountaineers. They abstained, however, from certain kinds of food, swine's flesh in particular; and did not drink any of the fermented liquors that had long been in use among the natives, and with which they sometimes intoxicated themselves. The women never appeared at these banquets, but lived in the inner apartments of the houses, working at textile fabrics and making clothes for the family, or superintending the servants, bringing up the children, and preparing the meals of the family. To the young girls was specially assigned the task of milking the cows and pouring the milk into vessels, either for drink or food. They had also to gather the plant *sôma*, and to extract from it the liquor used in ceremonial rites.

On one of those festal occasions the whole Aryan colony had been abroad since the morning, and were on their way to Vâmadvê's dwelling. It was a beautiful day in spring, clear and serene. The men were to be seen dressed in clothing of brilliant white, their heads covered with fur caps, their limbs swathed round with strips of woollen stuff, and sandals on their feet,—advancing slowly in small bodies, conversing among themselves, while the women and children were following them, laughing and singing. The women were dressed in fine fabrics of white wool covered with embroidery of various colors. Their arms and faces, being uncovered, showed the whiteness of their skin.

Buskins made of lambs' fleeces protected their feet and legs; and through their long transparent veils their fawn-colored locks, adorned with beads of gold, were sufficiently visible. As for the children, they were running from one group to the other almost naked.

Vâmadvê was to celebrate at noon the marriage of his granddaughter to a young man of the neighborhood. In front of his dwelling a vast enclosure had been formed with clods of turf and branches. In the midst of the circular enclosure rose a slightly elevated mound on which was placed a flat stone.

While awaiting the ceremony, the Aryas stood in groups around the enclosure without entering it; and the family of Vâmadvê distributed cakes, curdled milk, parched corn, and water.

The sun was reaching the zenith when Vâmadvê came out of his house and appeared in the centre of the enclosure, followed by his wife and daughters bearing the sacrificial vessels containing the liquor of the *sôma*, butter, and dry herbs. When the sacred fire of Agni was kindled on the mound, the old man turned toward the flame pronouncing an invocation to the celestial powers. The bride then advanced, followed at some distance by her guards of honor and the two families farther in the rear. At this spectacle the murmurs of the crowd suddenly ceased, and amid the most profound silence, the young girl pronounced these words in a voice clear as the song of the lark: "Father! I ask to be united to Nêma, son of Gotôma!"

"Sûryâ," replied the old man, "advances, dressed in a splendid robe, to be united to Sôma. The hand has formed her attire, the eye has superintended the dressing of her hair, heaven and earth have furnished her adornment now that Sûryâ comes to meet her spouse. The Açwins are her two guards of honor, Agni is her messenger. Sôma has desired Sûryâ for his wife; the two Açwins were her guards of honor when Savitri gave him as a husband to his daughter, who is made happy by this choice.

"O Açwins, when you came in your three-wheeled car to ask for Sôma the hand of Sûryâ, all the gods applauded, and Pûsân, son of heaven and of earth, adorned the two nearest relatives."

The bridegroom advanced in his turn and took his place at the young girl's side; addressing the latter, Vâmadvê said to her: "I take her away from paternal authority to place her under that of a husband. May she be fortunate, O beneficent Indra, and have many children!" An acclamation from the crowd followed these words, and the husband then taking the hand of the young woman, the grandfather continued: "May thy family increase in our house. Awake for the fire of the hearth!" Then the bride let fall her ornaments which covered her dress, and appeared to the assembly still more beautiful under the long white robe that enveloped her.

Nêma, taking the hand of his wife once more, said to her with a loud voice: "I take thy hand for our happiness; I wish that thou shouldst be my wife, and grow old with me. All the gods have given thee to me, who am the fire of the hearth."

Then Vâmadvê, turning toward the assembly, exclaimed: "May

this spouse be happy! Approach her; look at her. Express to her your good wishes, and return to your dwellings."

Epergos and Doxius were mingled in the crowd. While attentively observing the details of the ceremony, Epergos remarked to his companion: "Our mountaineers have remarkably advanced in refinement, dost thou not think so?"

"Too much!" replied Doxius: "look at these capacious dwellings, these splendid dresses; listen to these invocations: one step more and these men will have become corrupted by luxury and vanity, if they are not so already. Who is this man that addresses the celestial powers and seems to speak in their name?"

"It is the grandfather of the bride; is there any one more interested than he in securing for his granddaughter the good-will of these powers?"

"Who assures thee that he is worthy to address them?"

"Who tells thee that he is not so?"

"These Aryas have already reduced to slavery men who were feebler than themselves, and whom they ought to have protected! . . ."

And thus, engaged in controversy as usual, Epergos and Doxius found themselves, at the termination of the ceremony, close behind the steps of Vâmadvê. He, perceiving that they were strangers, invited them to enter his dwelling to rest and recruit themselves.

CHAPTER VII

HOW DOXIUS AND EPERGOS RESPECTIVELY EMPLOYED THEMSELVES
AMONG THE ARYAS SETTLED ON THE UPPER INDUS

DURING their abode among this colony of Aryas, Epergos and Doxius employed their time differently. The former was always visiting the workmen, with a view to ascertain their methods of procedure. Doxius used to spend his days among the old men, and would converse with them respecting their beliefs and religious rites.

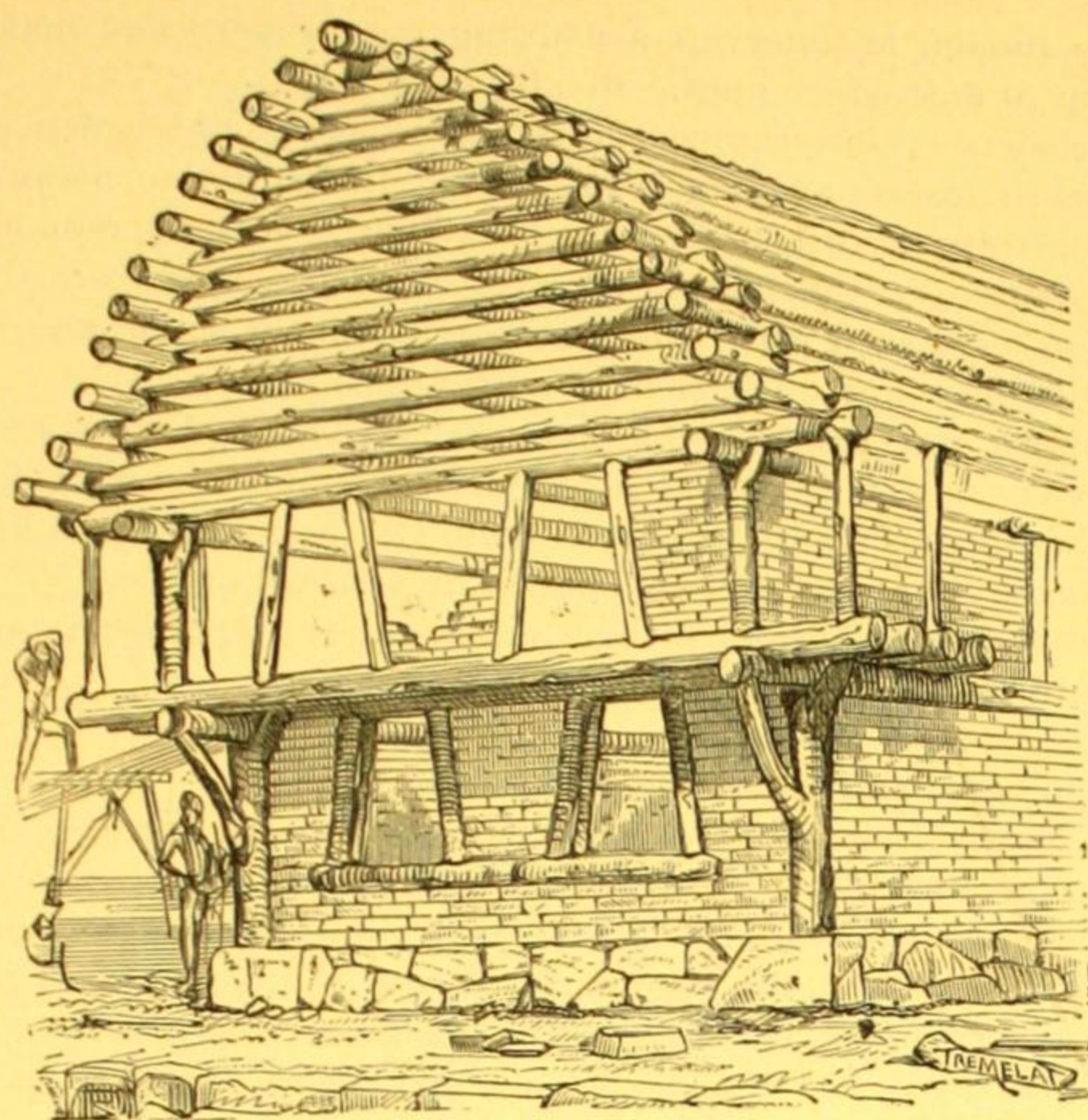
Epergos was not sparing of advice to the natives he saw at work; and the latter, naturally docile, listened to him with respect. He indicated to them the means of improving their tools, both in forging them and increasing their cutting action by hammering the metal and sharpening their edges on certain stones which were to be found in the neighborhood, and which were in fact sandstones. Thus they began to cut timber more readily, and to join pieces of wood more skilfully.

One of the chief Aryas, who, until then, had been contented with a somewhat rude dwelling, having acquired wealth by breeding large herds of cattle, wished to have a sumptuous residence built for him, and sent for the most capable workmen among his serfs and among those of his neighbors, to whom he was to pay so much per head for their services.

Remembering what he had seen in the fat Fau's house, and the ingenious methods of construction adopted by builders among the yellow race in their bamboo dwellings, Epergos thought that they might take advantage of these methods in the timber-work of the new building; for those which he observed appeared to him coarse and heavy, and falling short of the advantages which the use of timber affords.

Epergos called to mind the balconies projecting outward, and thought that if such results could be obtained with bamboos, they might be still more easily secured with the help of resinous substances of a more durable and solid nature. He reflected also that, in any case, if in future buildings they should have to be less lavish of wood,—since they would have to go far to cut it,—they would lose less time, and the inhabitant would be sooner able to occupy his house.

The plan of the new habitation did not differ from that given in figure 18; but an advantage was gained by making the upper part of the building project over the lower parts, so as to give more shelter to the latter, and by introducing those projecting galleries which present so many conveniences within and without, as was seen in the fat Fau's house. Following the advice of Epergos therefore, the builder arranged the front or gable of the principal hall as indicated in figure



BUILDING OF OVERHANGING UNWROUGHT TIMBER FRAMING.—FIG. 22.

22. They found in the forest two trunks of trees each presenting a fork and a strong branch in front. These trunks formed the main supports of the exterior front of the great hall; so that the horizontal beams which fitted into the forks were relieved at their extremities by the third anterior branch. Thus on the projection of these beams, firmly supported, a transverse piece of wood could be placed, on which two other posts likewise forked at the head could be raised, which would receive the two horizontal pieces terminating the building laterally. It only remained to place on these timbers those forming the roof and gables, according to the preceding method. This arrangement allowed a projecting tier or story to be raised above the ground-floor.

But the Aryas, perhaps, as a souvenir of their mountain homes, or in order to keep a stricter watch over the dwellings of their serfs, were anxious that their houses should rise above the natural level of the plain. They, therefore, raised a platform of rammed earth, and the building was erected on this platform.

The lower parts of the building being henceforth perfectly sheltered by the projection of the upper framing, it was decided with regard to these that they should dispense with those stone walls, which required much labor and time, and content themselves with walls made of clay bricks, dried in the sun, for the parts above the plinth, which was constructed of blocks of stone.

"Why," said Doxius to his companion, while the building was in progress, "should you thus disturb the natural order of things, and support a great and wide body upon a narrow base? The inhabitants had at least the good sense to raise buildings firmly seated on their foundations, while you are prompting them to reverse the order of things. Are mountains wider at their summits than at their base?"

"Mountains," replied Epergos, "are mountains, not houses. . . . Are not trees wider above their branches than at the bottom of their trunks? And since these people are building with wood, is it not quite natural that they should adopt the principle it suggests—that is, widen their construction like the tree, whose branches diverge from the trunk as they rise? Did we not see in the country of the yellow race houses built solely of bamboos, and which had those exterior overhangings so favorable to the comfort of the inmates—so well adapted to effectually preserve the lower part of the building?"

"Yes, certainly," replied Doxius, "and, among others, the house of the fat Fau who so courteously showed us the door. Such ideas could not have originated except in the heads of such fools; and if this is what you are undertaking to teach the men of this country who have more sense, you are spending your time to very questionable purpose. If they have the modicum of wisdom which they seem to possess, they will disapprove of your plans." The building, however, continued to advance.

Doxius had undertaken a very different task. In the conversations

he had held with some of the old men among the Aryas, he had expressed himself profoundly struck with the grandeur of their religious system, and had intimated to them his fear lest the purity of their worship should be corrupted. "It is indeed a noble sight to behold the chief of the family, surrounded by those dependent on him, place himself every day in relation with the powers that govern the universe; but do you not fear that with time those traditions will be corrupted,—that there will be negligence and forgetfulness in following them, and that many will attempt innovations? . . . and then, what will become of dogmatic truth? what will become of religious rites? To preserve them in their purity, the doctrine and the ritual should be taught and practised by those among you who are most respected; who would transmit the tradition from one generation to another with rigorous exactitude, subjecting themselves to special tests of knowledge, and so not allowing the profane to know, interpret, or hand down sacred things."

After such discourses the old men would remain for a time plunged in thought, and would deliberate respecting them. On another occasion Doxius said to them:

"Each father of a family sacrifices in his own dwelling; do you know how he comports himself on such occasions? Do you know whether he does not deviate from the truth? Would it not be better to practise the ceremonial in places set apart for the purpose, and in the presence of persons invested with a sacred character by a special council—a college of conservators of doctrine?"

These reasons, and others which we omit, seemed to produce an impression on the venerable persons to whom Doxius presented them.

When the house was finished, its wealthy owner was desirous of assembling in it, according to custom, the most distinguished of the Aryas. This building, which, both in its exterior and interior, presented certain innovations, did not approve itself to the taste of the oldest; while the younger part of the assembly got Epergos to explain to them the improvements recommended by him, and carried out according to his instructions. Opinion was therefore divided; and, as was the custom in such cases among the men of this race, the discussion assumed the character of a regular deliberation. When they had examined everything, the master of the house, who had soon become aware of the diversity of opinion, having sent round refreshments, consisting of cakes of meal and honey and curdled milk placed in the middle of the hall, spoke thus to his guests:

"You have visited this abode: it exhibits a structure which has been hitherto not customary among the Aryas. I thought I did well to seek for novel arrangements, adapted to render the life of man more comfortable, and which afforded a more secure and durable shelter; but I am anxious to know your opinion respecting the success of my attempts."

Vâmadevâ, after a moment's silence (no one being in a hurry to respond), rose slowly from the mat on which he had been seated, and majestically gathering together the folds of his long garment of undyed wool, replied:

"Thou hast acted as a free man, and no one among the chiefs of our families assembled here has the right to blame thee if thou hast built a house for thyself and thy family exhibiting novel arrangements; but since thou hast made an appeal to our views, I will give thee mine:—

"Formerly, when we inhabited our mountains, we lived in abodes less vast, less convenient, less sumptuous. Were we on that account less vigorous, less capable of subduing the Dasyus, less enduring of fatigue, less prepared to defend our families and our property? Certainly not. I like the new dwelling I have had built; but I liked, perhaps still better, the hut which I one day quitted with my wagons, to come and settle with you in this plain. These dwellings we are building, in ever-increasing size and beauty, are to me a source of fear as regards our children. I fear lest in the bosom of this luxurious existence they should forget the rude and simple life which the Arya ought to lead. If then I do not allow myself to blame what thou hast done in the fair exercise of thy liberty, I cannot refrain from casting a look of anxiety on the future, and asking myself whether this plenitude of comfort will not tend to corrupt those to whom we shall leave such beautiful habitations—we who in our youth lived under the scanty shelter of bark roofs; but who, habituated to fatigue and to struggle with the inclemency of the weather, found ourselves strong

and resolute enough to render ourselves masters of this vast country, and of the miserable race that occupied it." A murmur of approval from one quarter of the assembly greeted this discourse. Vâmadevâ continued :

"But there is a still greater peril ; the protection which the powers that direct nature accord to the Arya is at stake. In the bosom of this abundant wealth—this life which is becoming more and more effeminate, since we have no longer to sustain an incessant struggle—what we must especially fear is lest we should forget the homage we are accustomed to render to those divine powers. I readily believe that no one among us neglects the sacrifices which secure their favor ; but who can assure us that our children, brought up in luxury, will be always thus scrupulous,—that they will rise before daybreak to offer the sacrifice to Agni, and that our daughters will always go to gather the *somâ* when the moon shines in the starry heaven?" A sort of shudder then ran through the assembly, and a murmur of voices was heard for a long time before Vâmadevâ could resume his discourse.

"We must therefore take counsel," said he at length when silence was restored ; "we cannot endure the thought that the most precious inheritance left us by our ancestors should be wasted, that the sanctity of our worship transmitted by the gods themselves to the fathers of our race should be corrupted."

"No, no," was heard from every part of the assembly.

"Well, then, let us appoint guardians of this sacred ritual ; and let us choose for this purpose the worthiest and most respected among us. Having done this we have nothing more to fear ; for these guardians, invested by us with sacred functions, and beloved by the gods of whose worship they will be the conservators, will become our counsellors when a proposition is made to innovate or modify anything in our customs, habits, and daily life. Thus, always guided by their intelligence, and blessed by the favor of the divine powers, the race of the Aryas will maintain itself in its original purity, and will continue to be the most powerful on the face of the earth." The termination of this discourse was received with acclamations, and before the meeting separated, six chiefs of families were unanimously invested with sacerdotal functions.

On leaving the assembly, Doxius, who was habitually gloomy, was radiant.

"You seem to be very happy," said Epergos to his companion when they were alone.

"Tolerably so," replied Doxius, "and I begin to think we shall make something of these men. It is thy extravagant house that has occasioned me this satisfaction, and I will take good care not to blame thee for having had it built according to thy fancy."

"Be it so ; but thou wilt not hinder the world from advancing, nor me from going on with what thou callest my follies. These good people are going to sleep well satisfied ; but they are preparing for themselves a work of no small difficulty, and that for many a long year."

"Because . . . ?"

"Oh ! I know very well what I mean, and that is enough for me ; the evil or the good—whichever thou mayst choose to call it—is already done ; retrogression is impossible. If those elders, commissioned to preserve the pure doctrines, transmit them intact to their successors, all will be well ; but if they themselves fall into error—what then ?"

CHAPTER VIII

THE DESERT OF CENTRAL ASIA.

THE plain extends as far as the eye can reach. In some quarters lines of calcareous rocks traverse the sandy soil like furrows. A few lichens form yellow spots on the gray stone. Sometimes also a shallow lake presents itself, on whose banks grow reeds which are soon dried up by the sun and wind. Occasionally peaty marshes are observed, in which the steps of wanderers form so many holes which become filled with brackish water. Not a tree, not a bush. The sky, of a grayish blue, mingles with the hazy horizon. The air is calm and

heavy ; though at intervals a whirling gust supervenes, and raises columns of dust which appear to advance slowly.

The silence is interrupted only by the croakings of batrachians and the hum of insects near the lakes. Long faults, like so many cracks in the terrestrial crust, form the only interruption to the monotony of these plains. At the foot of those escarpments, which are scarcely visible at a distance, where there is shelter from the winds, are grasses, reddish mosses, and a few slender thorny shrubs.

Epergos and Doxius, both mounted on small black horses with rough coats and short broad heads, are travelling at a walking pace along one of those faults which seems to stretch as far as the horizon, oppressed by the heat and surrounded by a crowd of flies.

"What dost thou hope to find in this desert ; what art thou come to look for here ?" said Doxius after a long silence.

"Men," replied Epergos.

"Men here ! and how could they live here ?"

"Wherever frogs and flies live, man can live. As for flies, there is no want of them, as thou seest ; and as for frogs, have we not heard abundance of them since the day began ?" And after another interval of silence, as the sun was beginning to sink : "Look," said Epergos, "there, before us,—that thin column of bluish smoke rising straight toward the sky, is a fire, and certainly neither the flies nor the frogs have lighted it."

"Thou art dreaming ; it is the wind raising a column of dust as it has done throughout the day."

"No ; at this hour the wind no longer produces this phenomenon in these plains ; it is either quite at rest or follows one direction. That is smoke produced by green wood or dry grass ; let us go forward !"

Their horses began to trot through the points of rocks that jutted out of the sand, and the companions soon found themselves in the middle of a flock of sheep. At some distance they observed men, horses, and what seemed a line of brown hillocks scarcely raised above the ground, which at this spot was covered with grass.

As soon as they were within hearing, one of the men cried out to them not to advance farther ; and dogs began to bark furiously. The man sprang upon a horse that was feeding near him, and arming himself with a long lance he advanced at a walking pace toward Epergos and Doxius. He was of medium height, dressed in a short, coarse tunic with a kind of pelisse of black sheepskins, from which hung a hood. His legs and arms were bare, and his feet covered with sandals of skin fastened by thongs ; his face, whose native hue was yellow and which was also tanned by the sun, was anything but handsome. Under his black and closely approaching eyebrows, below a projecting and wide forehead, glittered two little looplevelike eyes with black pupils, and which never looked straight before them. The thick, short nose, the strongly projecting cheek-bones, the wide mouth surrounded by a scanty beard of a dull black color, and a copper-colored oily skin, imparted to these features a repulsive aspect.

"What do you want ?" said the man ; "to what tribe do you belong ?"

"To none," replied Epergos ; "we are strangers to these deserts and have lost our way ; we ask of thee hospitality for this night."

"Approach then, and get down from your horses."

Epergos and Doxius were not slow in obeying this order given in a harsh tone.

"What are you carrying on your horses ?" continued the man.

"Provisions, nothing more."

"Nothing from the east ?"

"Nothing from the east."

"You come from thence nevertheless ?"

"Yes."

"I can see that by your faces."

"Thou art acquainted then with the men of those regions."

"Many of them have passed along this way."

"Did they do you good or harm ?"

"Harm ; they robbed our flocks."

"Thou dost not like them, therefore."

"No."

"Dost thou wish to take vengeance upon us ?"

"No ; there are only two of you : we are more numerous than you ; you have no weapons and we have ; we do not fear you. If you had

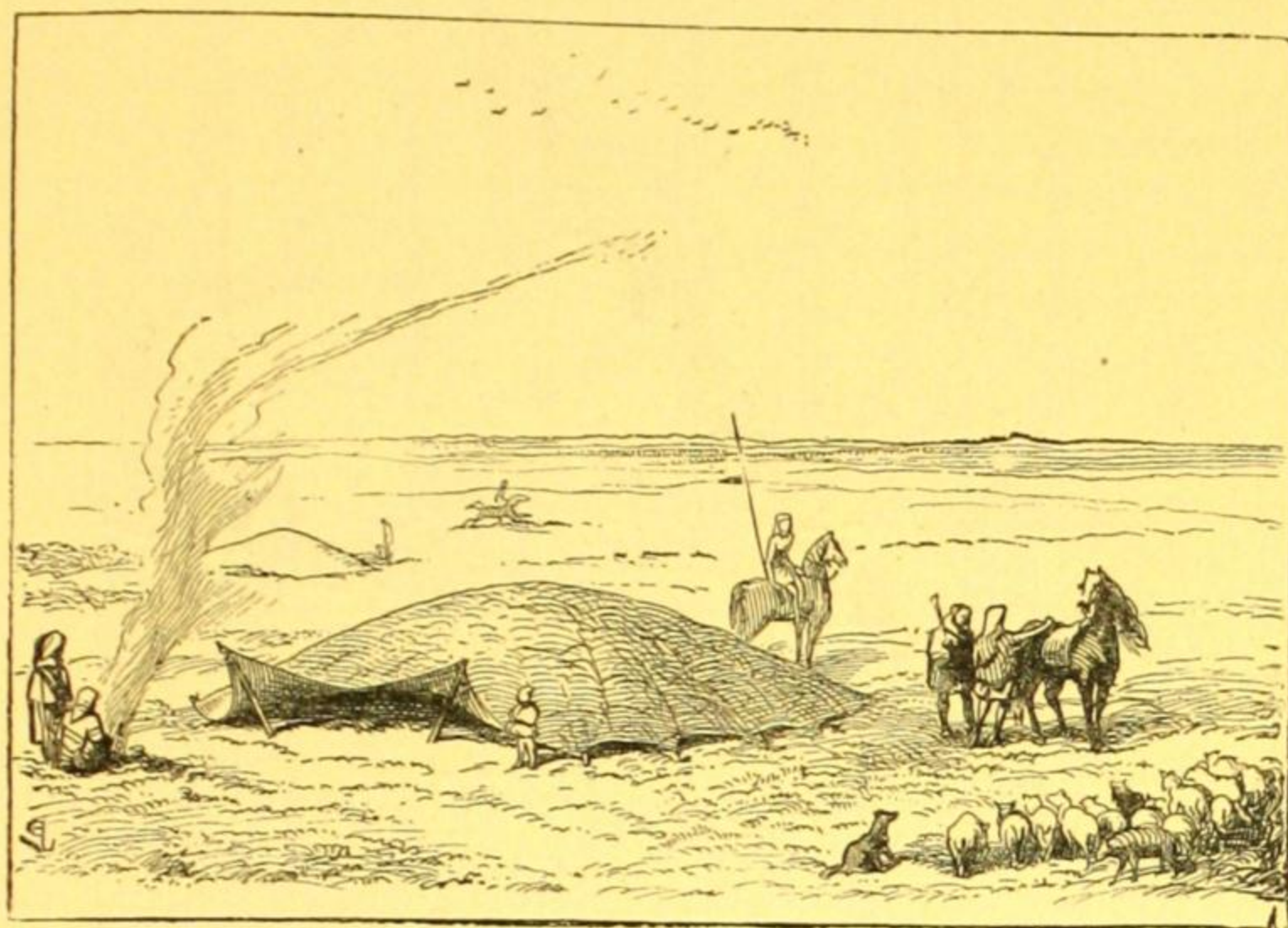
CHAPTER IX

THE DELTA OF THE NILE

anything with you that we should like, we should take it. But what good would it be to take your lives? That would not restore to us the flocks stolen by your countrymen."

"That is plain speaking, and perhaps we shall be able to do you some good. Where do you live?"

"There," said the man pointing to the elevations which at a distance they had taken for mounds. They drew near, and perceived that these habitations were made of skins sewn together, raised above the ground by an ingenious combination of stakes, and fixed by pegs all round (fig. 23).



TENT OF THE MONGOLIAN TARTAR.—FIG. 23.

"You live in there," said Epergos.

"The women and children stay there; we only go in to sleep."

Epergos entered one of the tents by creeping; but the fetid odor of the interior soon drove him out again.

Meanwhile the companions took some provisions from a bag suspended at their saddles, and sitting down on the grass, proceeded to take their evening's repast. Their host gave them some ewe's milk, and all the inhabitants of the encampment came to see the strangers, without manifesting any other sentiment than indifference. Some of the women seemed to have more curiosity, and walked round Epergos and Doxius, talking to each other, looking at their clothes, and venturing to touch them.

After sunset, the man who had accompanied them to the middle of the encampment, pointing out to them a small tent, said to them: "Here is a shelter for the night, this tent is empty; he who used to live in it will not return to it." Then turning round he went to seek his own lodging. Epergos and Doxius entered the place of shelter that had been indicated, but they remained only for a few moments, on account of its intolerable odor. They thought of passing the night in the open air, wrapped in large cloaks which they carried on their horses. Toward midnight, however, the cold became so piercing that they were obliged to take shelter under the tent that had been assigned them. Sleep overpowered them after the fatigues of the day; and when they awoke the sun was already high. On coming out of their sleeping-place, tents, men, horses and herds had all disappeared, and as far as the eye could reach there was nothing to be seen but the hazy and level horizon, with not a sign of life. The nomads had taken with them the horses of the two companions, deeming them tolerably worth having, and before dawn had decamped in silence.



GREAT salt lakes communicating with the sea stretch along a vast shore of two hundred miles in breadth, and follow the arc of a circle presenting its convexity toward the north. Into these lakes, and along the shore itself, debouch several arms of a large river with muddy waters. Advancing into the regions south of these salt lakes, we find fresh-water marshes and a blackish soil teeming with wading birds, flocks of wild geese and ducks, and covered with reeds and a rich vegetation. Crocodiles swarm in the fresh-water lakes and the arms of the slowly flowing river, hippopotamuses bathe, and otters and batrachians swim.

This district is bordered east and west by two chains of hills of slight elevation, which tend to approach each other as we get farther from the sea, and cause the valley through which the river flows to become narrower. These hills are bare and destitute of vegetation; and beyond them we find nothing but sand and pebbles. It very seldom rains on the sea-coast, and farther inland not a drop is ever seen.

The atmosphere is always pure, dry, and light, and is favorable to health. At the summer solstice the waters of the river begin to swell, and their level rises gradually until the autumnal equinox, when the whole Delta is overflowed. Then the waters slowly decrease and the river returns to its bed. The mud which it thus annually brings down causes a gradual elevation of the soil, encroaches on the sea, and fills up the smaller pools. Vegetation immediately takes possession of these deposits, and clouds of insects rise in the air as the waters subside. This country is occupied by men of mild manners, delicate features, and fine and slender limbs. Their skin is white with a slight bistre tint. Their eyes and hair are ebony black. These men say that their fathers came from the north-east into this country, which was then only a lagune, after having passed through certain deserts. They live in villages, the houses of which are built of mud and reeds, and obey a body of elders, who in hereditary succession regulate all daily usages, and preside over all the acts of life and religious ceremonies.

These elders, entrusted with the administration and regulation of all things, do not cultivate the ground, gather in the fruits of the earth, or carry on any trade; entirely devoted to their religious and civil duties, they are supported by the population, over which they exercise absolute power.

The latter, though reduced to a condition bordering on serfdom,—their wants being easily satisfied in this beautiful climate, since they find in the natural produce of the soil enough for food and clothing,—do not complain of this condition, and make no effort to alter it.

They bid strangers welcome, without, however, permitting them to mingle in the transactions of daily life. They would deem themselves defiled by contact with them; they neither eat nor drink with them, nor allow them to enter the places which they consider sacred, or to speak to their women.

The inhabitants of the lowlands have only one wife; those of the higher valleys are allowed to have several. On the river and the lakes they have boats made of planks, and of a woody plant that grows in the marshes, and which they call byblos. They make use of them for fishing and for commerce, for they are by disposition a trading people. Their arms consist of bows made of the skin of the hippopotamus, slings, and a kind of pikes. They employ copper and gold, and have the art of making pottery and glassware, which they skilfully color in various patterns. In the higher part of the river live a black race, against whom they are obliged sometimes to defend their southern frontier, which is about six hundred miles from the sea. On the west and east they have no cause for apprehension, since these regions are desert. They have a great respect for the dead, whose bodies they preserve with salt to prevent them from decaying. This respect is extended to some of the lower animals, which they consider sacred, and to which they render funeral honors.

Their houses, separated from each other and surrounded each by a breadth of cultivated ground, are built on the shores of the river or the lakes, as far as possible out of the reach of the inundations; for

as they are built partly of clay, when they have been immersed in water for some days, they are reduced to mere mud, and fall in.

The wealthiest inhabitants, therefore, take care to erect their dwellings on platforms, or to mingle reeds with the clay in such a manner as to enable the latter to resist the action of the water.

The inhabitants of that part of the river above the Delta, who live in a narrow valley bounded by chains of hills of limestone or sandstone, and destitute of fertile marshes filled with those useful reeds which serve also for food—dwell in grottos, formed by nature, or hollowed out in the sides of the hills.

These men subsist by fishing and the chase, and on spelt, which is cultivated along the banks of the river.

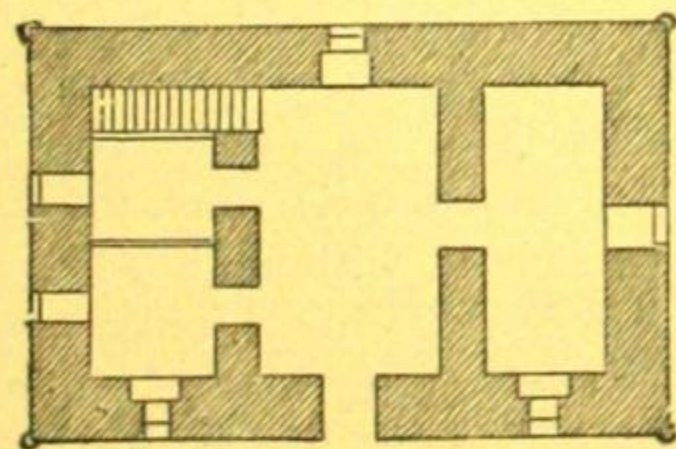
Bolder and more robust than the inhabitants of the lowlands, it is they who struggle against the black race when the latter attempt to descend the course of the river. They seem, however, to be of the same origin as their neighbors of the Delta, though they are taller and darker in complexion, more enterprising, active, and independent.

We will describe how the inhabitants of the Delta build their houses, which are by no means capacious; for they live habitually in the open air, and scarcely remain in their dwellings except to sleep.

Many even take their meals out of doors under shelters made of mats, which screen them from the heat of the sun, and which are set up either at the side of the houses or at the top of them; for as the rain is very rare in this country the houses have no roofs, but are covered by terraces. The inhabitants of this region are very fond of animals; they have always some with them; and they take their meals surrounded by domesticated dogs, cats, and birds. They exclude from their presence only those animals which they consider unclean,—pigs, for example; though they make use of them and eat their flesh. But if a man touches a pig, he has to purify himself by plunging into water with his clothes on. Those who tend these animals live apart, are not admitted into the company of other men, and may not enter the sacred enclosures.

When, therefore, an inhabitant of the Delta has selected the site he judges suitable for erecting his dwelling, he has the ground plan marked out by those who are entrusted with building operations, and who form a corporate body. Then they lay in a store of bundles of canes and reeds called byblos and lotus, and form a heap of clay, which they temper with water and mix with spelt straw; and of this they form bricks that are quickly dried in the sun.

Houses of the common sort consist of a principal apartment, about eight cubits wide (fig. 24)* by fourteen long; a second narrower room six cubits wide, the length being the same; and two small apartments

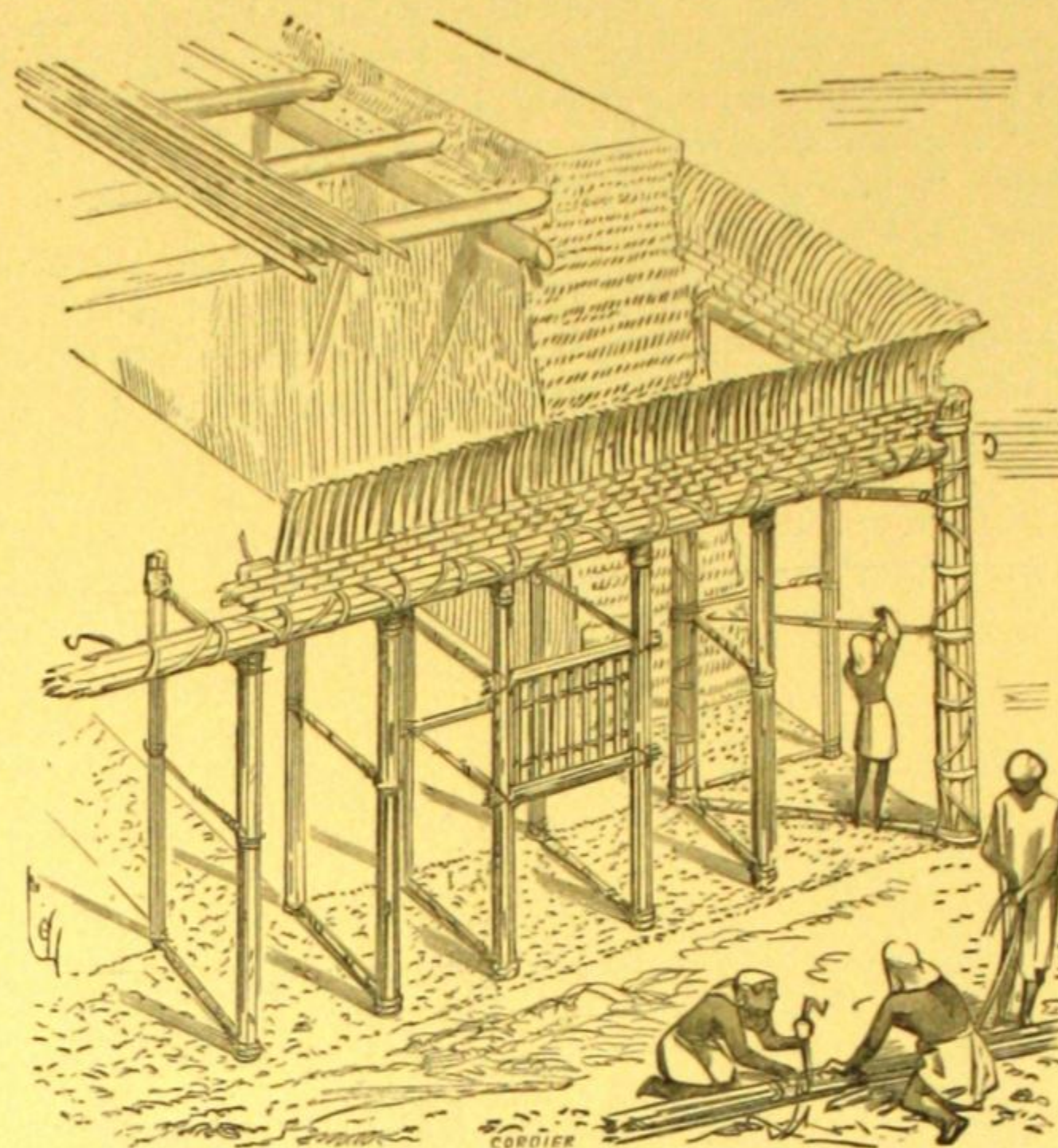


PLAN OF PRIMITIVE EGYPTIAN HOUSE.—FIG. 24.

serving for bed-chambers, six cubits wide and as many long, separated by a partition less in height than the apartment. A wooden stair on the inside gives access to the terrace. The walls are thick, and this is how they are built:—

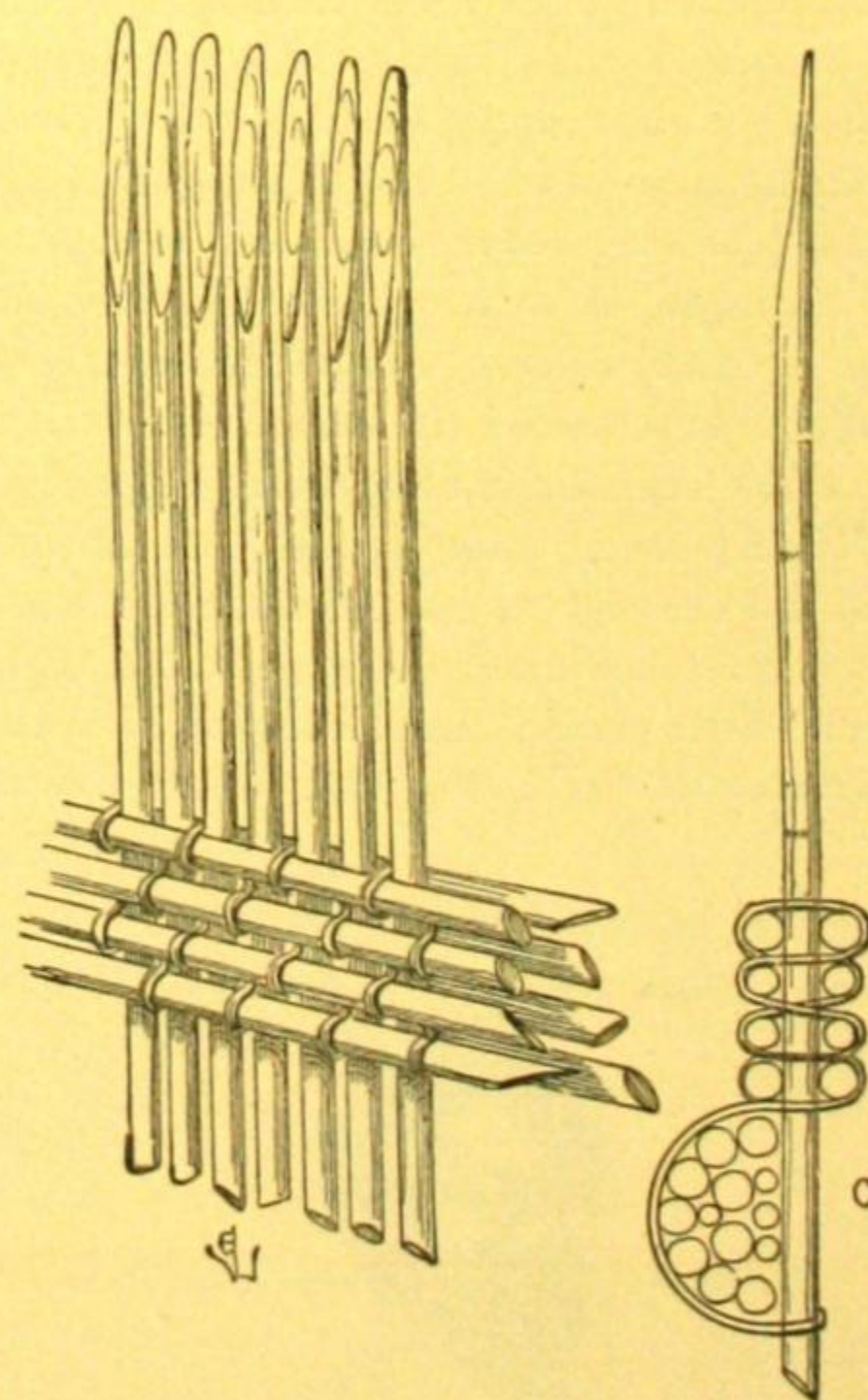
When the plan has been marked out, as shown in figure 24, they prepare bundles of canes and lotus. These reeds are carefully fastened together by bonds of byblos, and thus form a kind of posts whose length corresponds with the height intended to be given to the building, which is scarcely greater than from seven to eight cubits from the ground to the upper terrace. First, they fix the strongest bundles at the four external angles of the house (fig. 25). Other bundles are fixed at the internal angles, so as to be vertical. These external and internal bundles are fastened together by ties of byblos. The four angles being thus prepared, set up and kept in place by

* The Egyptian cubit is 20.6422153 in.



BUILDING OF PRIMITIVE EGYPTIAN HOUSE.—FIG. 25.

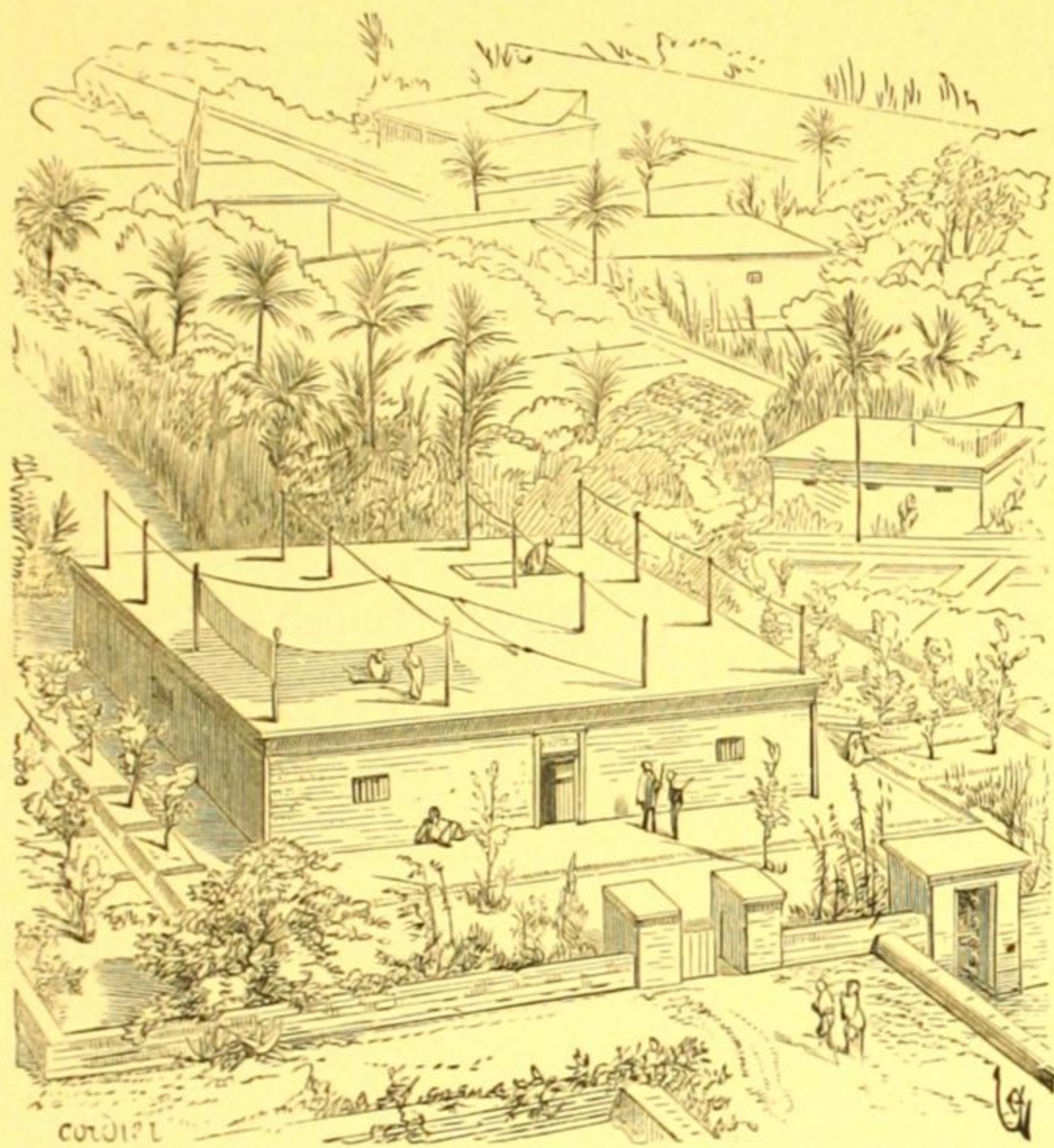
stays, bundles of canes are laid horizontally, so as to bind together the heads of the external posts at the four sides; and these horizontal bundles are relieved in their bearing by intermediate vertical reeds, between which are contrived the openings that will form the doors and windows. These external vertical reeds are tied to other internal posts made of reeds. Then the laborers engaged in tempering the clay set to work, building the reeds in the walls, except the external vertical ones at the angles and the horizontal crowning, which thus serve as setting-out stakes and guides for raising the walls. When these have reached the level c, they place on the large horizontal bundle a sort of trellis-work of reeds prepared beforehand, as shown in figure 26, and which is composed of a double row of reeds, between which other reeds placed very close are kept in a perpendicular position by means of plaited bonds of byblos. This trellis-work is kept vertical by other bonds which fasten the lower parts of the stalks of the reeds that form the trellis-work to the inside of the large horizontal roll above as at g. Then the clay-workers continue their work behind this trellis, and ramming their clay they give a bend outward to the ends of the reeds, so as to form a slightly projecting cornice. These reeds keep the clay thus rammed projecting, and allow the



STRUCTURE WITH REEDS.—FIG. 26.

curve to be terminated by a flat fillet which gives the level of the terrace. The workmen, who are patient and careful, execute these works very neatly, raising the clay on inclined planes. When the inner and outer walls are thus raised to their intended height, they place trunks of palm-trees, cypress, or sycamore on the top of the walls, according to the width of the rooms; then on these trunks, reed; then clay gently rammed so as to form the upper platform plastered with the same clay, kneaded with straw; and the heavier part of the work is thus completed. For the jambs and lintels of the doors and windows, they make use of reeds in the humbler dwellings, and palm-trunks in those of more pretension.

As the sunlight in this country is extremely brilliant, the windows are very small, and are furnished with lattice-work skilfully interlaced. If the habitations belong to persons of property, the walls are plastered with clay, like the terraces, and covered with a composition formed of the same clay and very fine sand or white stone-dust. Then come the painters who decorate the reeds and plastering with brilliant colors; the walls and ceilings of the interior are similarly treated; rush mats furnish the floor and cover the lower part of the walls.



EARLY EGYPTIAN HOUSE.—FIG. 27.

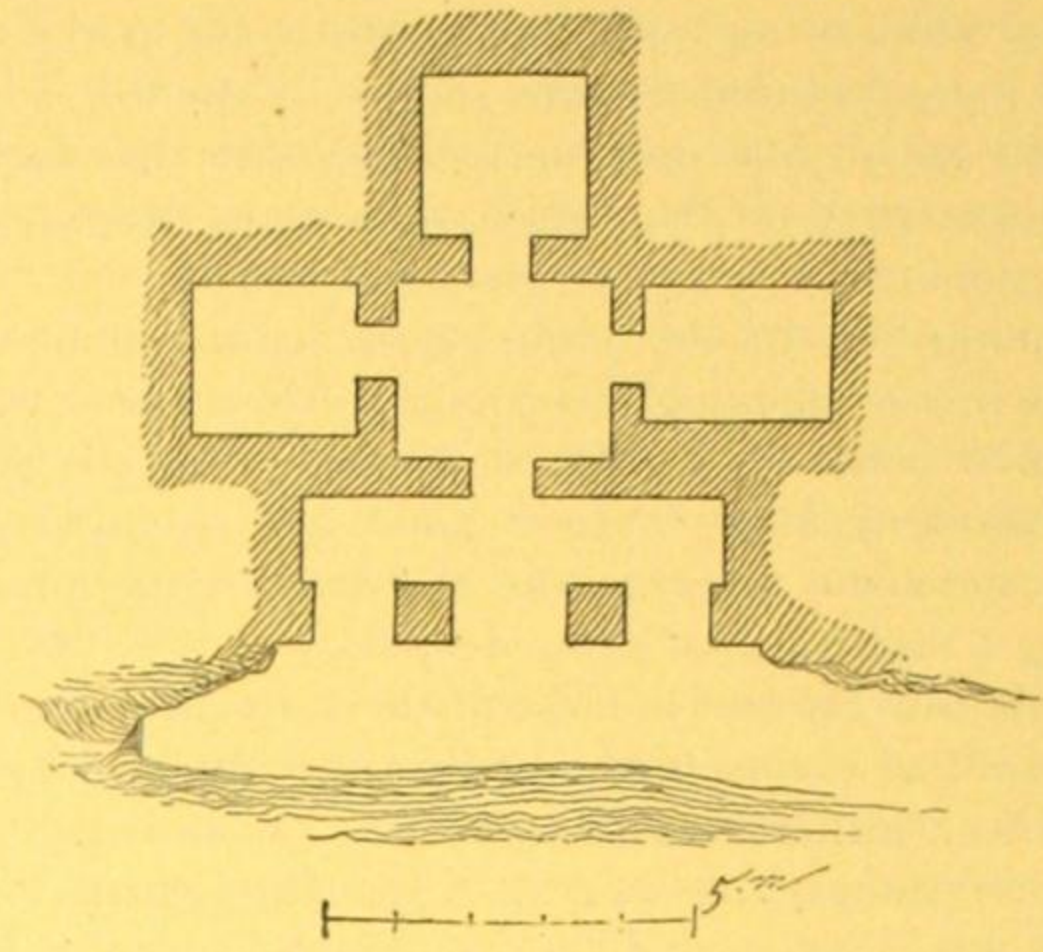
Sometimes also we find a portico supported on bundles of reeds, and whose covering is made of wood and byblos, with a terrace of clay before the door, affording shade and coolness in front of the dwelling. This portico is the usual resort, and under it industrial occupations are carried on. To the women are assigned outdoor occupations; it is they who go to fetch the provisions, do the marketing, and carry burdens, while the men remain near the houses, weave, manufacture mats, pottery, and small works in wood, in which they are very expert.

Figure 27 presents one of these habitations selected from among the higher class.

In the evening, at the time when the sun is disappearing below the horizon, the various families ascend the terraces to enjoy the coolness. The air being usually very calm, many light small earthen lamps filled with oil; and as these dwellings are generally surrounded with trees, these lights may be seen burning in the midst of the verdure, going, coming, and disappearing like glow-worms in the meadows.

The dwellings of those who live above the Delta differ in every respect from those we have just described. On the sides of the rocky hills which border the banks of the river, there are natural grottos in which these men originally took up their abode. But when the population increased it was necessary to hollow out excavations in default of natural caves.

This laborious, patient, and industrious race had the art of fabricating tools fit for this work; namely, hatchets and chisels of bronze, and even sledge-hammers made of very hard stones which are found higher up the river, at the place where it passes through rocks which



PLAN OF DWELLING EXCAVATED IN THE ROCK.—FIG. 28.

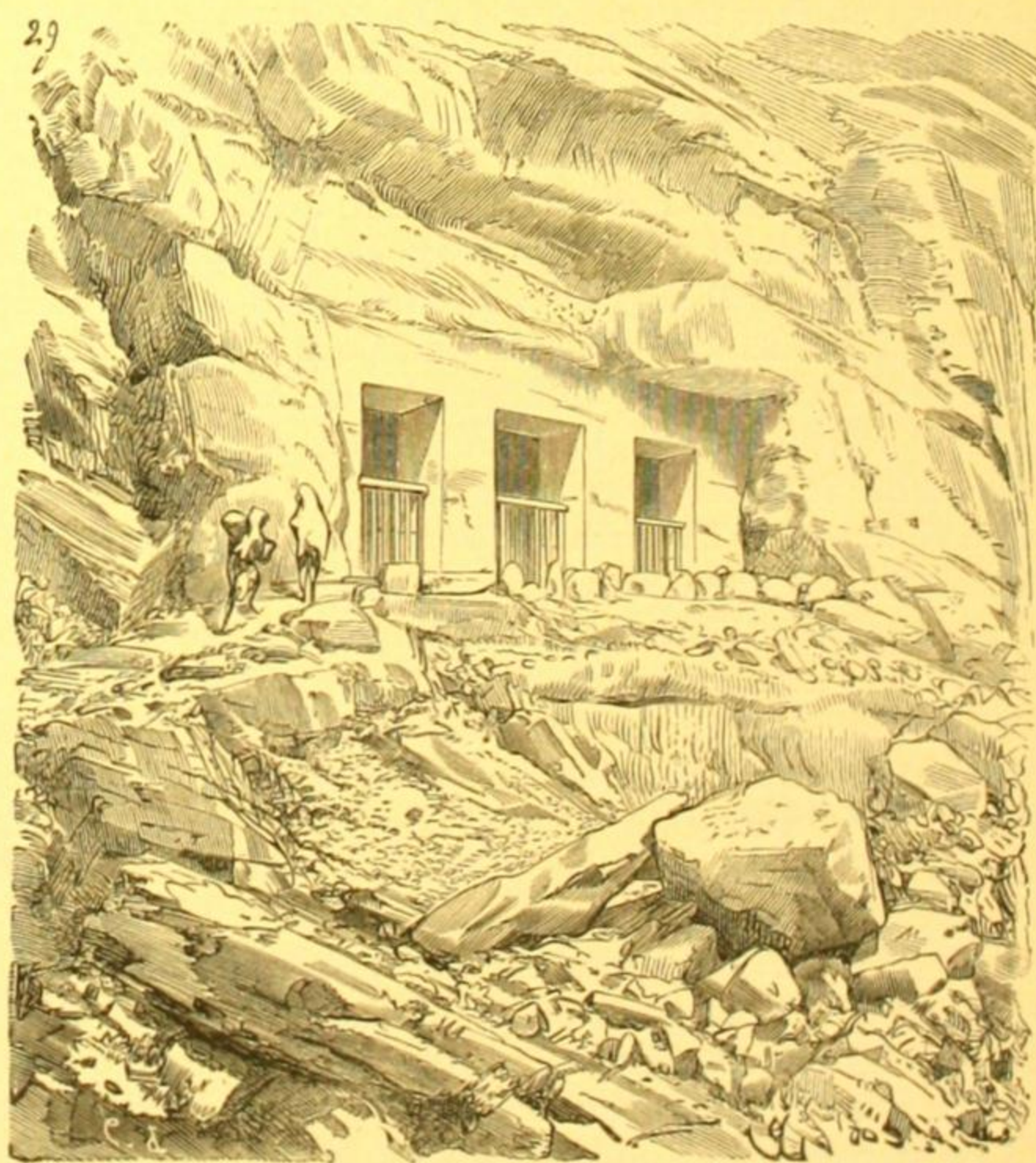
obstruct its course. Certain parts of these hills, moreover, present limestone in large masses, which can be pretty readily cut.

Whether it was that they preserved traditions of constructions in wood before their sojourn in these regions, or whether it arose from the example of the habitations of the more populous lowlands, certain it is that when the natives of the higher valley hollow out dwellings, they sometimes reproduce forms which remind one of wooden structures.

These dwellings,—we speak of the more recent—those hollowed out by human hands,—generally present, in plan, the arrangement shown in figure 28.

Taking advantage of a natural ledge on the sides of the hill, they hollowed out a kind of porch with one or two pillars left in the solid. At the back of the porch a doorway is pierced giving entrance to several small chambers excavated at right angles to each other.

The entrances to these habitations present an exterior such as is here depicted (fig. 29), appearing at a distance suspended along the escarpments. When the inhabitants catch fish, they dry it in the sun, whose heat is very great, and thus preserve it for a considerable time. When required, they add salt, which they collect on the shores of the marshes that border the sea below the Delta. These dwellings, dug in the sandstone or limestone, are very dry, as the hills contain no springs and the sky is always clear. Thus their inhabitants are robust, healthy, and active. They are skilful in managing their boats; and many of them pass their lives on the river, transporting to the Delta certain tools and arms fabricated by them, as well as products of the chase and fisheries, stone, gold, and metals which they get from the black race who are their neighbors, and perfumes extracted from



VIEW OF THE ROCK DWELLING.—FIG. 29.

certain plants. They bring back salt, stuffs, wood, pottery and many useful articles manufactured on the shores of the lower river. They are warlike, and carry on a continual conflict with the black tribes that inhabit the upper part of the valley, sometimes extending their own territory, and sometimes forced to yield parts of it.

Although subjected to the same *régime* as the inhabitants of the Delta,—that is to say, obeying sacerdotal authorities to whom the administration of all affairs is entrusted, these men of the middle valley are more independent, more energetic, and less submissive than their neighbors of the lower river to the theocratic government, which is divided among a multitude of petty despots.

One day, the bravest and noblest of them assembled in great numbers and chose for themselves a chief supreme—a king—in whose person the power hitherto dispensed was concentrated. This king bore the name of Menes, and soon all Egypt obeyed him.

* * * * *



CHAPTER X

THE DWELLINGS OF THE EGYPTIANS UNDER THE FIRST THREE DYNASTIES

DURING the reign of the early monarchs, the valley of the Lower Nile became a centre of agricultural and industrial production, which was already attracting many foreigners. Its commerce was flourishing, and wealth was accumulating in the hands of its fortunate inhabitants. The kings had gradually surrounded themselves with a numerous court, consisting in great part of functionaries, on whom devolved the duty of administering the government of the country. The life of all the citizens was regulated by laws; the monarch found his chief occupation in a rigorous scrutiny of everything. The configuration of the country was admirably adapted to this paternal form of government. The Nile, whose valley is of considerable width above the Delta, was the natural artery which facilitated travelling, the transport of goods, and surveillance over the whole country. In fact, at a hundred and eighty miles to the south—reckoning from the sea—the valley narrows more and more for about seven hundred miles, where the country inhabited by the blacks commences. There it becomes very narrow, and the course of the river is impeded by rocks. It is at the point where the ranges of calcareous hills approach each other, at the upper extremity of the Delta, that the first kings established their residence. Thus the Delta and all the upper course of the river was readily subjected to their surveillance; for from this point, beyond the hills on either shore, the country is absolutely a desert; while the river presents, as it were, a wide highway of water always navigable, whose shores, favorable for cultivation, and consequently habitable, are of inconsiderable extent. These shores were soon covered with villages; for the inhabitants of the narrow part of the valley left their caverns to live near the river. Unwrought stone and mud served for the construction of their dwellings. But a day came when a violent earthquake alarmed the inhabitants, and threw down many of these houses. Those of which the walls were thick resisted pretty well, but most of those whose walls were thin were destroyed or greatly shattered. The phenomenon hardly made itself felt in the Delta itself, but produced terrible effects in the upper part of the valley.

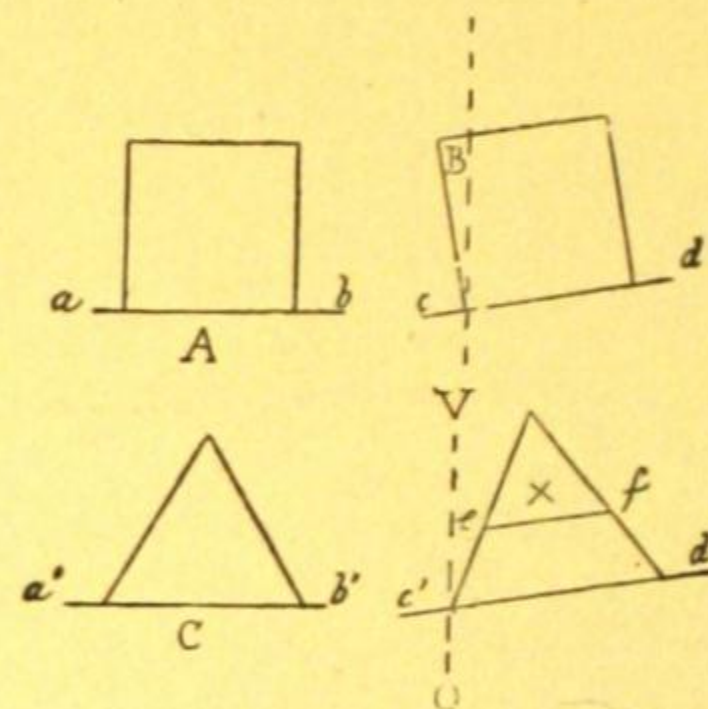
The Egyptians, having a great respect for the dead, and believing in the immortality of the souls of all animated beings, buried their relations—having secured their remains against corruption by special processes—in natural or excavated caverns; concealing their bodies under piles of stones and unburnt bricks, as a further protection to prevent their place of sepulture from being violated.

They gave to such piles the name of *Pi rama*, which means height; or *Pi-re-mi*, according to others,—meaning *Splendor of the Sun*.

These piles are raised on a quadrangular base, as are all Egyptian buildings, and rise to a greater or less elevation according to the area of this base and the inclination of the faces. Now, after the earthquake just mentioned, the ablest of the Egyptian savants having ascertained that these pyramids, even when hollow and with walls comparatively thin, had not suffered any derangement, met to discuss the question whether it would not be advantageous to give future habitations the form of these erections.

Epergos and Doxius were consulted.

Doxius contented himself with saying that if the solid earth was shaken, man had not the power of avoiding the effects of this phenomenon, and ought to resign himself to its consequences,—entreating the gods, however, to render them less terrible. Epergos having observed that the Egyptians possessed a considerable acquaintance with geometry, took a bit of charcoal and drew on the wall the figure 30, below; then he said—

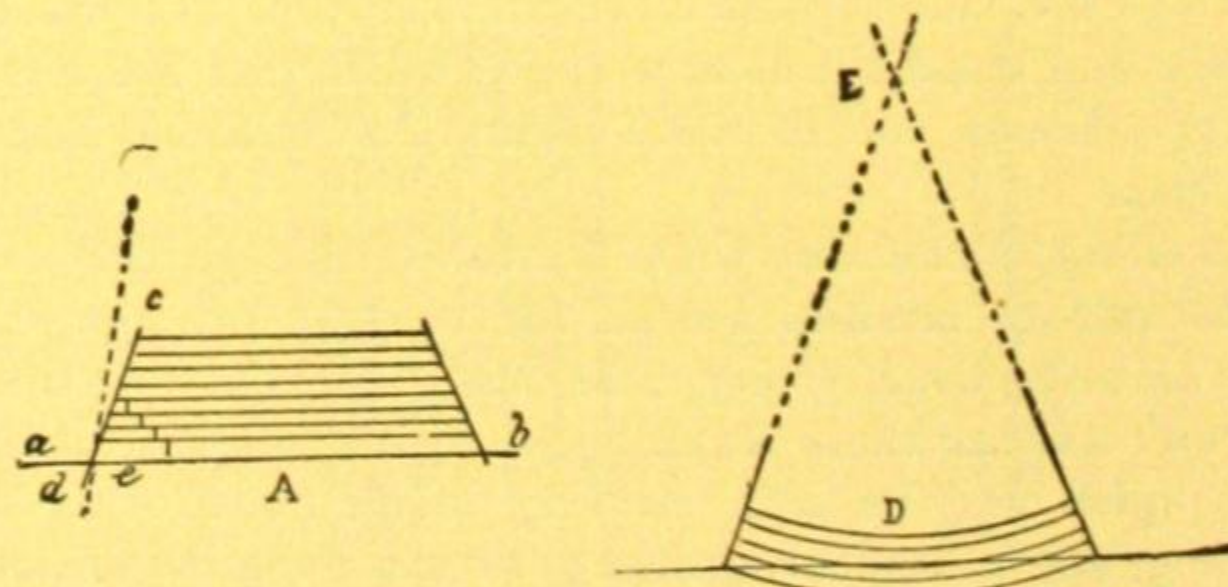


THE CUBE AND THE PYRAMID.—FIG. 30.

“If the solid A is placed on the level ground *ab*, it will keep upright by its own mass, but if the ground inclines, as *cd*, all the part B of the solid must break off and fall. If, on the other hand, the solid C is placed on a level ground *a'b'*, and if this ground inclines as *c'd'*, no part of this solid can break away, since the whole of it remains within the vertical line *vo*; this is why your pyramids stood while your houses fell.

“But these earthquakes, as I have had the opportunity of ascertaining elsewhere, shake the ground rather than disturb its level, or at least, this disturbance of level is scarcely felt; you need, therefore, only give your houses a slight inclination to keep them standing, in the event of an oscillation of the ground. But it is not necessary to terminate them in a point like your pyramids; for, suppose the part *x* of the pyramids taken away, the part *c', d', e, f*, which will remain, will not be less stable.”

The assembly listened attentively to Epergos. When he had concluded, an old man who was reputed to be one of the most intelligent of their savants, and who was accustomed to observe the stars in order to ascertain the periods favorable to the various agricultural operations,



PYRAMID WITH INVERTED CURVE BASE.—FIG. 31.

arose, and slowly advancing to the wall on which Epergos had drawn the diagrams given above, took the piece of charcoal in his turn, drew the figure 31, and said—

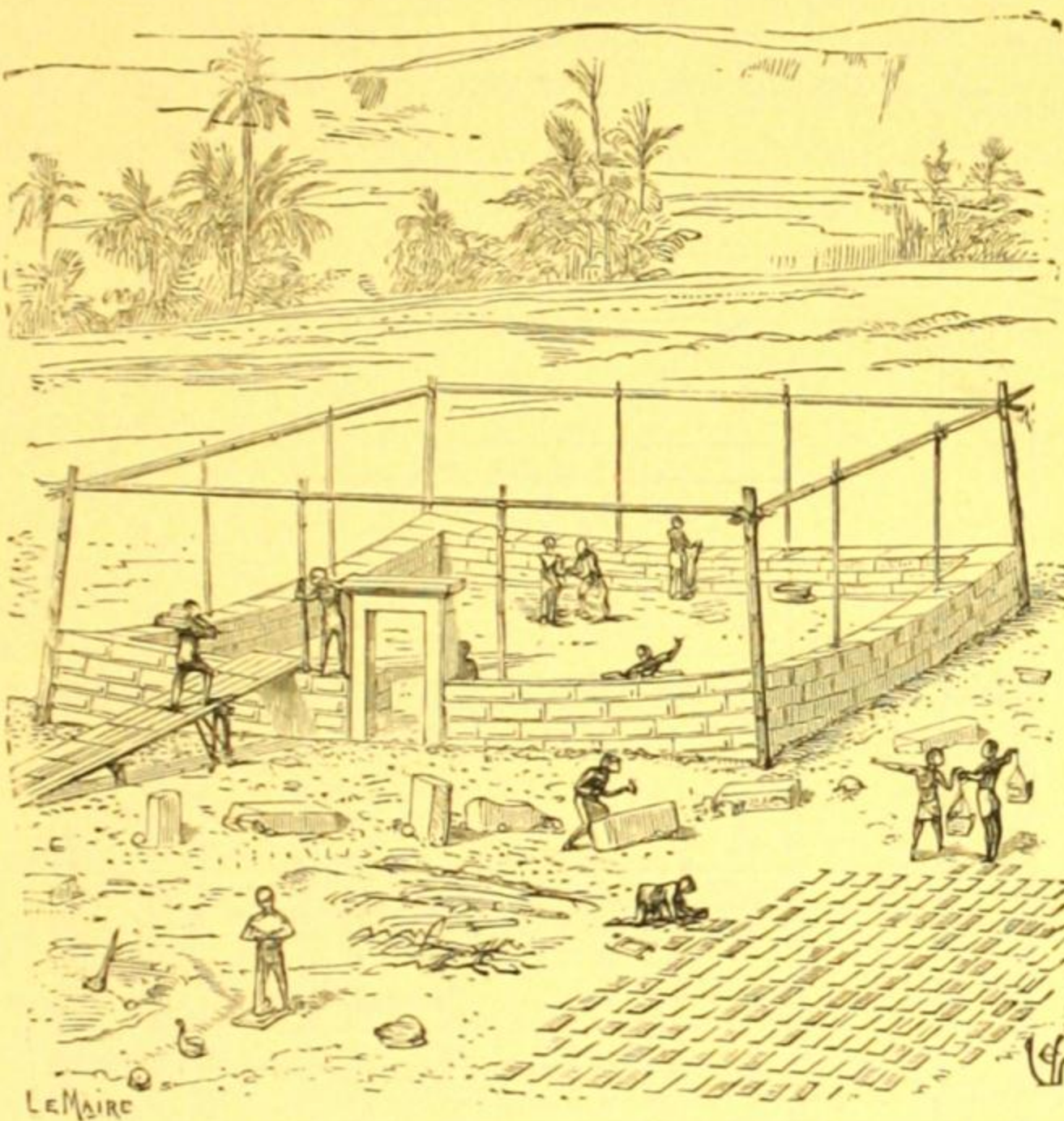
“Thy reasoning is good, Epergos, but neither the houses nor our pyramids are made in one piece; both consist of materials whose cohesion is limited. If, therefore, the house A inclines in the direction of the line *ab*, in consequence of a movement of the ground, though the line *dc* does not go beyond the vertical, the materials *e* may slip

under pressure, and thus the whole building be dislocated. But if we lay the courses of brick or stone according to the sketch D, taking E as the centre of the segments of the circle,—the point, viz., toward which the two slanting lines which form the faces of the walls converge,—the corner-stones will scarcely be affected by the pressure, and will not be able to slip, since they will not be on an inclined plane."

Epergos lowered his hands to the level of his knees in token of respectful acquiescence, and bowed his head; and the old man returned to his place amidst a hum of approval.

* * * * *

The royal decree promulgated at the recommendation of the assembly was to the following effect: that the walls of dwellings to be erected should be inclined according to an angle prescribed by the inspectors of buildings; that, if the houses were raised on stone basements, the courses must be laid in the direction of the part of a circle given by a radius equal to one of the sides of the triangle, whose apex should be the intersection of the slanting lines of the walls; that the same plan should be adopted for buildings made of unburnt bricks; that, moreover, the ancient and hallowed form of these houses, whether in plan or elevation, should not be altered in any way.



BUILDING THE HOUSE WITH INVERTED CURVE BASE.—FIG. 32.

The first houses, therefore, that were erected after this decree exhibited basements built as shown in figure 32; and guide-rods of canes were always employed to direct the masons.

The workmen, however, who were accustomed to build with unbaked brick, pise and canes, were not very skilful in working stone; they had as yet only bronze tools, which were quickly blunted, although they tempered them. For splitting the stones in the quarry, having observed that limestone naturally exists in beds, they laid bare the horizontal surface; then with bronze punches they sank a series of narrow oblong holes in a line—according to the required size of the block to be quarried—to the depth of four or five inches. That done, they drove into these holes very dry wooden wedges; they evenly wetted these wedges, which, swelling, split the stone according to the line traced by the sinkings.

Then with the help of wooden levers hardened by fire, they got the block out of its place. In consequence of the bedded nature of the stone, these blocks thus took the form of parallelopipeds, whose faces they rendered even, and which they combined.

Being a patient, laborious people, they ultimately succeeded in giving all these blocks a regular shape, and even in polishing them with hard stones, and in graving lines and characters upon them; for in consonance with the principle adopted on the banks of the Nile of having every particular of daily life formally determined, it is ruled that every building, indeed every object, should commemorate the reasons why such buildings or objects were set up, and the names

of those for whom they were set up; so that nothing is given over to oblivion. He, therefore, who is acquainted with the characters by means of which they represent facts, dates, and the names of things on stone, wood, pottery or metal, can learn all that concerns the past and the present of this people.

Such were the arrangements sanctioned by the kings of the first three dynasties, which lasted for seven hundred and sixty-nine years, and as during that time the inhabitants of the valley of the Nile never ceased working, and improving everything, they attained to a very high degree of development in the arts, in sciences, manufactures, and agriculture.

While the poorer class always built houses with clay and canes, those who had become rich, and who held offices in the state, were no longer content with abodes so simple and perishable. They began to use blocks of stone, unburnt bricks carefully plastered, and timbers squared and cut into boards. Nevertheless, the forms hallowed by primitive use had to be adhered to; and while changing the nature of the materials, the builders scrupulously preserved the appearance of the ancient dwellings.

Porticos, however, were added; the rooms were more numerous, and the outbuildings more important.

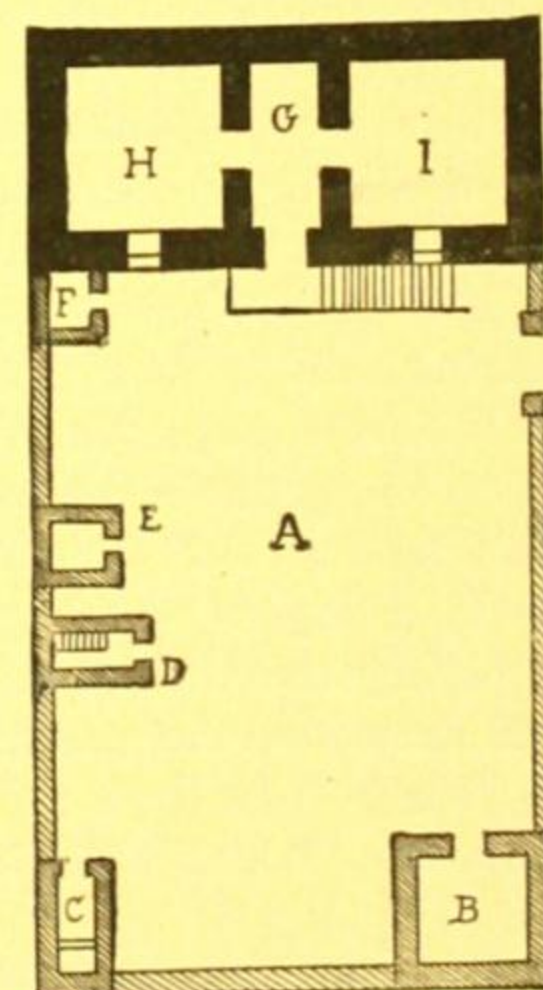
In primitive times the inhabitants cooked their food in the open air; but they now began to provide places suitable for this purpose, invariably outside the dwelling,—especially as the family usually took their meals under the shelter of trees and awnings of stuff.

The domestic animals flocked about their owners during these meals; and there might be seen around the little tables on which the viands were laid, antelopes, cats, dogs, geese, and long-legged birds, living together on the best of terms, and diverting their masters by begging for food and by their familiarity. Each habitation was surrounded by a garden enclosed within walls of unburnt brick, and more or less extensive according to the means of the proprietor. These gardens were tended with extreme care, and contained rare plants growing in boxes, to preserve them from the scorching heat of the sun or shelter them from the wind of the desert, which, when it blew, speedily dried up the leaves and flowers. The gardens and dwellings, invariably placed on the banks of the river or of canals, had a

contrivance for working a chain pump pouring water into channels which, subdividing, irrigated the plantations. These hydraulic machines were worked by slaves or by asses.

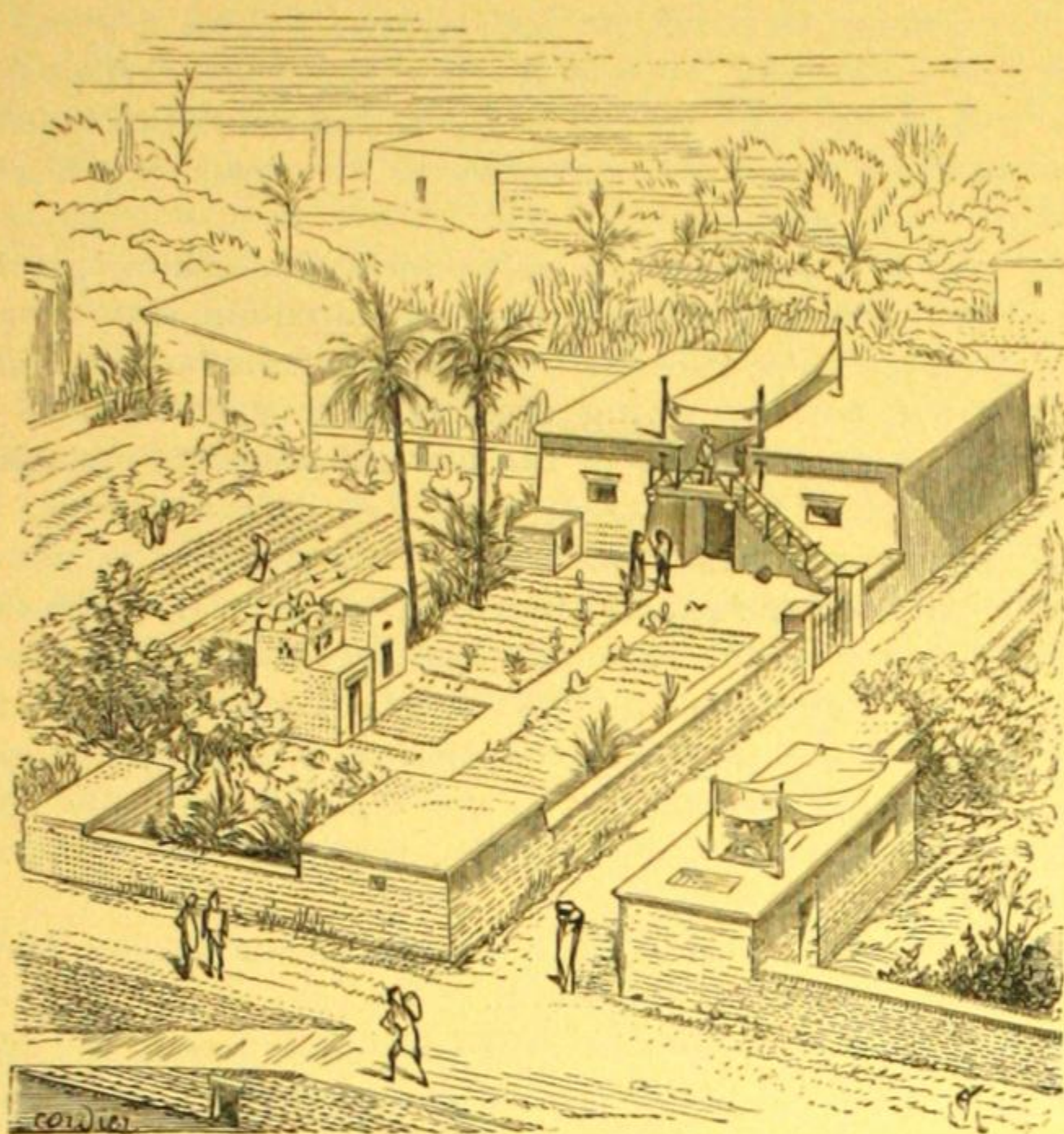
The simpler houses must first be noticed. Here is one of them, figure 33, consisting of a small garden A, with a pantry for provisions at B, latrines at C, dovecots at D, fowl-house at E, and oven at F for cooking. The dwelling part comprises a room G, open to the court, and two chambers H and I with beds. A flight of stairs outside made of wood gives access to the terrace.

Figure 34 presents a bird's-eye view of this dwelling. Four poles, fixed in fastenings left in the wall, allow the placing of an awning over the central terrace, which is made lower, to afford shelter from the wind. It is there that the family love to assemble in the evening to enjoy the coolness.



PLAN OF EGYPTIAN RURAL DWELLING.
FIG. 33.

We have said that the Egyptians were expert in the sciences of geometry and arithmetic. In fact, since the land in the valley which the Nile periodically waters and irrigates was wonderfully fertile, and the population inhabiting this valley was very numerous, it had from the earliest times appeared a matter of importance not to leave any part of the ground uncultivated. The territory was therefore divided into allotments with the greatest care, in such a way that each inhabitant was the possessor of the quantity of land he could cultivate or have cultivated. Accordingly, the ancient priests, who governed before the kings, scrupulously preserved plans, drawn on papyrus leaves, of the heritage of each possessor, to prevent litigation and encroachments. To draw these registered maps it was necessary to



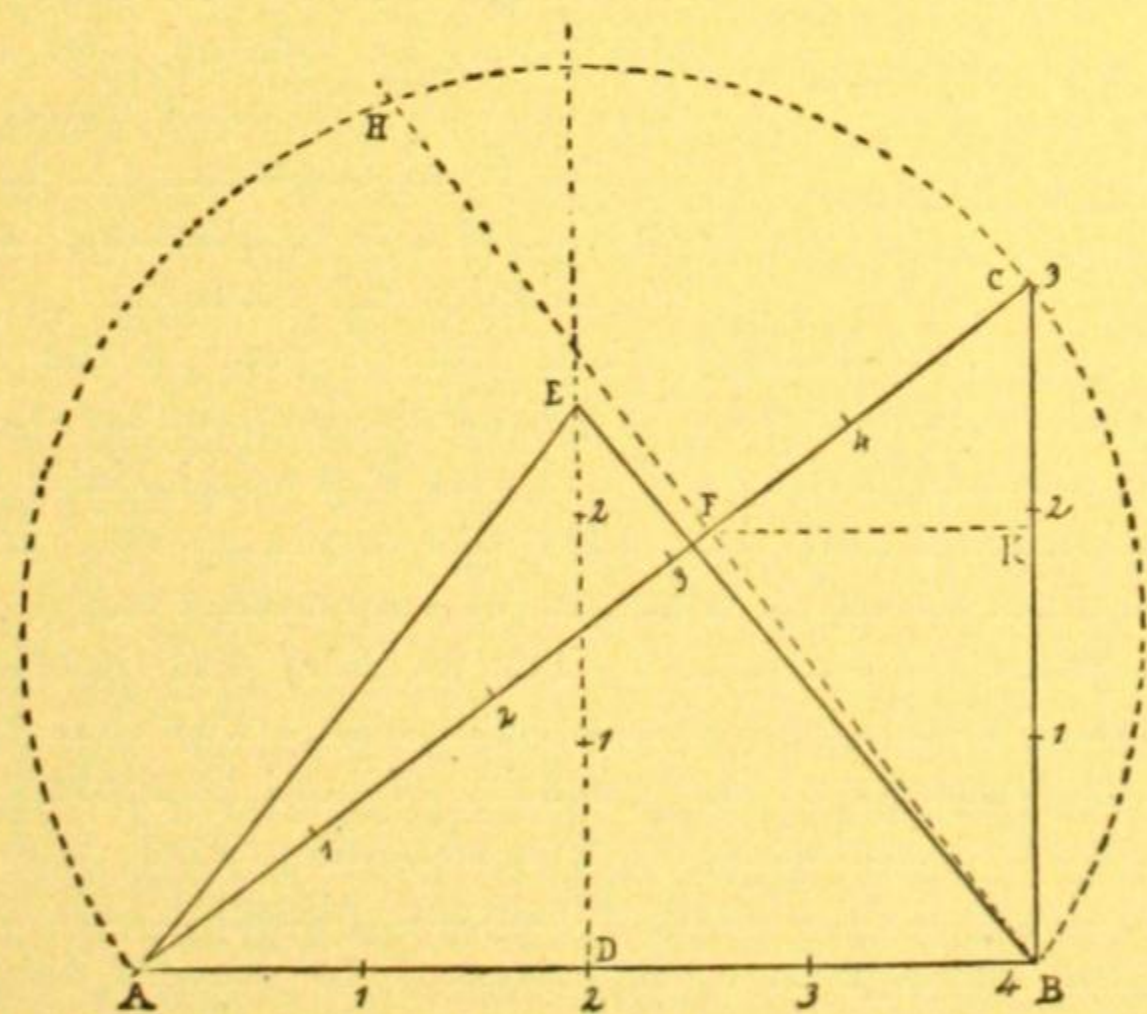
VIEW OF EGYPTIAN RURAL DWELLING.—FIG. 34.

have recourse to geometrical operations, which necessity gradually improved; and it soon became evident that the triangle was the figure by which an extent of territory could be exactly mapped out, its dimensions ascertained, and its various features—such as water-courses, parts inundated or dry, sandy, rocky, or muddy—be duly indicated. The triangle was accordingly regarded as the sacred figure,—particularly the right-angled triangle, whose base divides into four, the side into three, and the hypotenuse into five equal parts; so that this figure had to be adopted by architects in the construction of the palaces and temples.

The equilateral triangle and the rectangle were likewise regarded as perfect figures, and on this account the assembly mentioned above judged it wrong to listen to the observations of Epergos. As to the religious ideas attached to these figures, they must not be spoken of. They are mysteries known only to the priests; suffice it to say, that that side of the right-angled triangle which divides into three represents Osiris, the base divided into four, Isis, and the hypotenuse, Orus,—composed of the two; since the square of three is 9, the square of four 16, and the square of five 25, *i. e.*, $9 + 16$. This triangle, therefore, being the perfect figure, if employed in the setting out of buildings, could not—they argued—but produce excellent results; it was consequently prescribed, as well as the equilateral triangle.

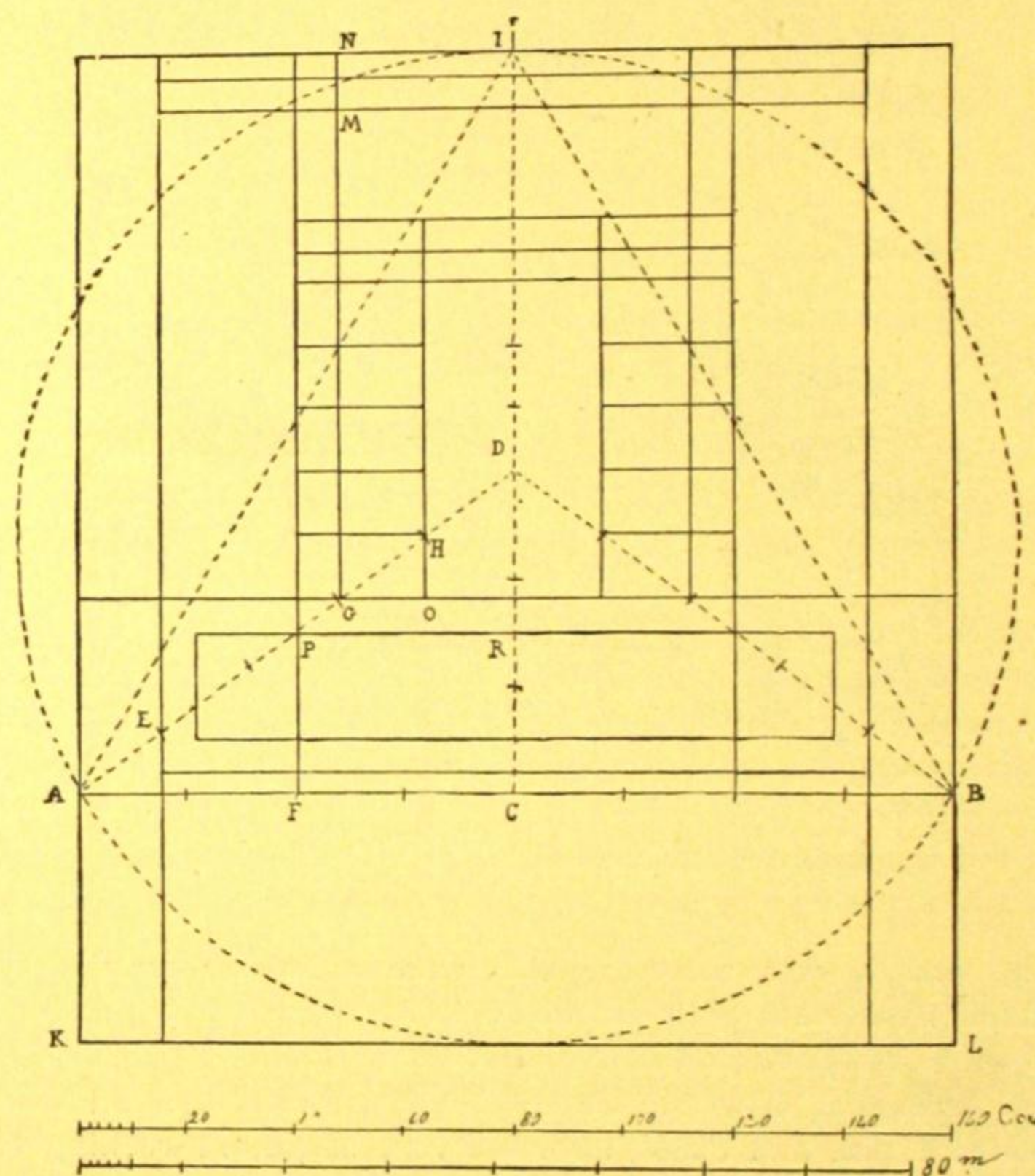
As regards the method to be adopted in applying the perfect triangle in buildings, this is how, after long consideration, the priests proceeded.

Let ABC (fig. 35) be the perfect triangle whose base contains 4, its



THE EGYPTIAN TRIANGLE.—FIG. 35.

side 3, and its hypotenuse 5 equal parts. On the centre of the base AB they erected the perpendicular DE, giving it a length equal to half the hypotenuse ($2\frac{1}{2}$); they then joined the points AE, BE, and thus obtained a triangle which they regarded as the stable figure *par excellence*. Inscribing the triangle ABC in a circle, they drew from the point B a perpendicular BF on the hypotenuse which they produced to H on the circumference of the circle. Then from the point of intersection, F, they let fall a perpendicular upon the side CB; next they divided each of the parts of the base into 12, thus making 48 subdivisions of this base. Each part of the perpendicular BC also divided into 12 parts gave 36. The $2\frac{1}{2}$ parts of the perpendicular DE divided (in the same proportion) gave 30. The hypotenuse gave 60. Now $60 = 5 \times 12$; $30 = 2 \times 12 + 6$ (half of 12); $36 = 3 \times 12$; $48 = 4 \times 12$. They thus obtained quantities divisible by 4, by 3, by 5, and by $2\frac{1}{2}$. Not satisfied with this first result, they divided each of the parts of the base into 100, and obtained 400 subdivisions. Similarly dividing the line DE, they obtained 250. The chord BH gave them 480 parts equal to the last; the part AF of the hypotenuse 320; the remainder FC 180; the perpendicular FK 144 or 12×12 . Thus the figure furnished decimal and duodecimal divisions. Now, in assigning proportions to buildings, the duodecimal system has the advantage of being divisible by halves, quarters, thirds, and sixths, and the decimal system by tenths. The combination of the two systems yielded serviceable relations. Thus the base AB divided by the duodecimal system into 48 parts is



METHOD OF SETTING OUT EGYPTIAN PALACE.—FIG. 36.

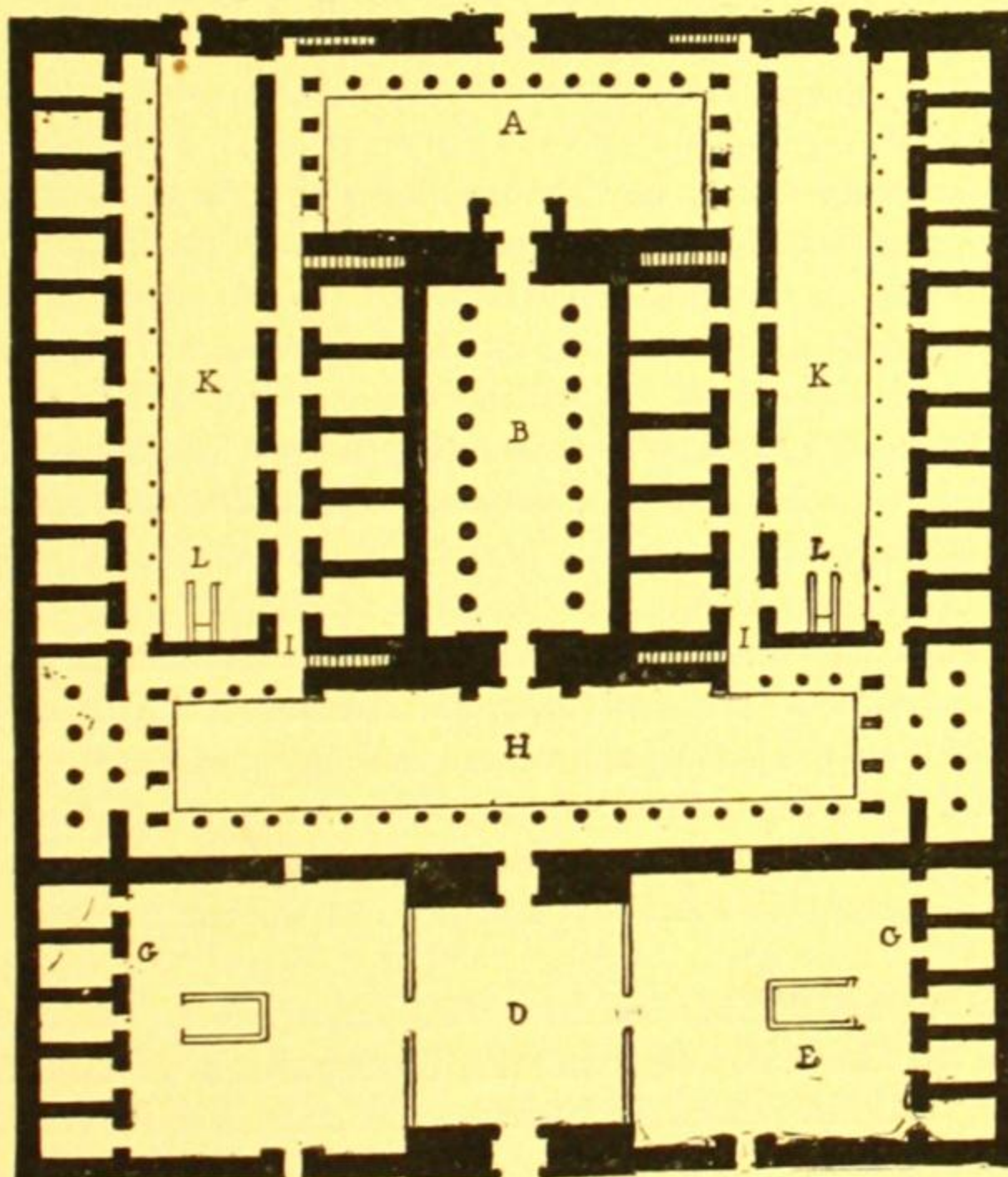
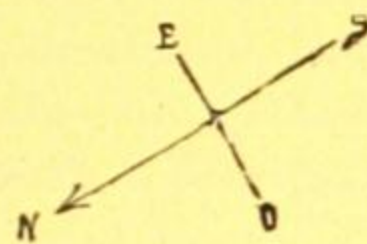
commensurate with the chord BH, divided by the decimal system into 480.

The builders therefore made use of this kind of standard of proportions in their constructions, it being left to their discretion also to employ the equilateral triangle, as we shall presently see.

Let us examine the palace of a nomarch, that is, a governor of a province in the reign of King Cerperes, who ascended the throne seven hundred and forty-four years after Menes; a palace of contemporary date with the small dwelling we were describing.

The programme laid down by this nomarch for the guidance of his architect was this:—Two entrances to the palace, one public, the other for its inhabitants. On the public entrance side, a court with porticos giving access to a vast hall open to the sky in the middle. On the private entrance side, a large fore-court with quarters for the domestics on either side;—with kitchen and tank. Then a second court with open porticos and halls at each end. Entrances to the chambers ranged on both sides of the great hall, but

without direct communication with the latter. Two lateral courts with storehouses for all kinds of provisions. These buildings were to occupy a quadrangular area 270 feet in front, and about 310 feet in depth. The architect began (fig. 36) by fixing the line of base AB, 270 feet in length. He divided it into 8 parts of 34 feet each. Then he erected the perpendicular CD, to which he gave a length of 102 feet, and drew the two lines AB, BD, the length of each being 170 feet. From the points of division EFGH, he erected perpendiculars on the base AB, and from the point of division, G, a line parallel to AB. Taking AB as base, he drew the equilateral triangle ABI. He described a circle about this equilateral triangle. The tangent KL gave him the boundary of the outer court. The length of the hypotenuse GH being 34 feet, that of the base GO was 27 feet, and of the side OH, 20 feet. On the perpendicular OH produced, the architect measured 5 times 20 feet beyond the point H. From M to N he likewise measured off 20 feet. These lines, excepting those of the perimeter, gave him the centres of his walls. He was then able to mark in detail the plan (fig. 37). The public entrance with its court was at A; the great hall with its central opening to the sky, at B; the private entrance at C, with its fore-court D; the kitchen at E; the tank opposite, and the servants' quarters at G; the inner court with its porticos was at H, with the entrances to the rooms on the ground-floor by two passages at I. Those of the first floor were reached by two flights of stairs contrived within the pylones. At K the two courts for stores; at L were placed the latrines. At the two extremities of the court, H, were the halls open to this court for private gatherings.

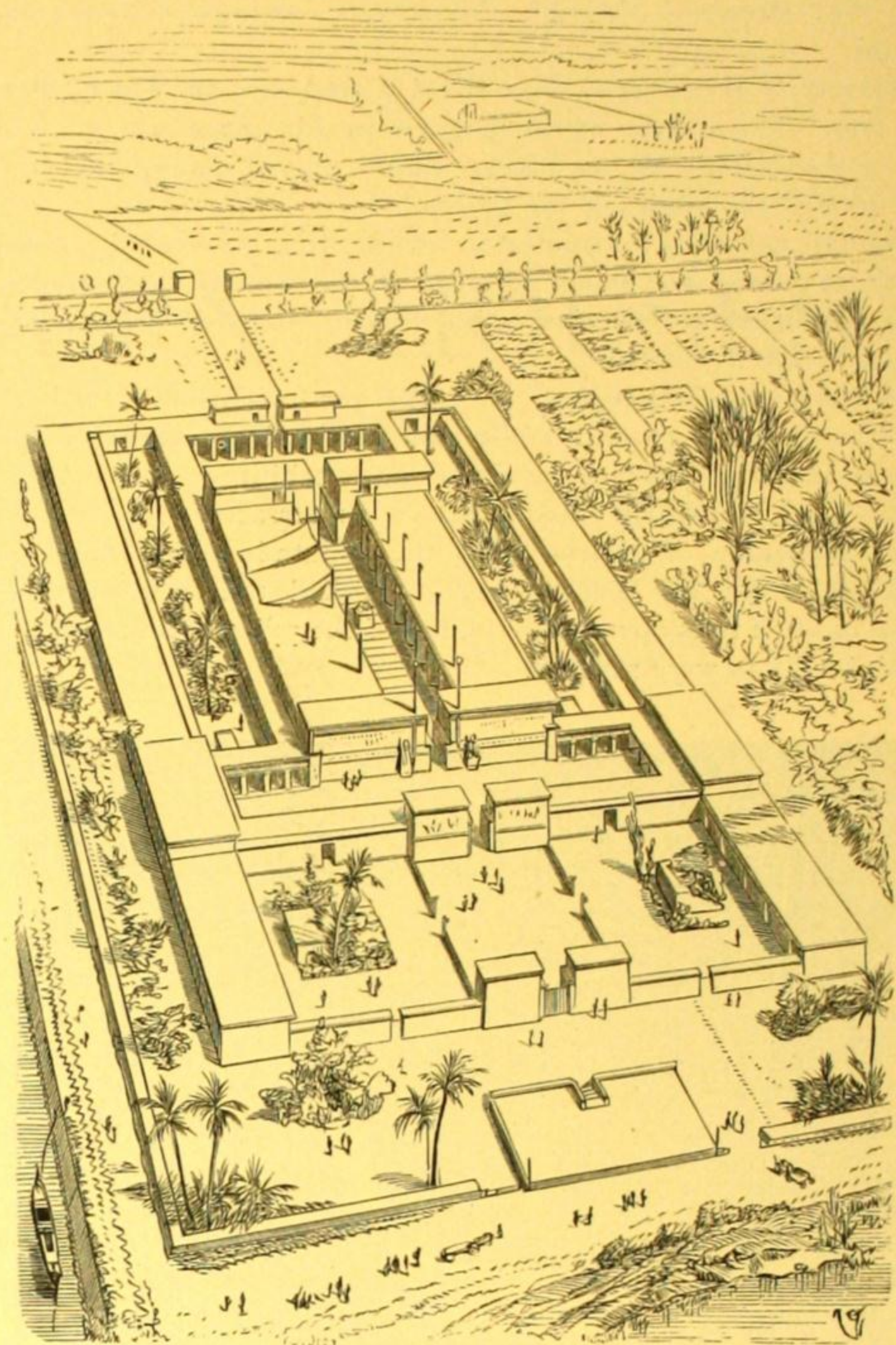


PLAN OF EGYPTIAN PALACE.—FIG. 37.

Figure 38 gives a bird's-eye view of this sumptuous habitation. Beautiful, well-kept gardens bordered the dwelling, which was built on the banks of the Nile; its grounds being traversed by a canal for irrigation.

But it is desirable to examine more closely the method of setting out adopted by the architect.

We take the principal hall with its porticos and its chambers. The builder had subordinated the central lines of the building to the divisions given by the base and hypotenuse of the perfect triangle (fig. 36). If in this figure we consider only the triangle PRD, whose base occupies the half of the breadth between the central lines of the



BIRD'S-EYE VIEW OF EGYPTIAN PALACE.—FIG. 38.

main block, we may divide this triangle PRD as we divided the great triangle ACD.

The base PR, then, would have a length of 68 feet, the side RD 51 feet, and the hypotenuse 85 feet.

A story of apartments was obtained over those of the ground-floor, and the stairs contrived in the pylones ascended to these rooms and to the terrace, covered, when required, with awnings.

Epergos and Doxius had an opportunity of visiting the dwelling of the wealthy nomarch, and were admitted by the steward of his domains with the courtesy habitual to the higher classes of the Nile valley. This officer received them at the eastern entrance, which was reserved for the public, and began by showing them the fore-court (see fig. 37, at A) furnished with porticos on three sides.

At each end the terraces of this portico were supported by square pillars, while columns of a cylindrical form were ranged along the outer pylone which formed the centre of the enclosure.

In front of the great hall stood an enclosure upon which was stretched an azure veil, and which formed a sort of porch. Two other pylones, having the interval between them closed by doors, formed the entrance to the great hall.

Epergos was never weary of admiring this interior flanked by two porticos, supported by lofty columns. All the central part, open to the sky, could be covered by awnings hung between poles fixed on the terrace. To these poles were fastened other awnings which formed two continuous tents on these two terraces, disposed with a view to the enjoyment of the evening coolness.

The stone columns and capitals, whose forms recalled that of the lotus bud, were covered with painting; they supported architraves of wood likewise painted in bright colors, and a cornice formed with canes as before described.

The ceilings of the two porticos supporting the terrace floor were in like manner made of wood painted. Through the opening left between the pylones, at either end of the hall, glowed the azure of the sky, while the interior was only illumined by the subdued and tinted

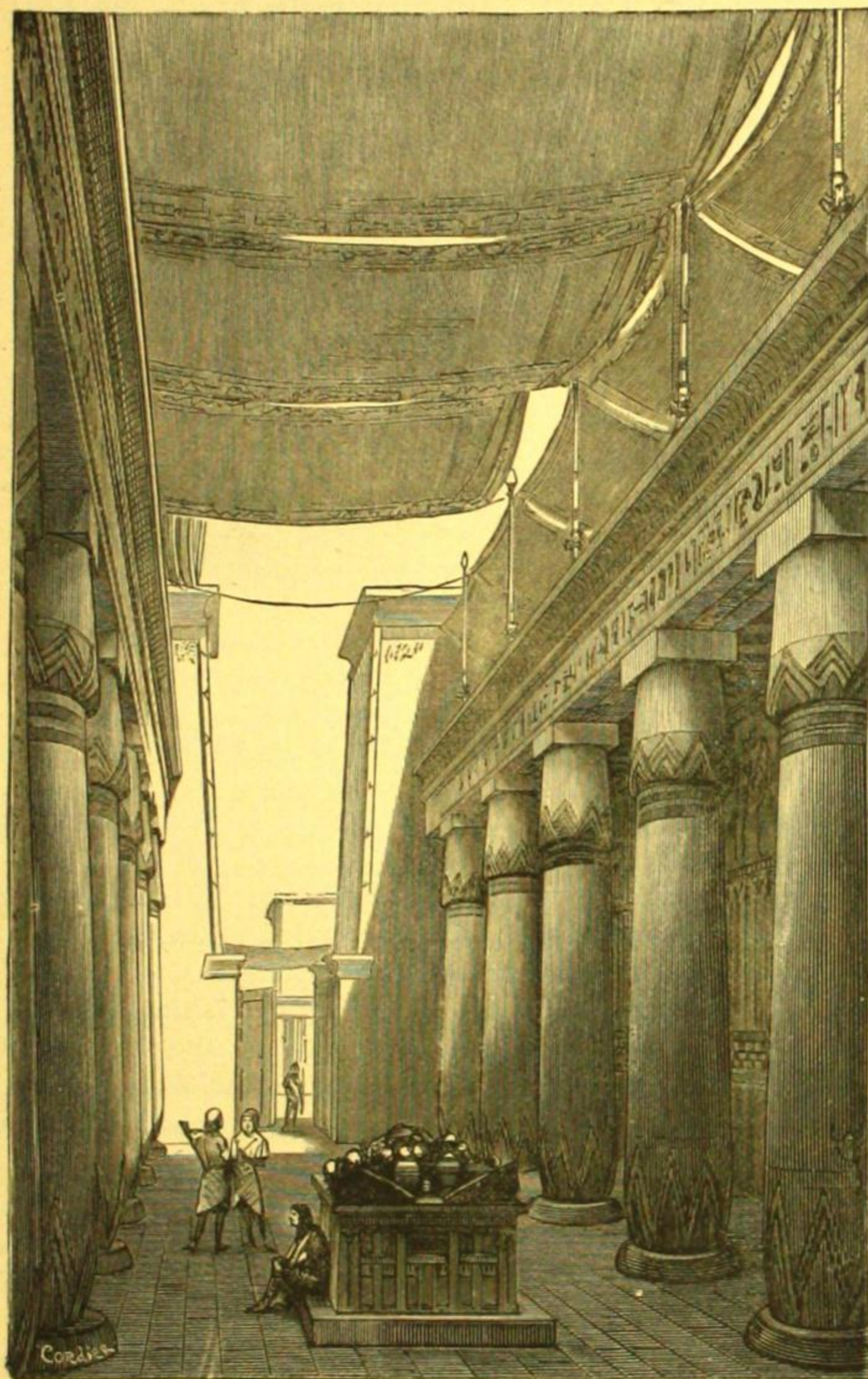
light that streamed through the woven awnings of divers shades (fig. 40).

Midway in the central nave stood a credence on which offerings were laid. The silence which reigned in this place was interrupted only by the murmur of the breeze, which played among the awnings and caressed the angles of the pylones.

Though naturally indisposed to reverie, Epergos seated himself for a moment on the step which served as a basement to the credence and appeared buried in reflection, while Doxius was conversing with the steward of the nomarch.

"What a singular people!" said Epergos to himself. "Is it greatness or weakness of character?—or can this be the abode of the living? There is about this palace an air of immutability—of serenity—like the cloudless sky which spreads above its terraces. Are the inhabitants changeable, or invariable like the climate in which they live?"

Roused from his reverie, Epergos asked the steward why the entrances were thus open up to the top of the pylones, and why the lintels of the doors were severed.



INTERIOR OF EGYPTIAN PALACE.—FIG. 40.

"Because," replied the steward, "it is the custom on certain solemn occasions to admit processions consisting of persons who bring the rents due to the nomarch. And in front of each corporation are borne very lofty standards. The height and splendor of these standards is a matter of rivalry among them. With this arrangement the standard-bearers can enter without lowering them. Each deposits its offering on the credence or sometimes at the feet of the nomarch, and the procession leaves the palace in perfect order by the other portal. The live animals offered to the nomarch are not admitted into the palace; but you will see a large platform on the western side, opposite the river, where the nomarch receives beneath a tent the dues paid in live animals, fruits, and grain."

Outside the doorway opening into the long private court, west of the hall, Epergos examined with curiosity two seated colossal stone

statues on either side of the gateway, and which he thought very beautiful.

The steward told him that the one represented King Cerpheres and the other his wife; and that these statues had been erected by the nomarch in their honor, and to testify his gratitude to them.

In fact, long hieroglyphical inscriptions graven on the pedestal recorded the names and extraordinary virtues of these two personages, and described the nomarch's grateful feelings toward his sovereigns.

This second court appeared to the visitors still more beautiful than the first; and the attention of Epergos was especially attracted by the two fine halls situated at either extremity, with their entrance pillars and the columns which supported the richly painted ceilings.

Following their guide into one of the lateral passages, they were allowed to visit some of the bed-chambers, which were then untenanted. Each of them contained a bedstead of painted wood, furnished with cushions and covered with linen tissues of various colors; a large chest, likewise of painted wood, to hold clothes; a chair, a small table, and a lamp. By day these bed-rooms were lighted only by the doorways left unclosed which opened on the passage. But the sunshine in these regions is so vivid that these rooms received a very soft and pleasant reflected light while they preserved a cool temperature. Their walls were decorated with paintings representing persons, and which were accompanied by explanatory inscriptions.

The bed-rooms of the upper story, opening on the terraces which formed the covering of the passages, were decorated in the same manner; and in front of the doors were hung awnings sheltering the interior from the sun's rays.

From these small terraces there was a view of the two gardens stretching lengthwise, in which were planted sycamores, palm-trees, mimosas, orange-trees, and some rare shrubs; two narrow canals irrigated them. On each side, facing the chambers, was to be seen a small portico of wood, fronting cells in which provisions of all kinds were ranged in perfect order,—fruits, grain, honey, vegetables, and drinks—wine and beer.

But these parts of the habitation were not accessible to persons not of the household, and the servants who had charge of these storehouses were responsible for their contents; they were quartered in the two end buildings of the great western court. Around this beautiful mansion were planted vast gardens, regularly laid out, with canals, fish-ponds, storehouses, and everything necessary for their cultivation.

What was especially pleasing in this residence was the order, regularity, and cleanliness.

Slaves, constantly occupied in keeping things in proper condition, were under the surveillance of overseers appointed for each department of work; and the negligent or lazy were recalled to their duties by the whip.

The steward had the control of each of these departments, and exacted an account of all that came in or went out, of the consumption, the stores, the receipts, and disbursements.

At the end of the gardens were sheds filled with animals in great number—oxen, horses, and asses; and in a large poultry-yard were to be seen fowls, geese, and ducks, carefully fed for the owner's table.

* * * * *

"The Egyptians," said Doxius to his companion, when they had taken leave of the steward, "should be regarded as an example to the nations; and the barbarians who approach their frontiers, if they have the least glimmer of common sense, will not fail to imitate them. The Creator has appointed them directors of the nations; if they are to perish, it is because the earth is given over to fools—to the spirit of recklessness and disaster."

"Well!" returned Epergos, "shall I tell thee my whole feeling on the subject? . . . This country oppresses me; this people with its regulations and laws embracing every particular of life, its prudence and respect for traditions; this ever cloudless sky; this river with its punctually recurring irrigation; these dwellings and gardens where everything is methodic and calculated; this immutable social hierarchy—all this wearies me to the last degree. My blood seems to stagnate, and my mind to become a blank. I must away!"

"I shall stay."

"Adieu, then."

(TO BE CONTINUED.)

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MISCELLANEOUS NOTES

FOR the benefit of the new subscribers we repeat again a very brief statement of the organization and purposes of the Co-operative Building Plan Association. To commence by removing misapprehensions, this Association is not a financial institution; it neither loans nor asks the loan or deposit of money; it has no stock to sell; it is *not* a Building Association; it does not undertake construction of buildings. It is simply what its name indicates, a Building *Plan* Association—an architectural business so organized that it supplies full architectural services at very reasonable rates to all who choose to patronize it. This is called Co-operation for want of a better term.

The extent of the patronage of this office assures us that the business is based on sound principles. Started five years ago, it now employs fifty architects, draughtsmen and correspondents, and sends out a larger number of drawings and specifications than any other architectural office.

The reason is, that it supplies a necessity on the most accommodating terms. Before this business was established it was very difficult, if not impossible, to get full architectural services for a price that the public considered low and reasonable. The architect who made the drawings and specifications for one client only could not do the work on a small house (say a \$1,500 house) for less than \$100; on larger work he wanted five per cent. of the estimated cost. While these fees were not unfair, but were, in fact, well worth their cost, it is indisputable that the public considered them too high, and the consequence was that most of the houses of moderate cost were built from inferior designs, and lacked the beauty and unity, convenience and economy of arrangement that results from the employment of architects. Our fees, at about one quarter the regular rates, effectually meet the necessities of the situation.

WITHIN the last three years, it is estimated, that from seven to eight thousand houses have been built from our plans. Averaging their cost at a very low figure the amount invested in them has been from ten to twelve millions of dollars. But we consider that this Association has just commenced its career of usefulness. In ten years what will it be?

In this connection we wish to thank our clients for their exceeding great kindness in recommending others to us. Many of them make it their business to call upon parties who propose to build and place us in communication with them. We owe much to the loyalty and good will of these friends.

IT seems to us the part of wisdom for every intending builder to buy all of our books (see list on the back page of cover); they give so much for so little. In matters so difficult as deciding on best plans and best styles, in insuring against excessive expenditure, and finally in undertaking the serious business of building, a few dollars spent for information at first is *the best investment that can be made.*

THE costs of structures given in this book are based on prices for materials and labor as given below. By comparing with prices which prevail in his own neighborhood, the intending builder can judge whether our estimates will run over or under, in his locality.

Excavation, per cubic yard,	-	-	-	\$.25
Rubble stone work laid up complete, all materials furnished by contractor, per perch of 25 cubic feet,	-	-	-	4.25
Stone wall, double faced above grade, 25c per foot, or per perch,	-	-	-	6.25
Brickwork laid in the wall, per M,	-	-	-	15.00 to 16.00
Plastering, per yard,	-	-	-	.30 to .35
Spruce timber per M feet,	-	-	-	18.00
Hemlock timber per M feet,	-	-	-	14.00
Hemlock sheathing boards, per M feet,	-	-	-	14.00
Pine shingles, per M,	-	-	-	4.50 to 5.00
Pine flooring, merchantable, per M feet,	-	-	-	26.00
Clear pine clapboards, per M feet,	-	-	-	25.00
Novelty siding, per M feet,	-	-	-	30.00 to 35.00
Rosin sized building paper, per lb.,	-	-	-	.03
Clear pine trim, reeded or moulded $\frac{7}{8}$ x 5 in., per lineal foot,	-	-	-	.03
Turned corner blocks, each,	-	-	-	.05
Moulded base, 9 in. high, $\frac{7}{8}$ in. thick, per lineal foot,	-	-	-	.05
Glazed window sash, 2 ft. 7 in. x 5 ft. 6 in. x 1 $\frac{1}{2}$ in., per pair,	-	-	-	2.00
Doors, four panels, moulded both sides, 2 ft. 8 in. x 7 ft. x 1 $\frac{1}{2}$ in. each,	-	-	-	2.85
Blinds will average all around, per window,	-	-	-	1.50
Tinning, per square of 100 square feet,	-	-	-	6.00
Painting, including materials and labor, per square yard each coat,	-	-	-	.06
Carpenters labor, per day,	-	-	-	2.25 to 2.75
Masons and plasterers, per day,	-	-	-	3.00 to 3.50

THOSE who build from our working plans, specifications, &c., are entitled to the fullest and freest consultation or correspondence before commencing and during the progress of the work; and to our services as arbitrators in cases of disagreement with contractors, for which there is no charge, unless it involves traveling.

WE are greatly obliged to many clients for sending us photographs of the houses they have built from our plans.

We would be glad to have more with which to adorn the walls of our new Broadway offices.

THE statute relating to Villa Park Associations, which is so lucidly explained in this issue by the Hon. Charles Crary of New York City, was originally framed by that gentleman. We believe, with him, that it provides for organizations of great strength and usefulness.

MISS MARIA PARLOA, who contributes our Kitchen Article, is the author of the best cook books published, in our opinion, and she is a lecturer of unusual ability. Those who attend her demonstrated lectures are not only taught how to cook well, but they are made acquainted with the natural history and chemistry of edibles, and learn to regard and respect cookery as one of the sciences.

THE way to avoid trouble in building is to have perfect plans and specifications. Do not trust untried and unknown plans, prepared by amateurs or perhaps by imitators. Procure the plans of the Co-operative Building Plan Associations of New York; they contain no mistakes. Thousands have demonstrated their correctness.

THE compliment of imitating our business is being paid to us in many directions. We are sorry to see, however, that none of it so far is high class and such as we could welcome to the field.

AN architect or a draughtsman who sets up in business for himself (a commendable thing to do when he has the ability), and who advertises his previous employment by the Co-operative Building Plan Association, adduces a pretty good reason that his training has been thorough. But if he claims, or leaves it to be inferred, that he alone has been responsible for any considerable amount of work, or that his unaided services equal those rendered by this Association, he should forfeit the confidence of those who admire the truth. No one knows better than he that the perfection of our plans is the result of combining the skill, taste and special knowledge of many minds and that their accuracy is due to a system of inspection and approval that is impossible in a small office.

OUR advertising columns are open for the announcements of all reputable firms. The amount of publicity they secure may be figured this way: We distribute 25,000 of each issue; it is fair to assume that each book is read and examined by at least twenty persons, which makes a total of a half million readers. The great majority of this multitude are apt to be people who are interested in building. The advertiser reaches the owner—the consumer—with his announcements, which is of the greatest value.

WE would like to suggest to property owners and those who are identified, with the best interests of every community, that a subscription to this Quarterly and its regular receipt and circulation every three months, would do much toward beautifying and enhancing the value of property and thus benefiting the whole community. We know that we have hundreds of names on our subscription books of noble men and women, who do not intend to build, but who see in the circulation of this work a very practical benefit to the communities in which they live.

THE great demand for modern houses of moderate cost all over the country, by people whose means enable them to pay part, but who must be accommodated with easy terms for the balance, creates business opportunities at many important trade centres, that we are surprised is not seized upon by companies having large capital. The business suggested would be attended with much detail, but it is perfectly feasible and should be reasonably profitable.

IF a good deal of interest is shown in the Paper Model House Supplement which is presented with this issue, we will continue to give other models in future issues.

WE call the attention of builders and contractors to our large work "the Builders' Portfolio," described on the last page of cover, which has been prepared especially for their use. We do not see how a builder can afford to be without it.

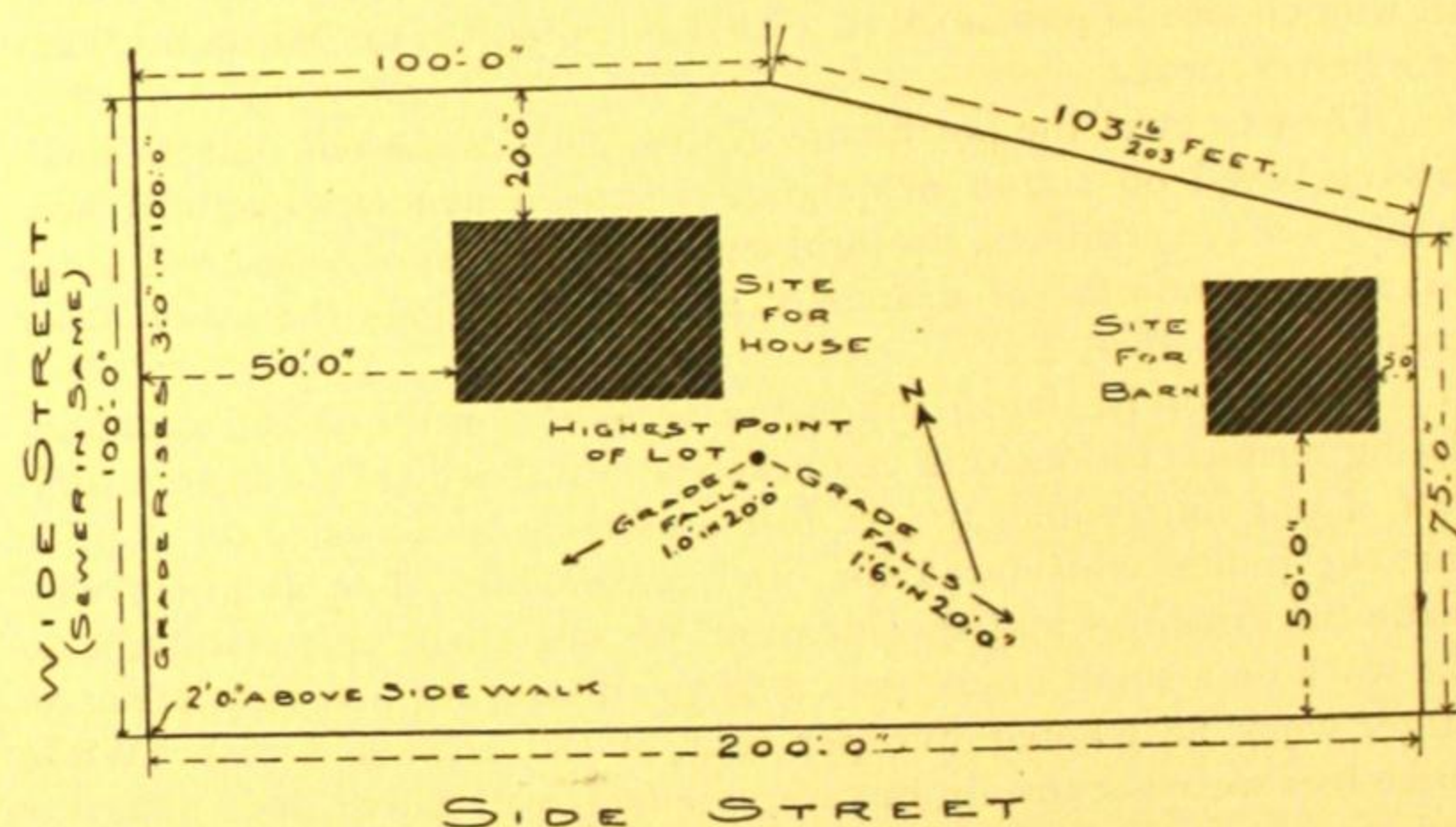
THE costs given in this publication are the *actual* costs of structures, just such as will be secured by buying the materials and having the labor performed by days' work. With the assistance of the Working Drawings, Specifications, Bill of Quantities, and all the aids furnished by this office, this way of building, particularly for houses of moderate cost, is altogether the best, where some time and attention can be given to it.

NUMBER 4 of this Quarterly, which we are now working on, and which is due for publication October 1, promises to be a very brilliant number.

THESE two pages of Miscellaneous Notes in each issue are intended for items of personal and business character, and we try to confine such matters to these pages. We know the anxiety of owners when they are about to build; they desire to know, and they are entitled to know, a good deal about the people who claim that they are safe guides in such important matters.

INVENTORS and manufacturers of new articles and appliances that pertain to building, should promptly acquaint us with the advantages claimed, and if they are so pleased send samples. We will give them thorough examination and tests, and if approved, we will not hesitate to recommend them. It is but fair to say, however, that we find a large proportion of new things impracticable, and the fact of sending a sample, however valuable, must not be relied upon as securing a favorable opinion.

IN ordering designs for new and original work the client should give us the following particulars: State the sum to be expended; give prices of material and labor prevailing in the neighborhood; is the construction to be of wood, brick or stone, and what material is preferred for foundation; what the building is to be used for; number of floors wanted, number of rooms on each floor, intended use of each room; height of stories in the clear; whether interior is to be finished in hard wood; what is required as to heating, hot and cold water, gas, bath, and water-closets; what is the water supply; can the drain be connected with a street sewer, or is a cesspool required, and make a rough drawing, showing size, shape and grade of ground, direction of best view, like this, for example:



Upon receipt of these particulars, we study the design and make preliminary sketches of the floor plans and elevations. These we send to the client for alterations, corrections and suggestions. When they are returned to us, we make the alterations suggested, so far as our judgment recommends, and send the sketches again to the client for his final approval, if necessary. Finally, when the sketches show just what is wanted, we make **FULL WORKING PLANS**, giving detail drawings for all exterior and interior work, and write up the **SPECIFICATIONS**. If requested, we prepare, also, a complete **BILL OF QUANTITIES** of all materials required for the building.

The following is our schedule of prices for new and original work.

Full Working Plans, including Detail Drawings and Specifications, for a building to cost \$2,000 or under, \$40.

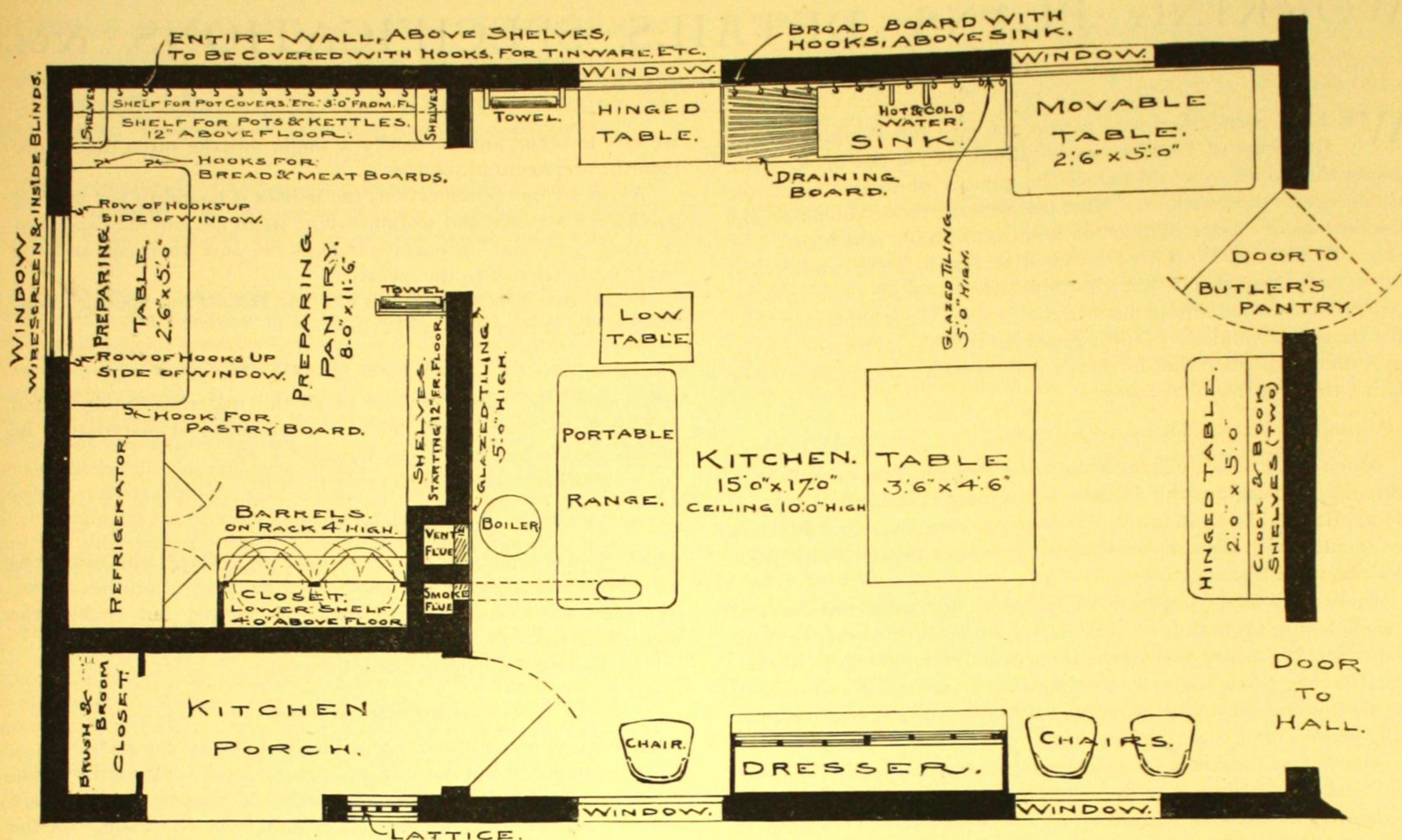
Complete Bill of Quantities for the same, \$10.

Full Working Plans, with Detail Drawings and Specifications for a building to cost over \$2,000, two per cent. of the cost of the work.

Complete Bill of Quantities for the same, one half of one per cent. of the cost of the work.

Visits of inspection within twenty miles of New York, \$10. At a greater distance, as per agreement.

Consultation fee, \$10. This does not apply to simple inquiries as to change of prices, practicability of modifications, or any questions requiring but little time and consideration to answer. It does apply to interviews of considerable length, where the merits and practicability of new plans are fully discussed, and to correspondence that covers the same ground.



MARIA PARLOA'S PLAN FOR A MODEL KITCHEN

* A MODEL KITCHEN

BY MARIA PARLOA

NO room in the house requires more thought and care for its construction than the kitchen. The aim should be to arrange it simply, and yet so conveniently that work may be done with the fewest steps and the least loss of time. There is such a thing as having so many improvements that the whole machinery becomes complicated, and a great deal of time and labor is needed to keep it in order.

The size of the kitchen is an important matter. Although the room should be spacious enough to contain sink, range, table, dresser and chairs, and to give ample opportunity for free movements, it should not be so large as to oblige one to make many steps to and from sink, table, range or pantry. A good size is 15 x 17.

The ventilation is a prominent factor of the comfort of not only those who work in the kitchen, but of the entire household. If the room lack good ventilation, the strength of those who work in it will become exhausted sooner than it should, and they will become unnecessarily irritated. Besides, the odors of cooking, which should pass to the open air, will instead escape to all parts of the house.

The room should be high, with large windows that can be dropped from the top. When the kitchen is located in a one-story extension the ventilation may be made almost perfect by means of a skylight or ventilator in the roof. In any case a ventilator may be arranged in the chimney. No matter how excellent the room may be in all other respects, it will be a failure unless there be light in plenty and good ventilation. Let these matters be among the first that are taken into consideration. There should not be a part of the kitchen or its closets which the light of day does not reach. Health and cleanliness demand this. When a house is small and

[* Copyrighted.]

economy must be rigorously observed, the kitchen chimney will be used also for other rooms, but when expense need not be taken into account, it will be well to have the kitchen chimney entirely separate. This is one of the best ways to prevent all the odors of cooking from reaching other rooms.

Every part of the kitchen, pantry and closet, except the ceiling, should be finished in such a way that it may be washed. Nothing is better for the flooring than hard wood. If the floors are to be covered, no better material than lignum can be used. It is soft, clean and durable. Oilcloth is very cold and is the cause of a great deal of rheumatism.

It is well to have the wood-work such as to require oiling only, and the walls should be painted a rather light color. When possible, the walls about the sink, tables and range should be tiled. Tiles seem to be rather expensive at the outset, but in the long run it is true economy to use them, as they will last as long as the house. They may be easily kept bright and clean. The time will come when few people will think of finishing a kitchen without them. The English or Dutch tiles should be used, and blue and white should predominate.

Lack of table room is a drawback met with in most kitchens. There ought to be an abundance of such room, so that when a meal is being prepared or served there need be no crowding or confusion, and it may be obtained by having two or three swinging tables in the room. When they are not in use they may be dropped.

The sink should be large,—there is nothing better than iron,—with a sloping and grooved shelf at one end, on which to drain dishes. It should not be enclosed. Every dark, enclosed place in a

kitchen is a source of temptation to the slovenly. Let the light reach every part of the room. At the right hand of the sink have a long, narrow table containing two drawers for towels. Unless the walls above, below and at the sides of the sink be tiled, they should be finished with hard wood. If tiles be used, have a broad capping of hard wood extend across the upper edge of the top row, in which to put hooks for various small utensils that are in frequent use about the sink. Under the sink have more hooks for dish-pans, dish-cloth, etc.

There should be a door between the kitchen and the china closet or butler's pantry. This should be near the sink and the pantry. On the opposite side of the kitchen a dresser should be built between the windows. Here can be kept the kitchen table-ware and various utensils. The shelves each should have a groove, in order that platters and other dishes may be placed on edge. There should be two drawers, and below the drawers, two closets with shelves. The doors of the upper part of the dresser should be made in part of glass, and should slide.

In the centre of the kitchen have another table about $3\frac{1}{2} \times 4\frac{1}{2}$ feet. This should contain a drawer for knives, forks, spoons and other utensils that are in frequent use in that part of the kitchen. Have a small table also, about the height of the range. This is for use as a resting place for utensils used when griddle-cakes, omelets, waffles, etc., are made. When not in use it may be moved aside. Between the door to the hall and that to the china-closet have a swinging table or a settee table; the latter being that kind which serves as a seat when not in use for ironing or other purposes. Above the table have two shelves for cook-books and other books, and a clock.

Now comes the question of a range. Which shall it be—a set or a portable range? There are points in favor of each. Set ranges occupy less room, permit of roasting and broiling before the fire, and insure a constant supply of hot water. But there are disadvantages; they do not respond quickly to checks and draughts, they consume a large amount of coal, the brick hearth becomes very hot and uncomfortable to stand upon, and there is only one side to approach, which necessitates considerable lifting and moving of utensils.

A portable range can be so placed that it will be possible to walk all around it. It can be run with about half the quantity of coal required for a set range. It responds quickly to the opening or shutting-off of a draught. One's feet do not become heated by standing near it. There are no dark corners. It does away with the necessity of much lifting of heavy utensils. And it can be so managed that there shall be a hot oven at any time of the day.

But with a portable range the supply of hot water is limited, the roasting must be done in the oven and the broiling over the coals.

The window seats should be broad, that a few pots of flowers

or herbs may be placed on them. There is no other room in the house where plants will grow so well.

Convenient to the range and sink there should be a large pantry—about 12 ft. x 8 ft. The window should have a wire screen and inside blinds. A large, strong table, with two drawers, should be placed before this window. Have hooks on the ends of the table on which to hang the pastry-board, the board on which cold meats are cut, and that on which bread and cake are cut. The rolling-pin, cutters, knives and various small utensils may be kept in one drawer, and spices, flavoring extracts, baking-powders, etc., in the other.

The wall at one end of the room should be covered with hooks on which to hang saucepans and other utensils. About one foot from the floor there should be a strong, broad shelf, on which to place heavy pots and kettles. Two feet above it there should be a narrow shelf for the covers of the pots and saucepans. By this arrangement all of these utensils may be kept together and always in sight, and no time need be lost in searching for any of the articles.

A number of shelves may be placed between the window and this end of the room, on which to keep materials used very frequently, such as sugar, salt, rice, tapioca, etc.

In the frame of the window, but within easy reach, put hooks, on which to hang spoons and an egg-beater.

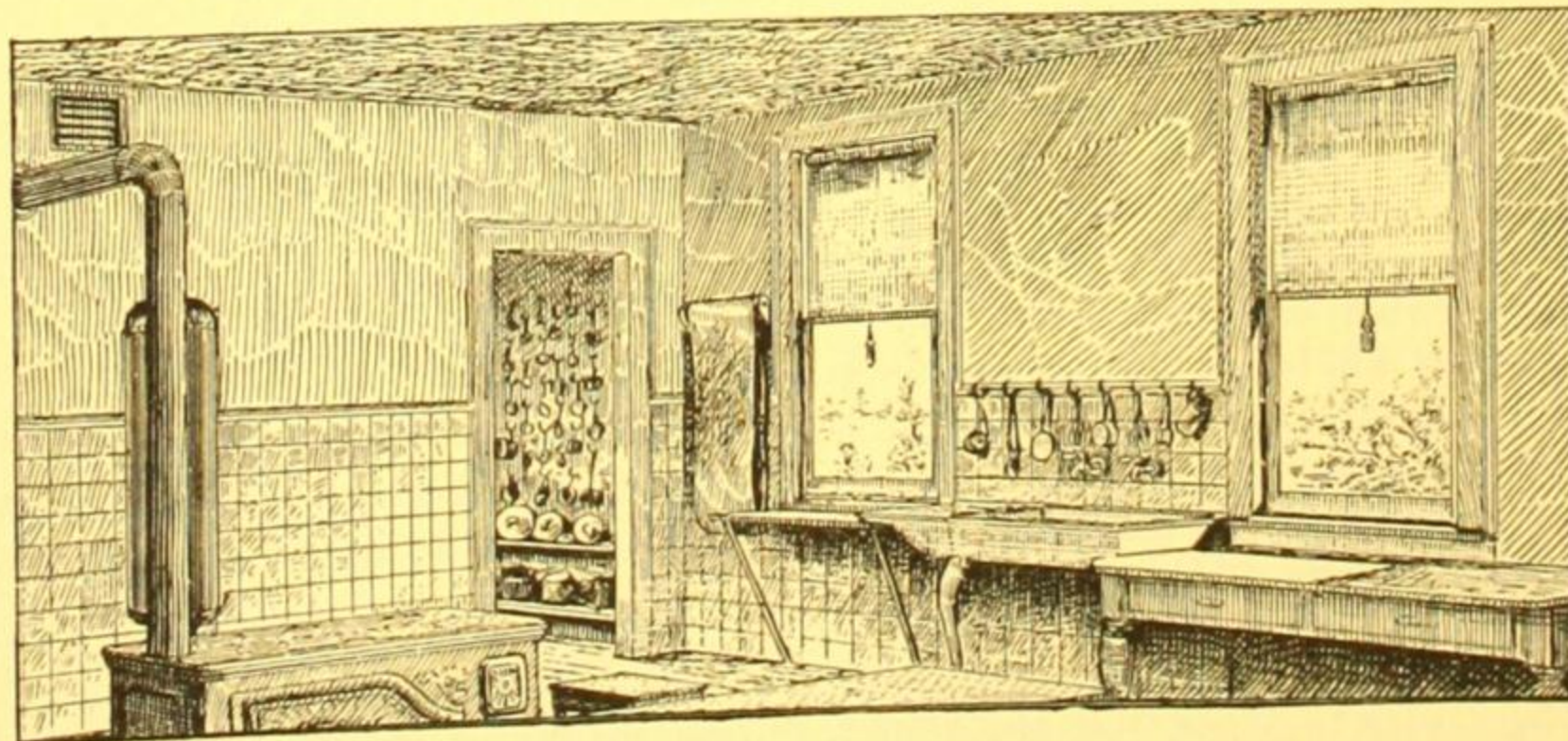
At the lower end of the room have wall-closets built about four feet from the floor. The shelves within them should be about twenty inches wide and the doors should be supplied with locks. Under the closets have a strong rack, four inches high, on which to keep barrels. The rack secures a free circulation of air under the barrels, thus keeping their contents sweet.

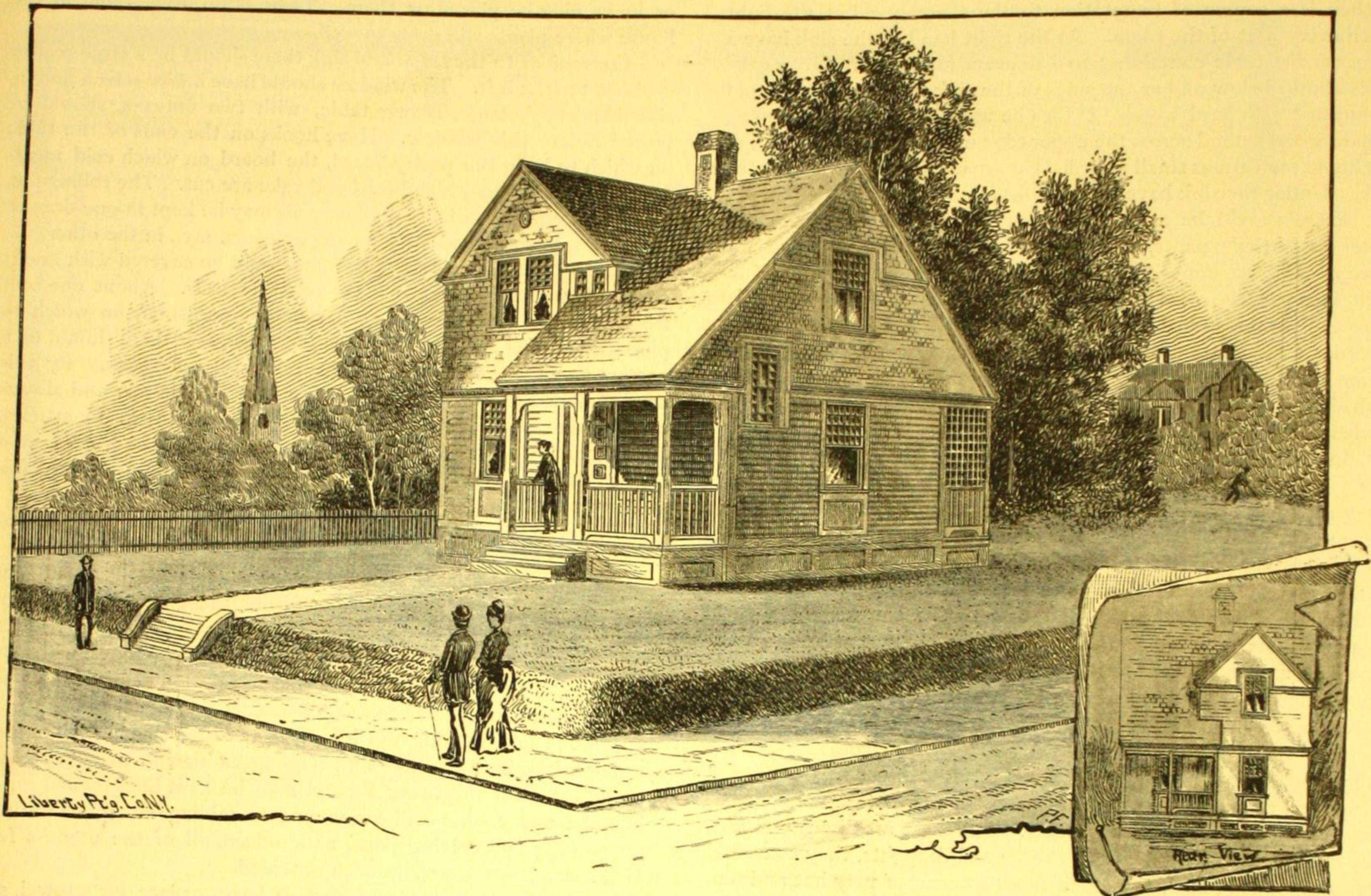
On one side, running the length of the room, have shelves, beginning a foot from the floor and running as high as the top of the wall-closets. On the lower shelves may be kept buckets and jugs, while the upper ones will accommodate mixing bowls, measuring cups, baking and mixing pans, and, indeed, all of the utensils for which space has not already been provided.

At the end of this row of shelves have a place for a towel, so as to avoid the trouble of going to the kitchen whenever the hands require wiping.

With this arrangement of the kitchen and pantry the cooking and the washing of dishes can be done in a small space, steps and time can be saved, and half of the kitchen will generally be unused and ready for the servants' table or any other purpose. The points kept in view throughout are—concentration of work, good light and ventilation, ample table room, cleanliness, and the giving of an attractive appearance.

It is understood that there is a cellar or cold room convenient to the kitchen.





DESIGN No. 312. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 312

SIZE OF STRUCTURE: Front, 24 ft. Side, 24 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$600, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Designed for construction in the manner described on page 169, viz.: Framed with boards or planks, and without building the regular frame of 2 x 4 in. or 2 x 3 in. studding.

This method of construction does not betray itself on the exterior, as clapboards and shingles are used outside, and variety and picturesqueness of design are obtained.

The interior is finished with tough manilla building paper of a dull, red tint, making a good finish, and being warm and agreeable to the eye.

If constructed in the ordinary way, and with plastered walls, the cost of this cottage would be about \$900.

No cellar.

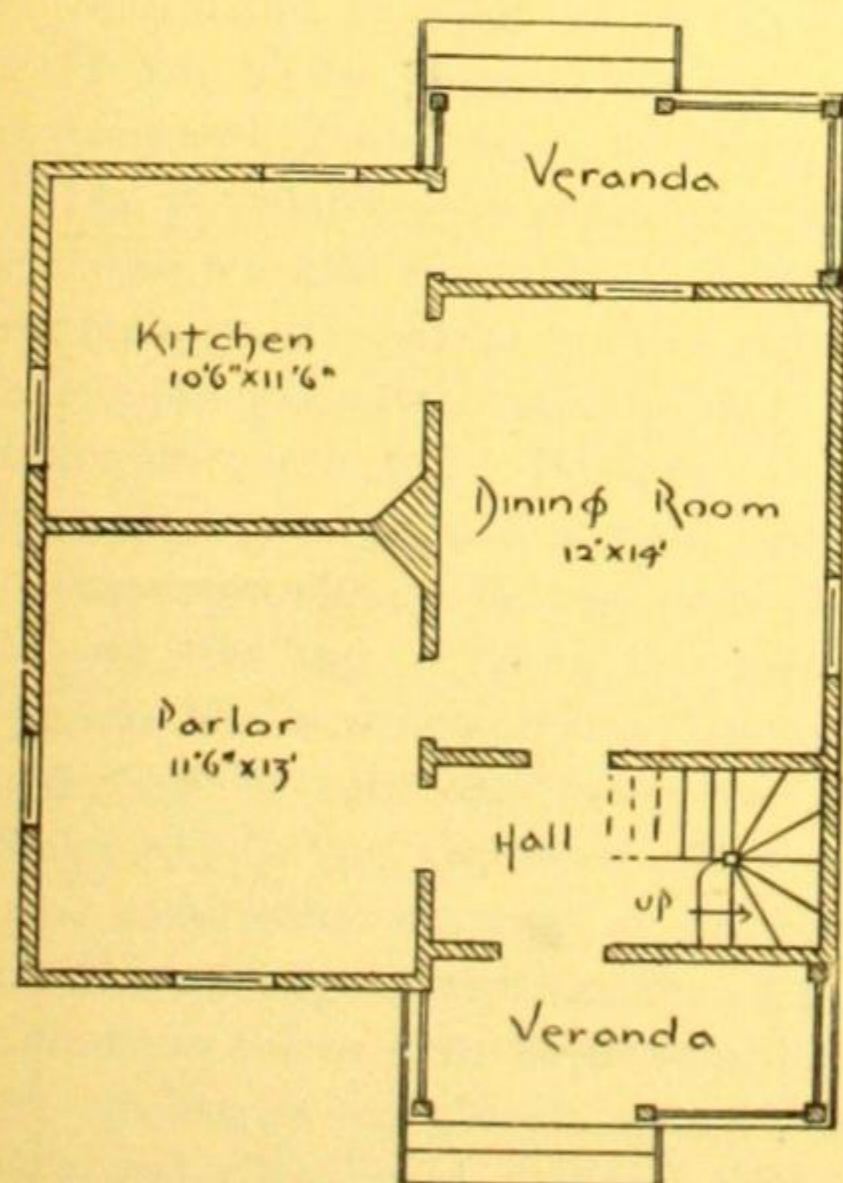
Much depends upon the colors used in painting. The architect's directions should be followed faithfully in this respect, as he knows, or should know, the best colors to use to enhance the beauty of the whole.

NOTES

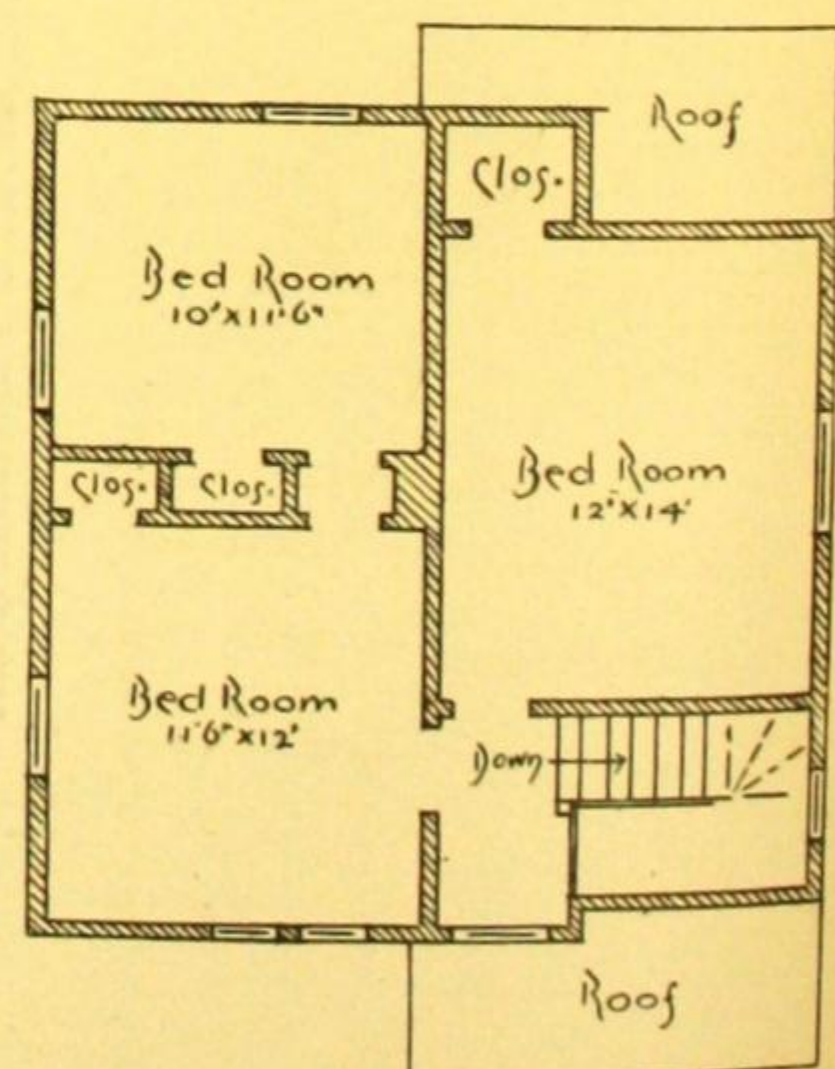
The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

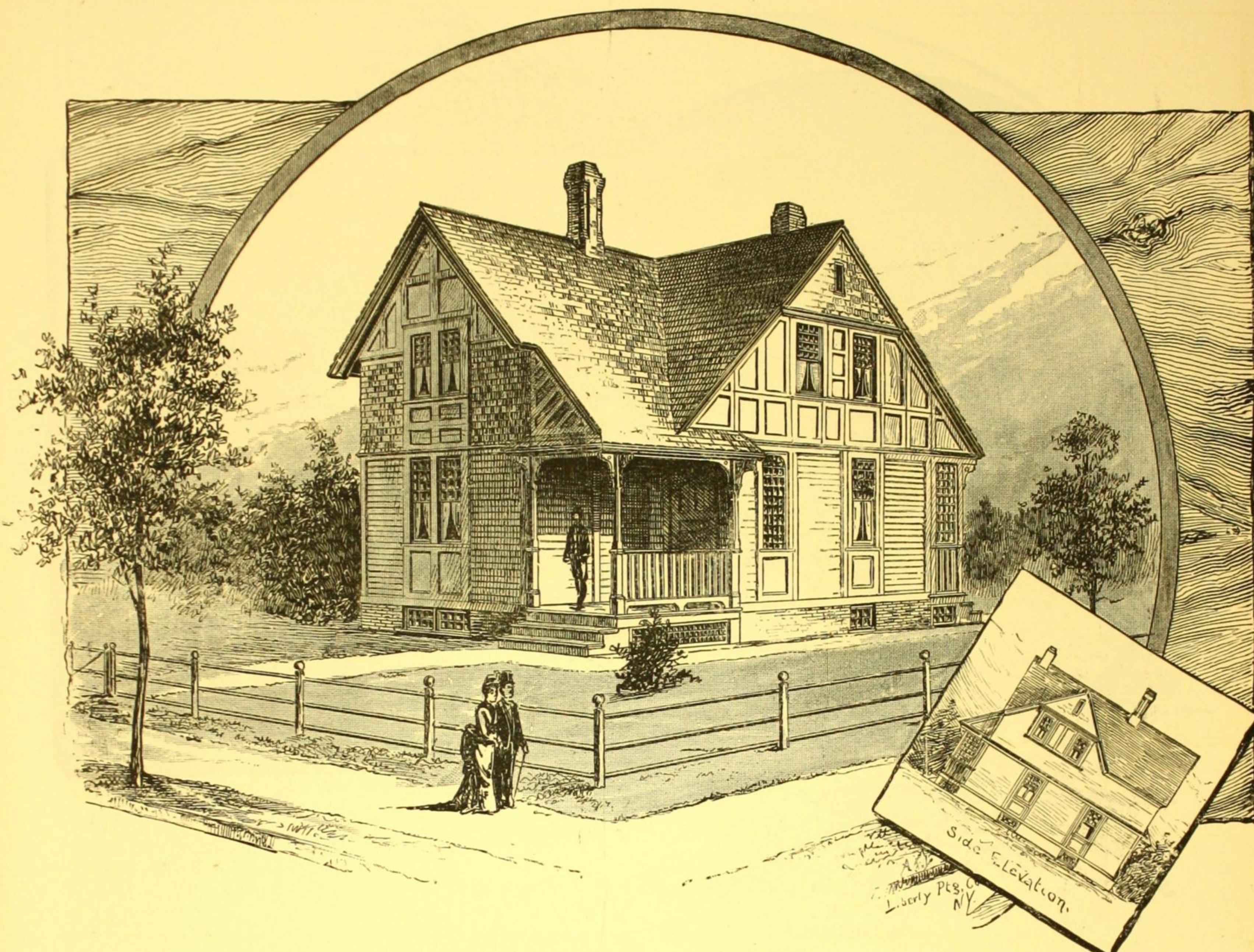
This design can be reversed, enlarged, reduced or altered to suit



FIRST FLOOR. NO. 312



SECOND FLOOR. NO. 312



DESIGN No. 313. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 313

SIZE OF STRUCTURE: Front, 23 ft. Side, 30 ft.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles and panelled work; Roof, shingles.

COST: \$800, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This house, like the preceding design, is intended for construction in the manner described on page 169.

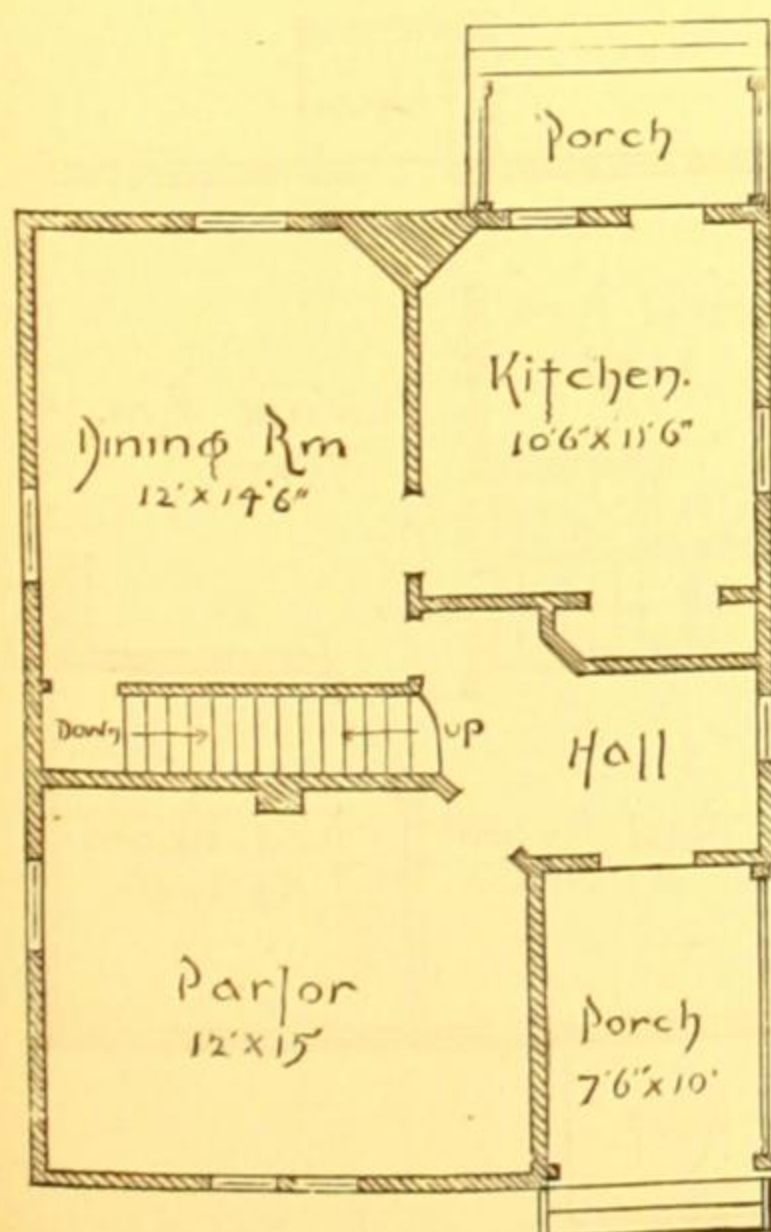
There is a cellar 10 x 10 ft., with a stairway to the same from the dining-room.

There are four gables. This, and design Number 312, make good sea or lake side cottages; they can be so easily and so quickly constructed. They are warm enough for winter occupancy. Well built, they are suitable for the coldest climate.

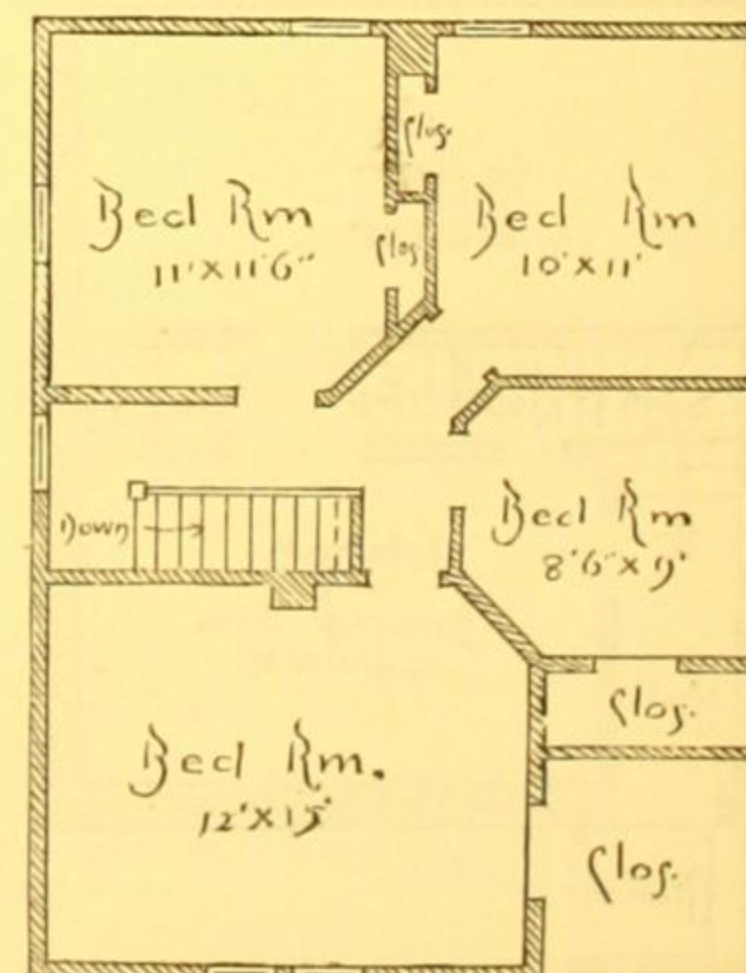
Brick foundations with a cellar under one half the house would cost about \$200 additional.

Built with the ordinary frame this house would cost about \$1,200.

We take the greatest interest in the construction specified for these houses, because it opens up new possibilities for that large class—men of moderate means. When an ample and substantial house can be built for a few hundred dollars, thousands of new house owners should be the result, and that means just so many better and more provident citizens.



FIRST FLOOR. NO. 313



SECOND FLOOR. NO. 313



DESIGN No. 314. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 314

SIZE OF STRUCTURE: Front, 24 ft. Side, 28 ft.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Basement, 7 ft., 6 in.; First Story, 8 ft.

MATERIALS: Foundation, stone; First Story, walls, shingled;
 Gables, shingled; Roof, shingled.

COST: \$1,400, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

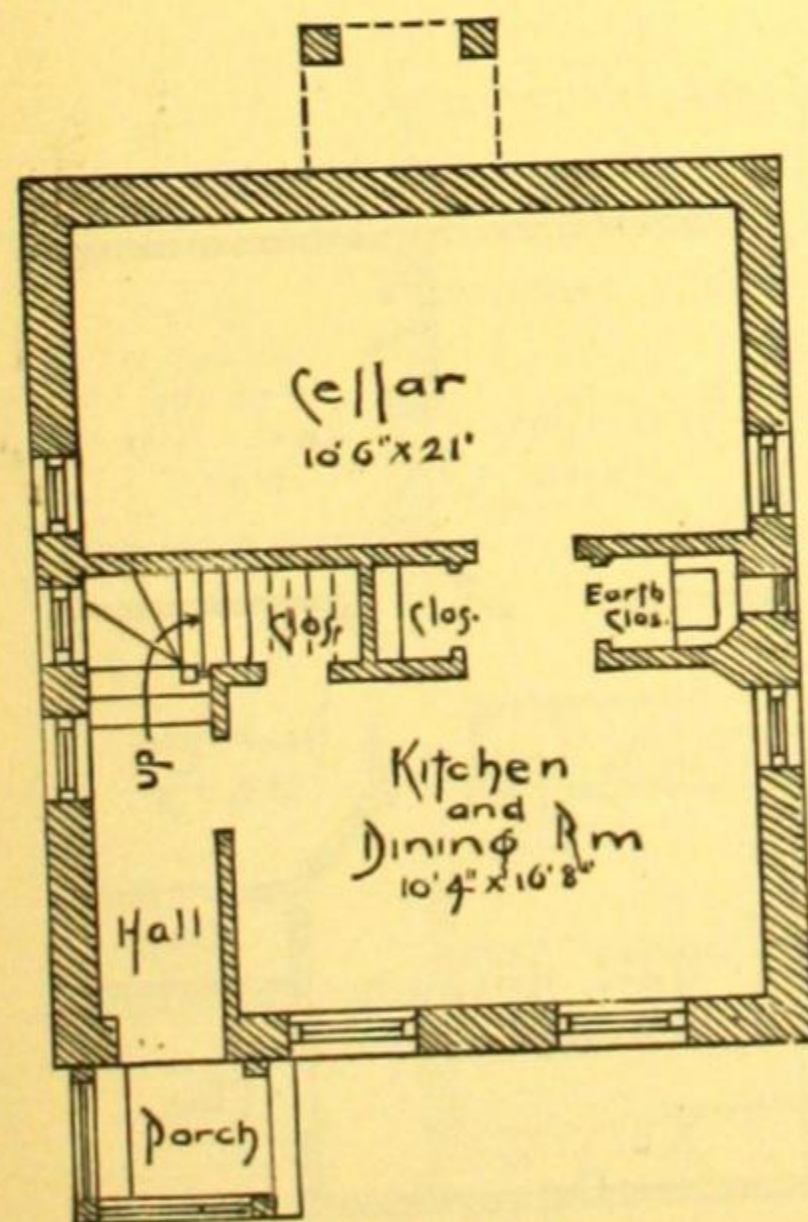
SPECIAL FEATURES.—The kitchen and dining-room (one room) is in the front part of the basement; in the rear part is the cellar. An earth closet is provided in the basement, ventilated by a small window and by a flue carried to the top of the chimney.

On the first floor above the basement is a living room of good size, and three bed-rooms. There is a good attic, floored, but not finished.

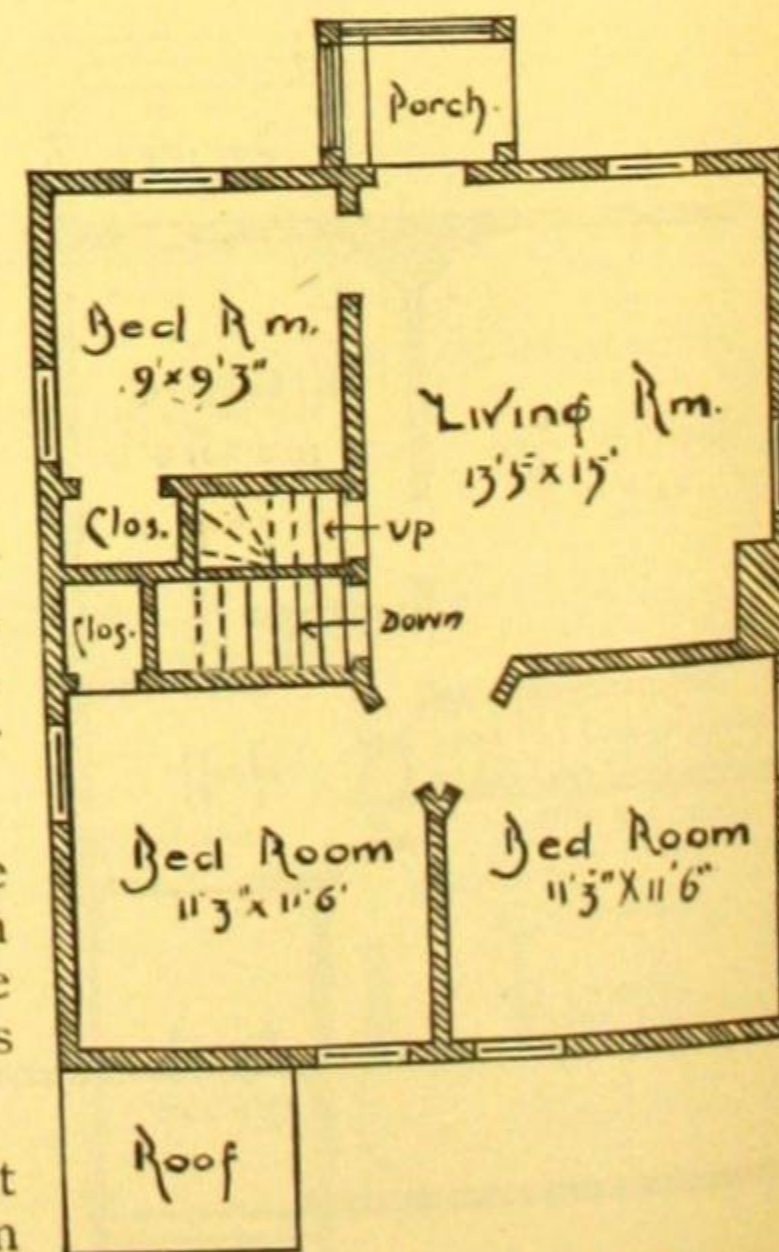
The sharp incline of the ground brings the floor of first story on a level with the ground at the rear, and a rear porch is provided, entering the living room.

There are four gables, the one on the side which is not shown in the view is similar to the one through which the chimney is carried.

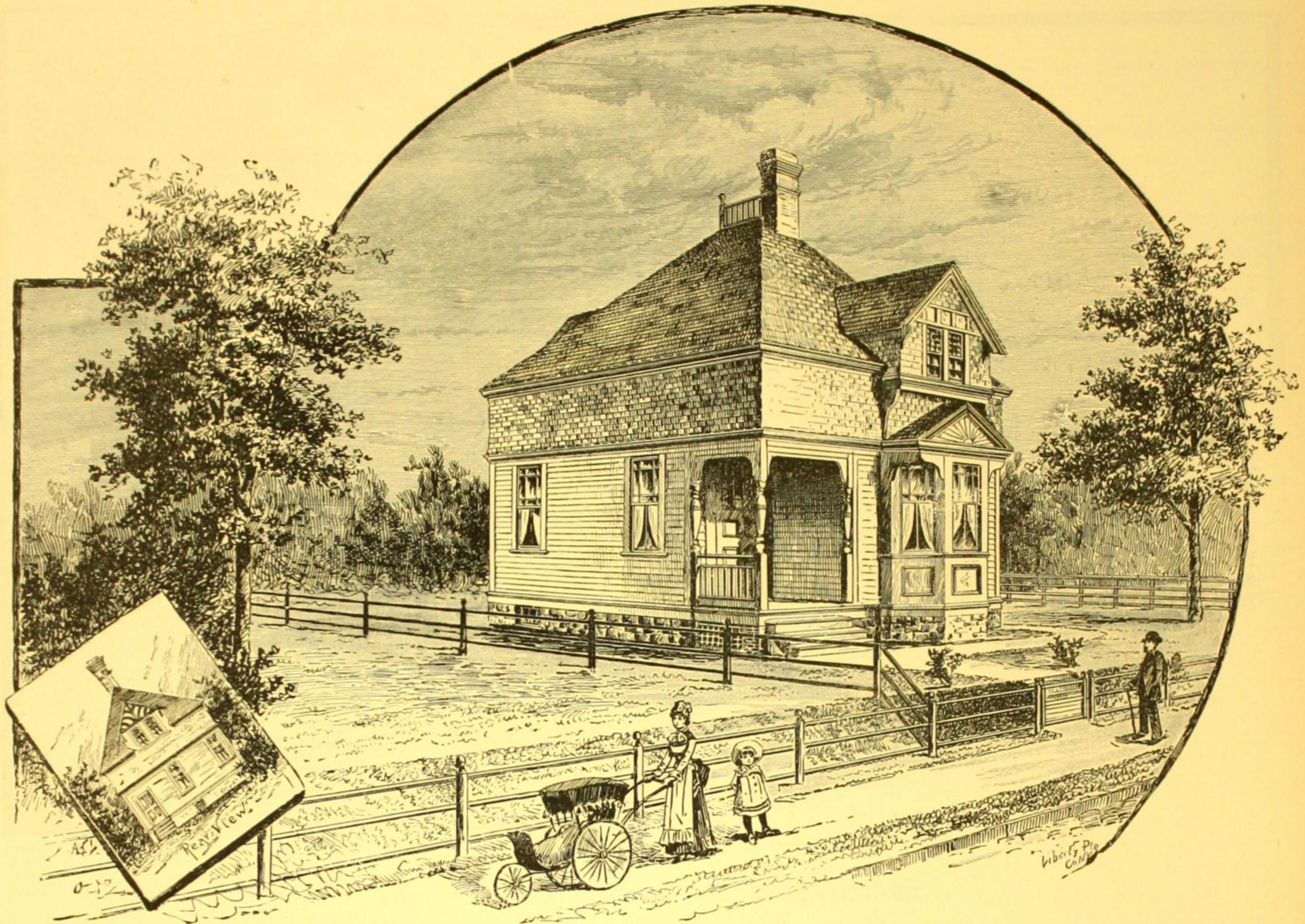
The walls of basement are built of ordinary field stone, random work.



BASEMENT FLOOR. NO. 314



FIRST FLOOR. NO. 314



DESIGN No. 315. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 315

SIZE OF STRUCTURE: Front, 22 ft., 6 in. Side, 26 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,200, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—If the bed-room on first floor can be spared, it is better to use it for a dining-room.

The kitchen stove connects with the parlor chimney by a cement flue carried underneath the stairway.

Three bed-rooms in the second story, with good closets.

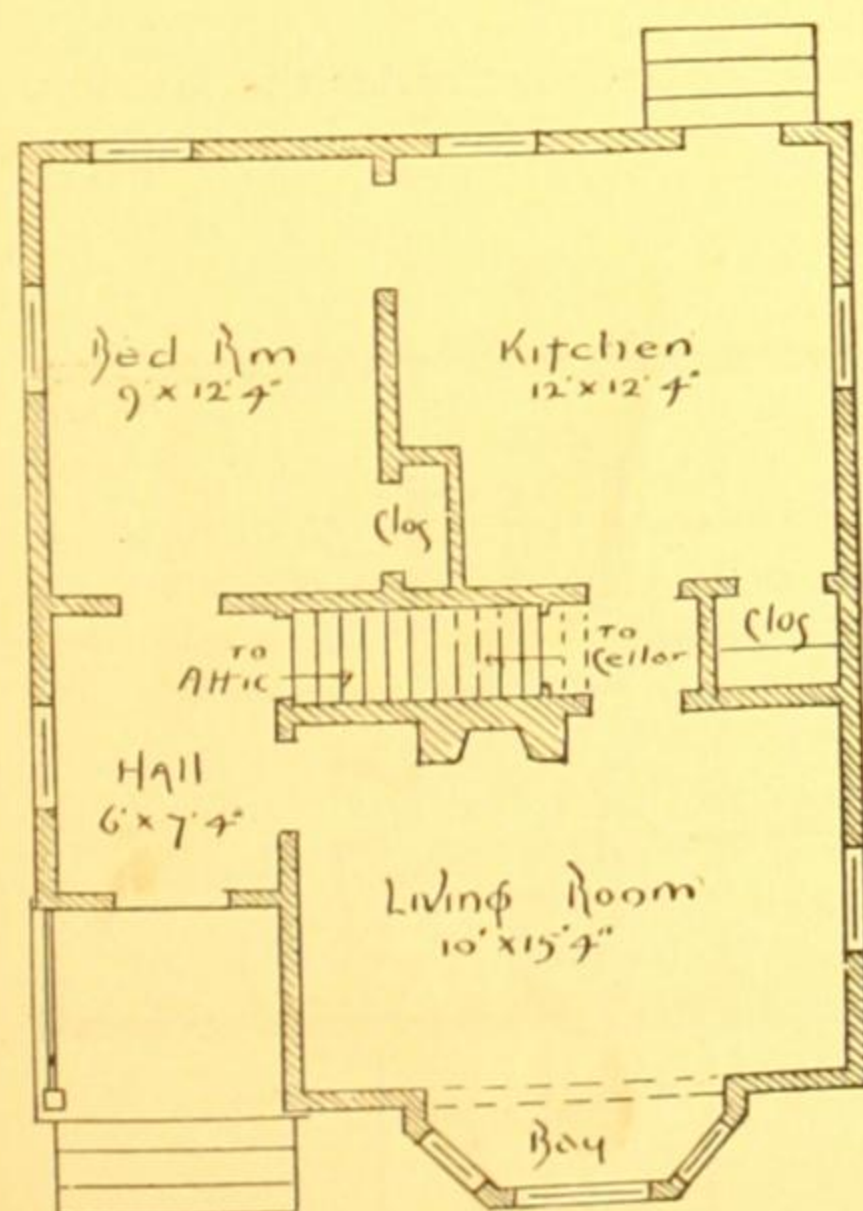
Cellar under the bed-room and kitchen, with stone walls.

NOTES

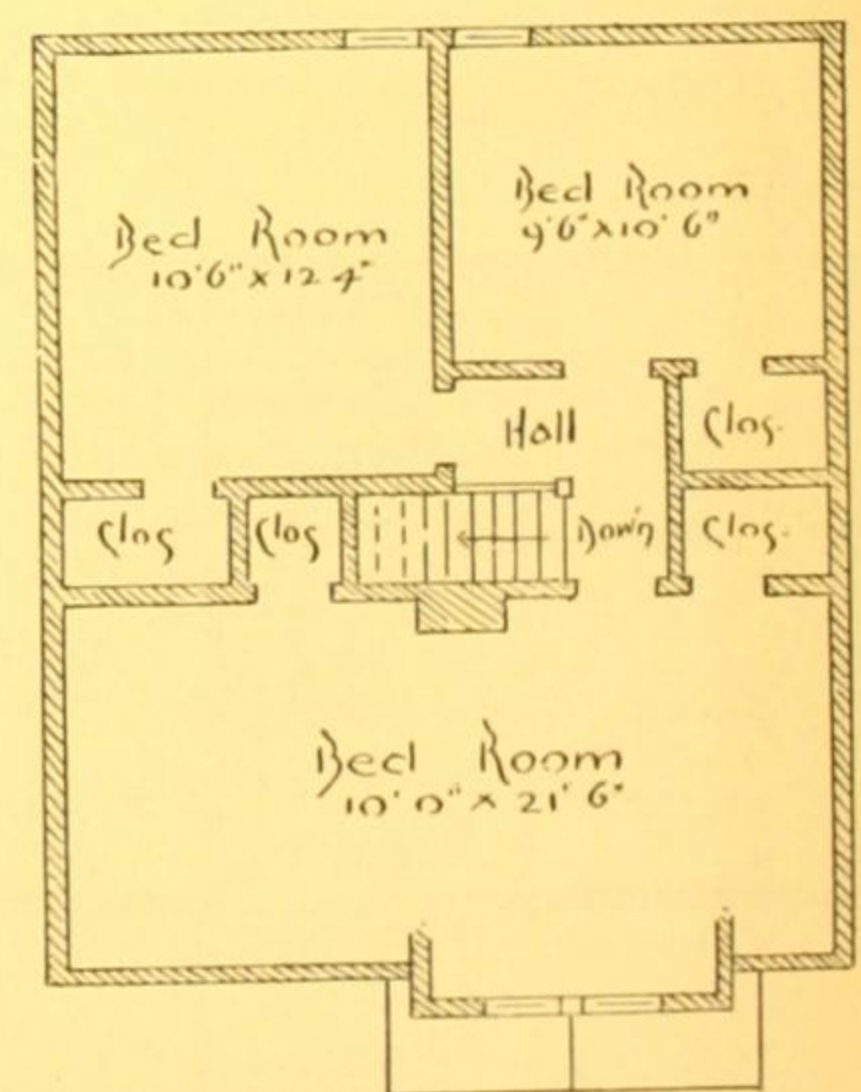
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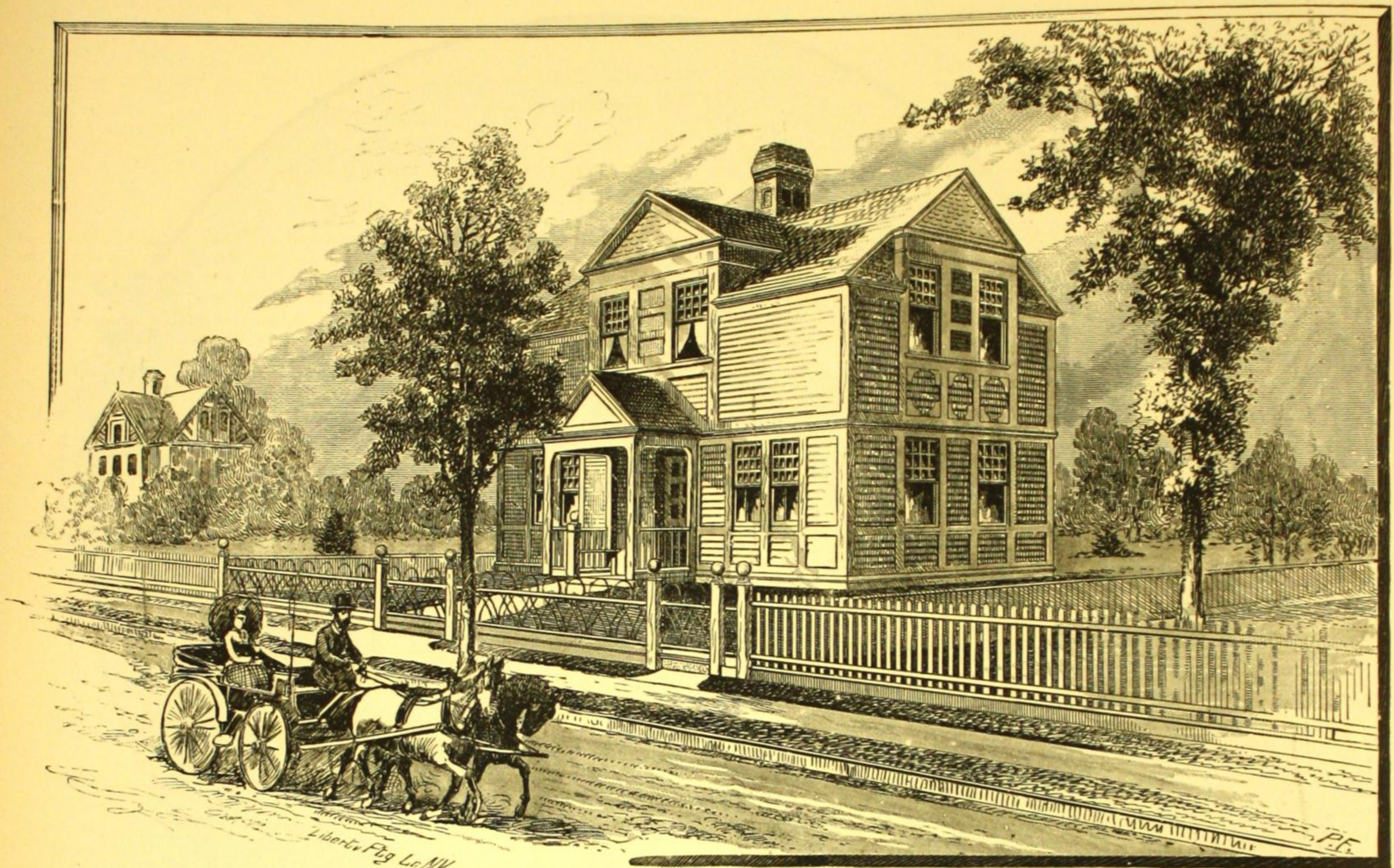
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 315



SECOND FLOOR. NO. 315



DESIGN NO. 316. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 316

SIZE OF STRUCTURE: Front, 32 ft., 6 in. Side, 21 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft. Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$1,150, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A compact arrangement of rooms in simple form, affording good accommodations for a family of six or seven.

The parlor or family room is large, and has two closets, and an alcove or bay at the end. It has a chimney breast and flue for a stove, which is connected with the kitchen and dining-room chimney. Where there is a large room for general sitting, as in this design, there is no necessity for the other rooms to be very large.

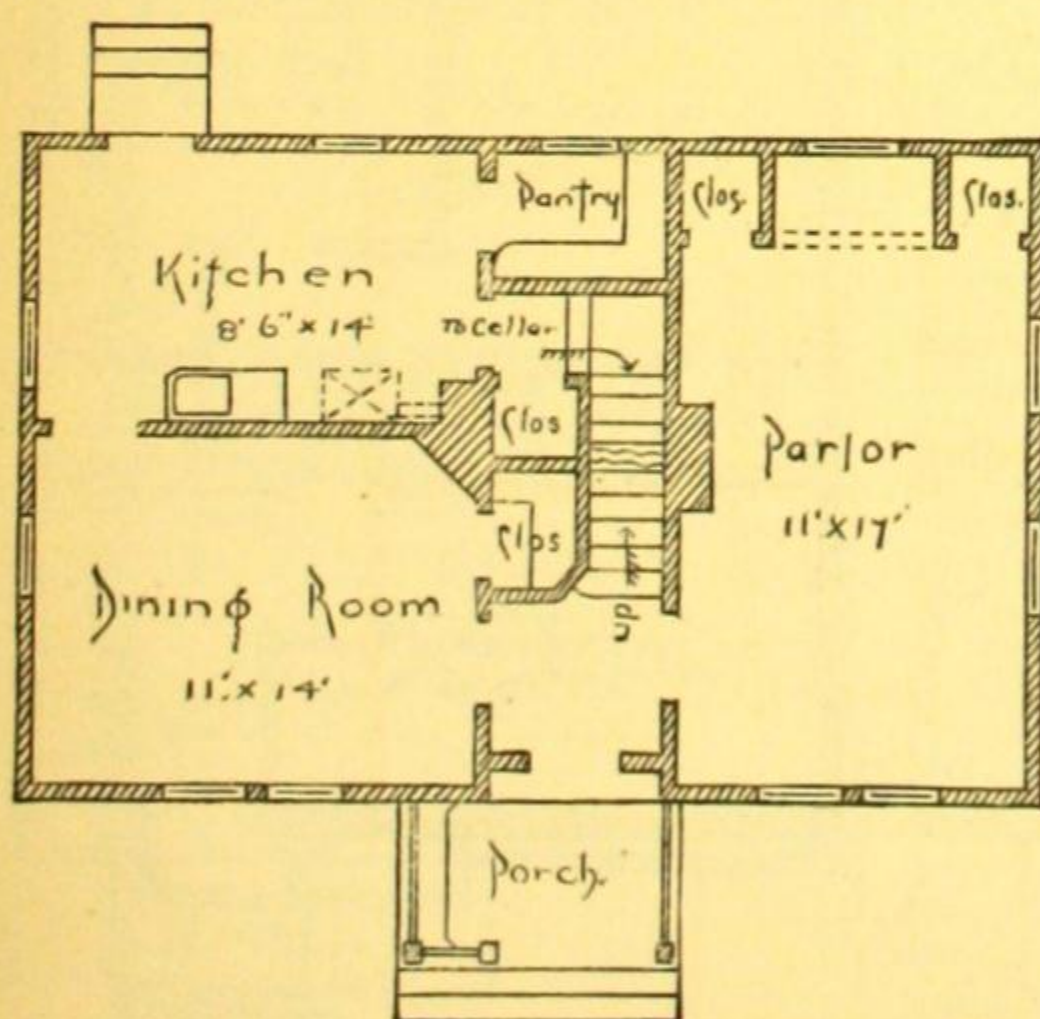
Two bed-rooms of fair sizes on each side of the hall in the second story. Each has a good closet.

Brick wall under the whole house, with cellar under the kitchen, dining-room and hall.

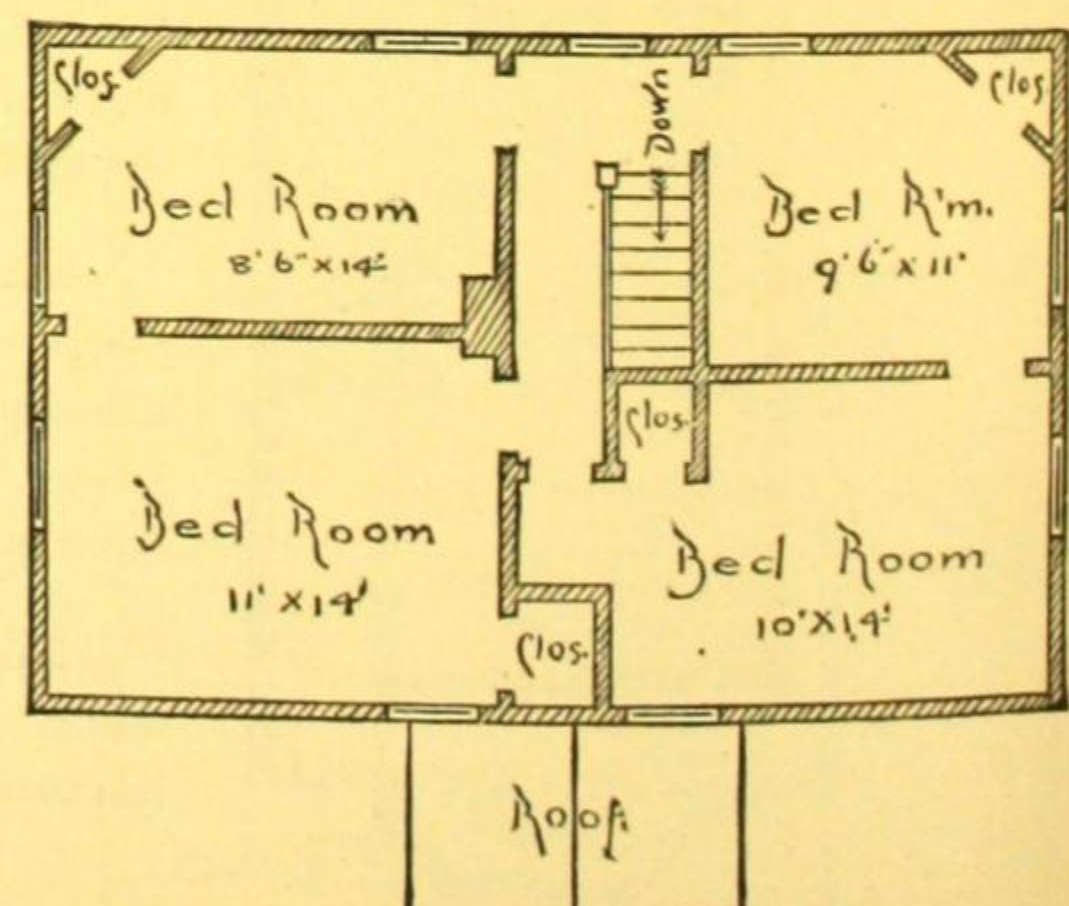
Wood mantels provided for the parlor and the dining-room.

On the first floor plan the dotted square in the kitchen indicates where the stove should be placed.

If the house is built upon a post foundation, without cellar, the cost would be reduced about \$100.



FIRST FLOOR, NO. 316



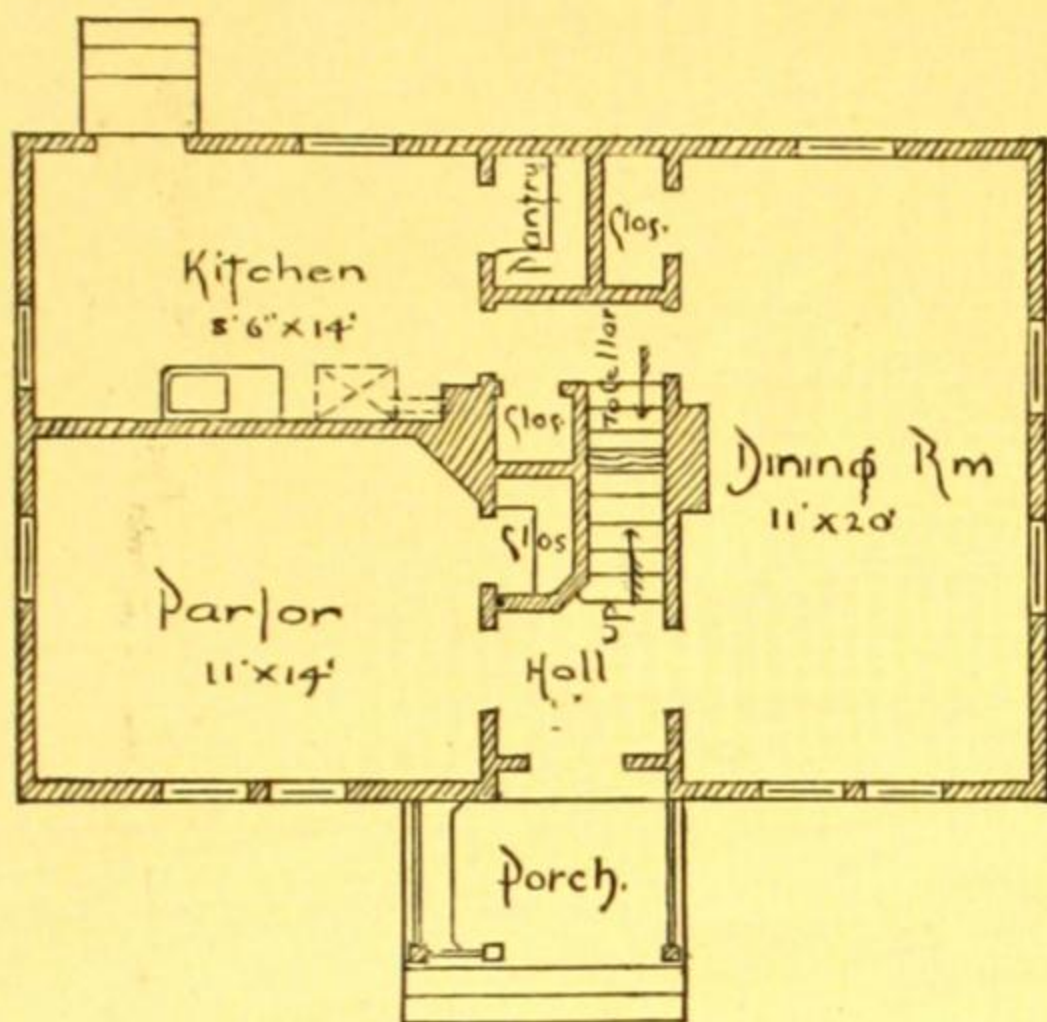
SECOND FLOOR, NO. 316

DESCRIPTION OF DESIGN NUMBER 317

COST : \$1,150, complete.

This is a modification of the preceding design, the exterior appearance being the same. The room called dining-room on the plan of No. 316 is called parlor here; the large room on the right of the hall is made a dining-room and connected with the kitchen. A china-closet is provided.

The ample size of this dining-room makes it large enough for a banquet; it is just right for the hospitable family who keep the latch string always out, and who may be invaded by a troop of friends at any moment.



FIRST FLOOR. NO. 317

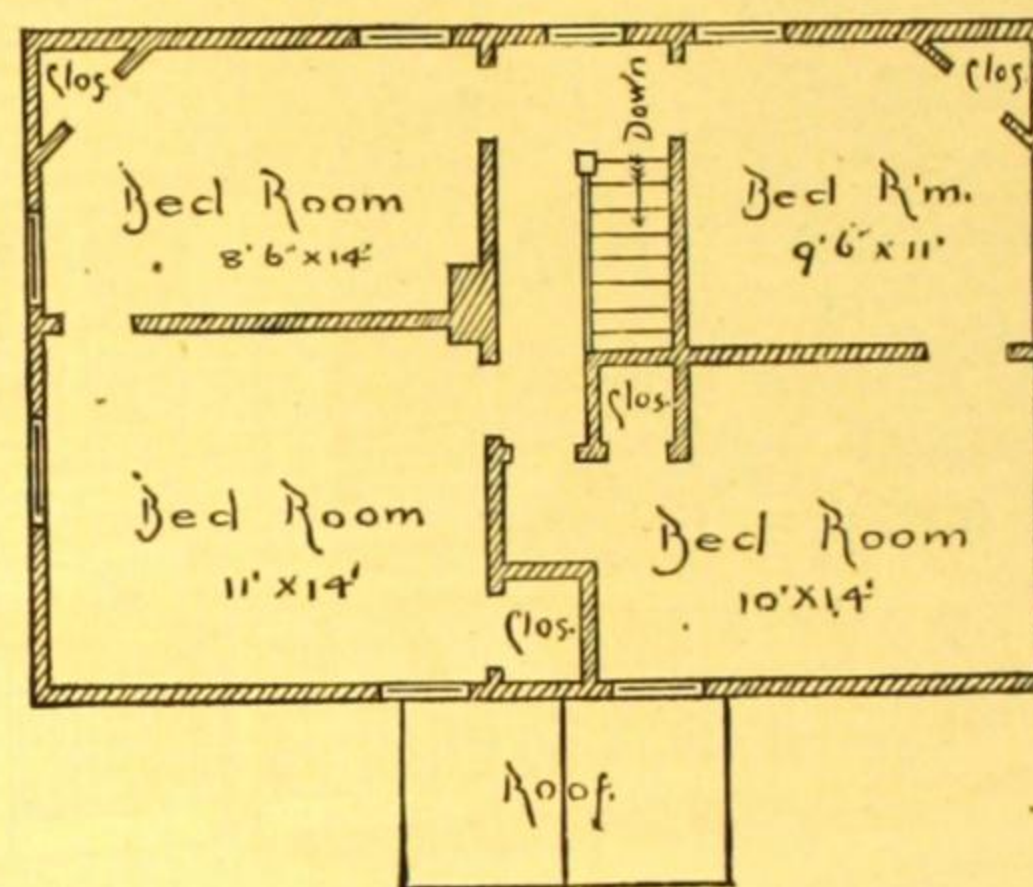
For dimensions, materials, cost, &c., see the description of the preceding design.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 317

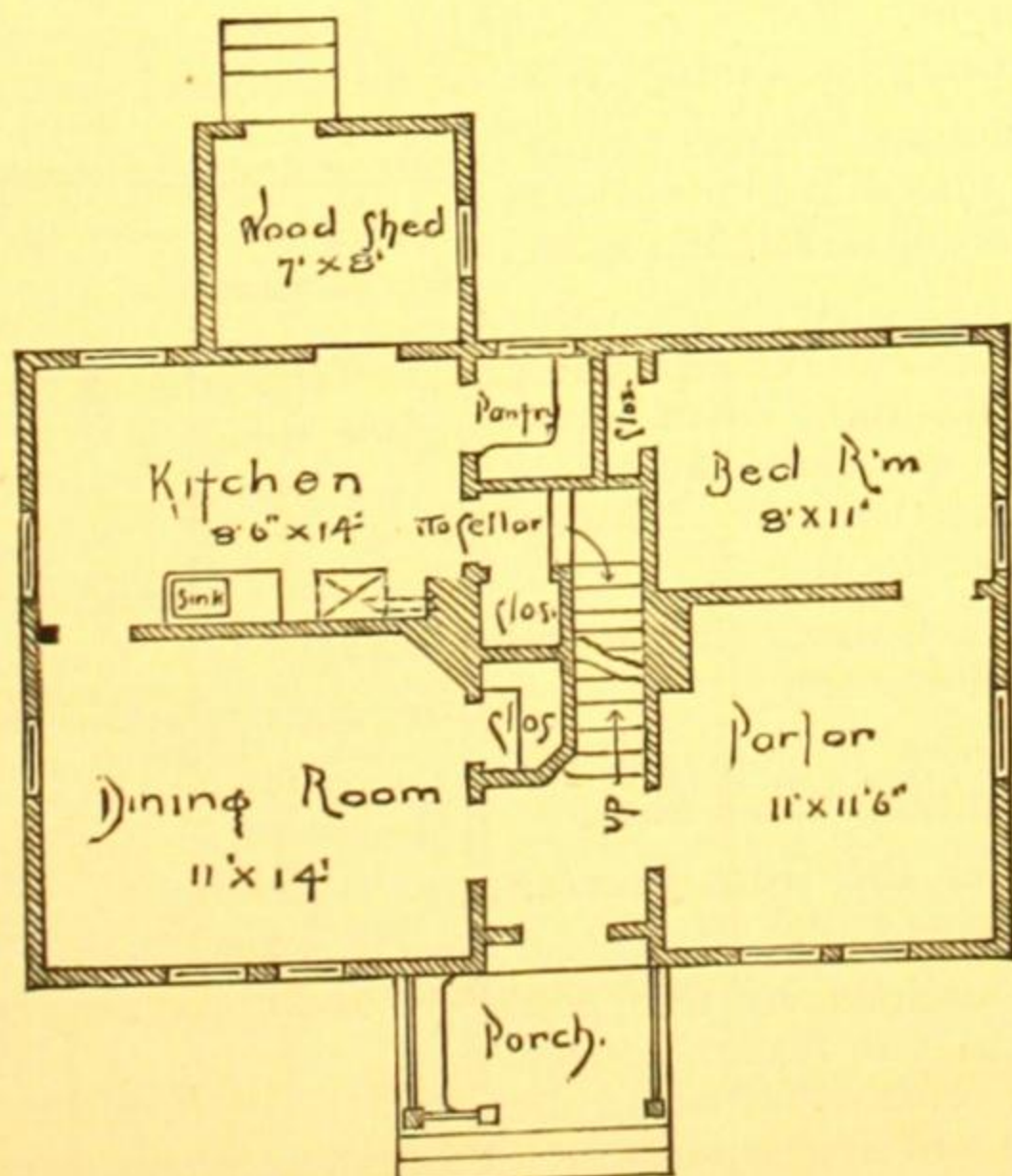
DESCRIPTION OF DESIGN NUMBER 318

COST : \$1,400, complete.

Another modification of Design No. 316, retaining the same general appearance, arrangement and size. A bed-room is made on first story by dividing the space to the right of the hall. A wood shed or summer kitchen is added. (This is not plastered.)

In the second story a bath-room is provided, containing tub and water-closet; a cold water service is carried to the same. A portable range and boiler, costing about \$50 additional, would provide hot water to the bath, as well as to the kitchen sink.

Brick walls under the house. Cellar under the kitchen, dining-room and hall.



FIRST FLOOR. NO. 318

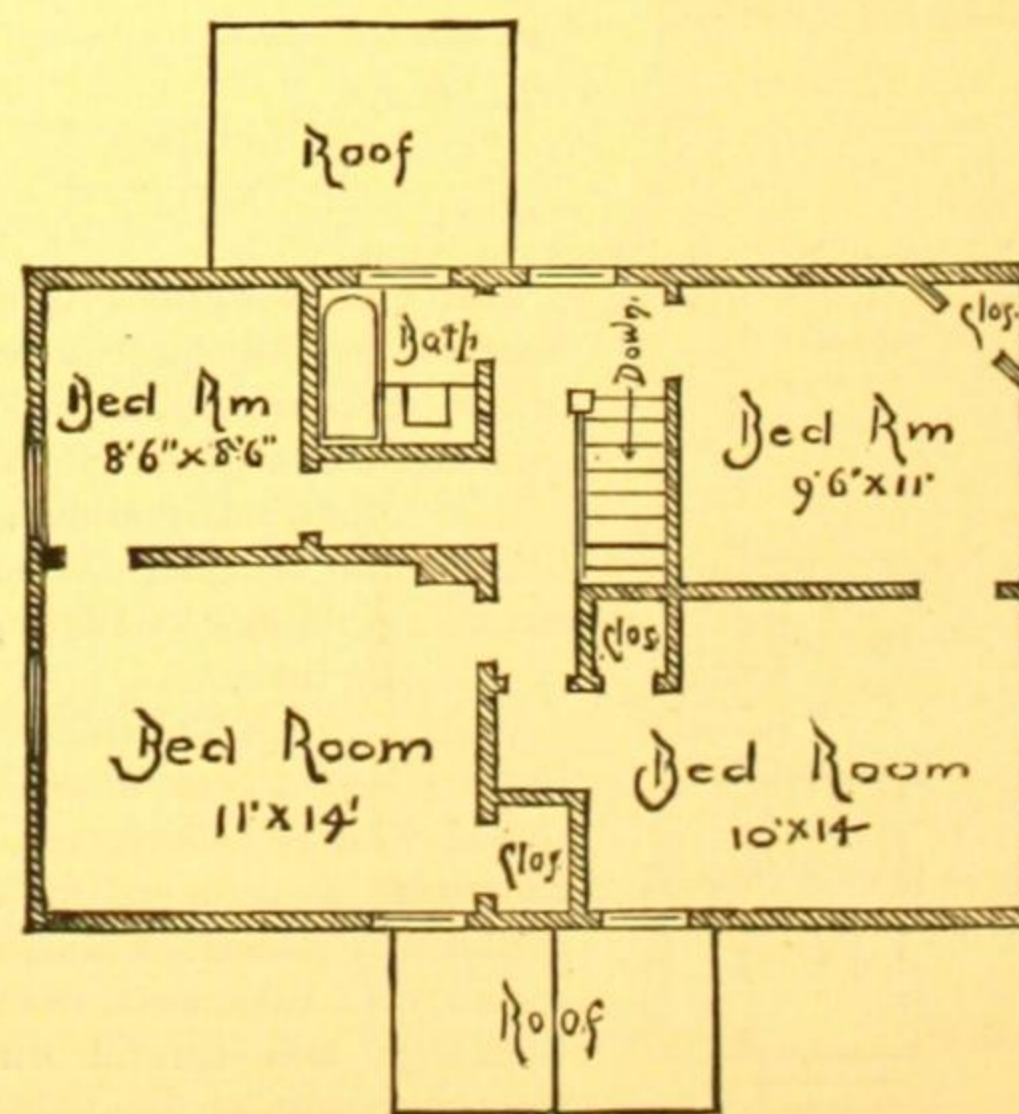
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

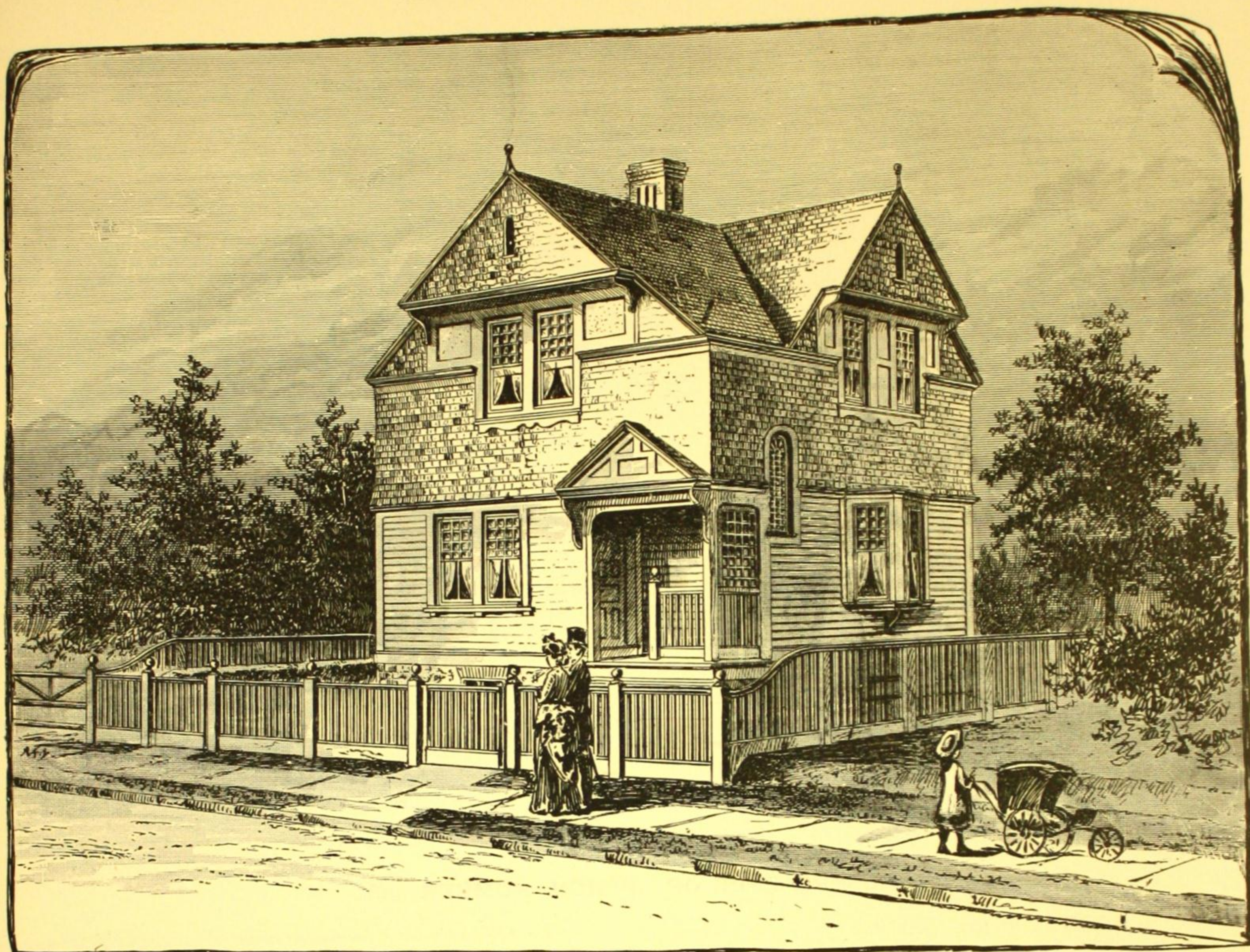
The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 318



DESIGN No. 319. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 319

SIZE OF STRUCTURE: Front, 20 ft. Side, 30 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,000, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

SPECIAL FEATURES.—Particularly adapted for a narrow city or village lot. Can be built on a lot 25 ft. wide, and leave a passage to the rear of 3 ft. wide.

There is an entrance porch 5 x 7 ft., overhung by the second story, from which the parlor or family-room is entered. The stairway to the second story starts from this room.

The dining-room is of good size, and has a small bay window with a window seat. In the winter time this window seat would make a capital place for setting pots of flowers, where they would get the sunlight. For some locations it would be well to reverse the plan to bring the dining-room on the south or east side.

The kitchen has a large pantry. The sink is placed in a recess so as not to impose on the kitchen space.

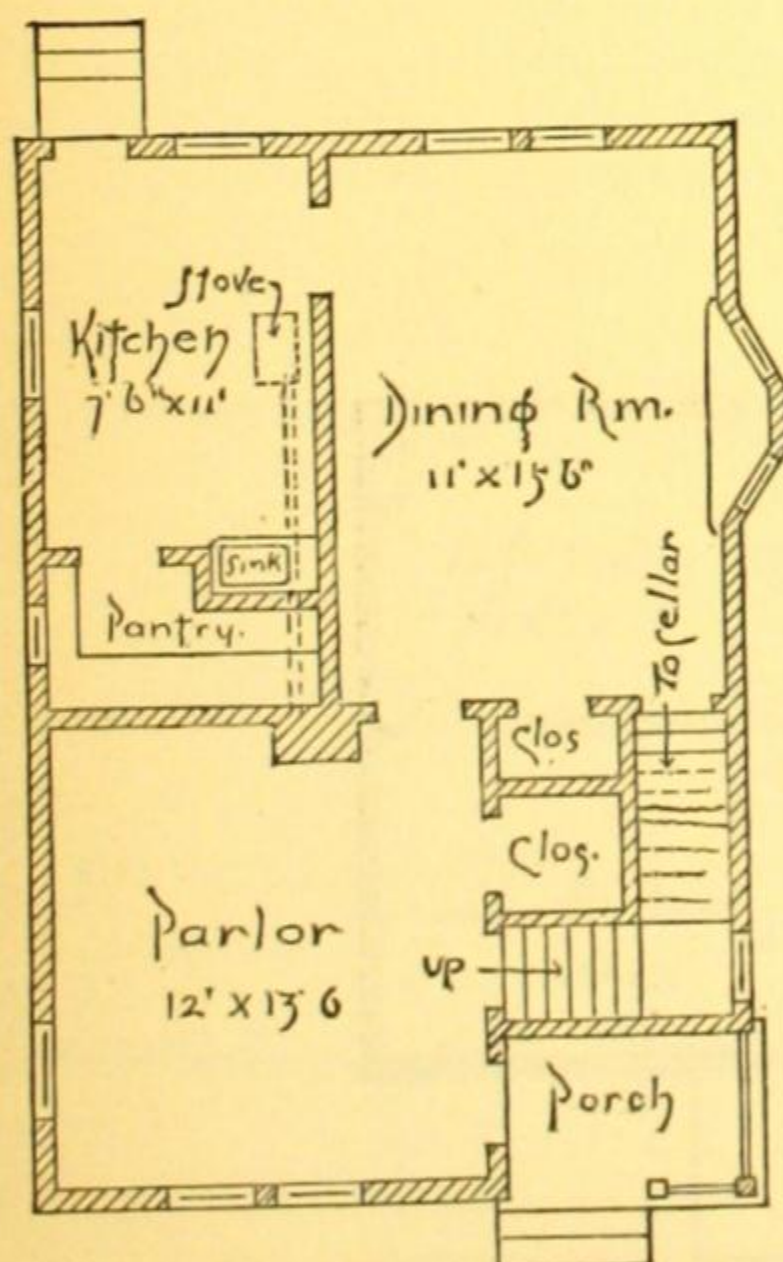
The second story gives three good bed-rooms entered separately from the hall; each room has a closet, the front room having an additional one over the stairway, 3 ft. above the floor.

There is space above the second story ceiling for storage.

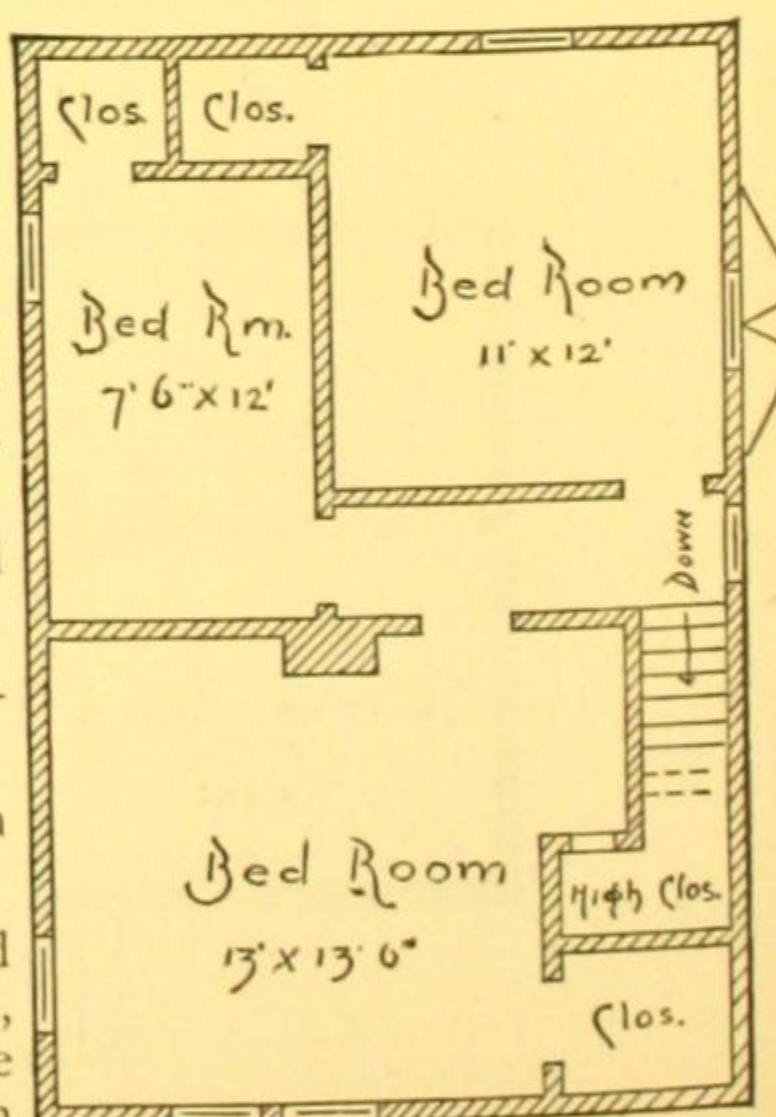
The chimney is centrally located, and contains three flues.

Cellar under the front portion of the house.

Our specifications for this, and in fact for all our frame houses, call for the entire frame to be covered with building paper, which insures a warm house.



FIRST FLOOR. NO. 319

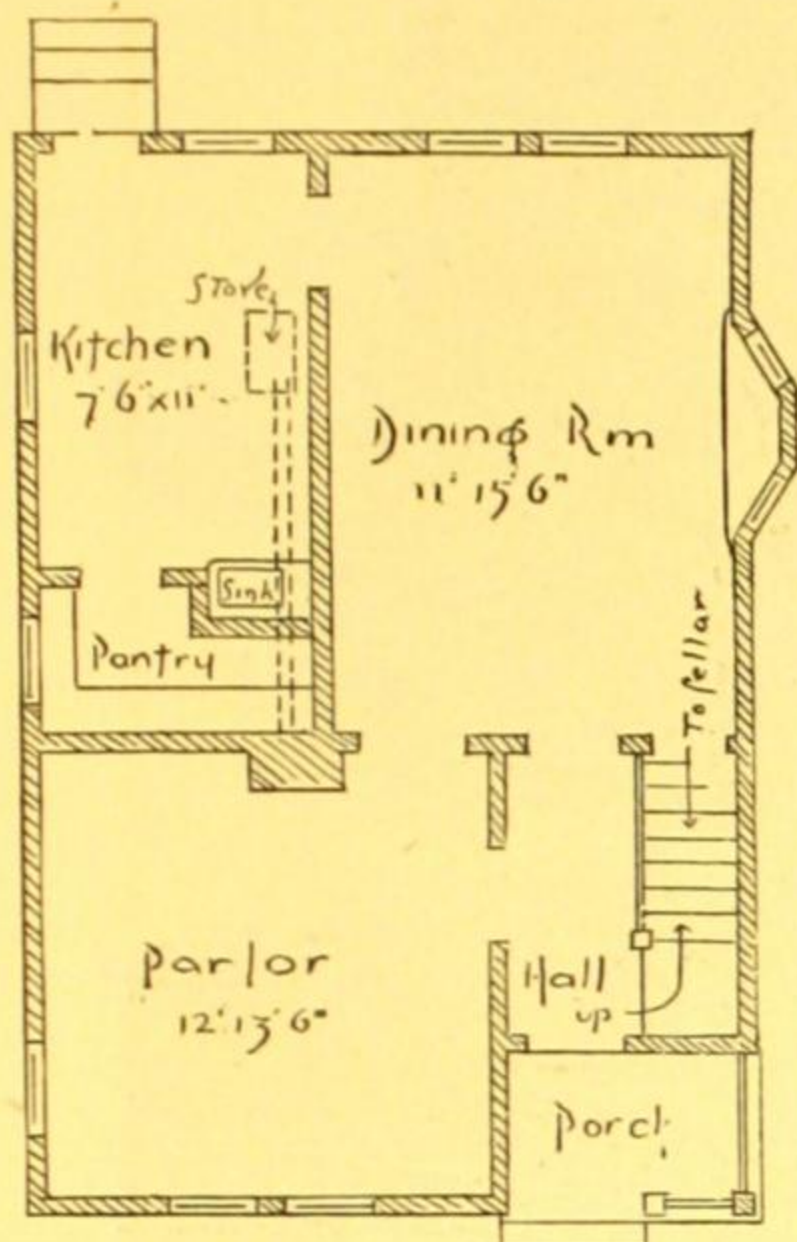


SECOND FLOOR. NO. 319

DESCRIPTION OF DESIGN NUMBER 320

COST : \$1,000, complete.

The general appearance and size of this house are the same as the preceding design. Instead, however, of entering directly into the parlor, there is an entrance hall and an open stairway of very pretty design. This arrangement does away with some closet room, but will be preferred by some.



FIRST FLOOR. NO. 320

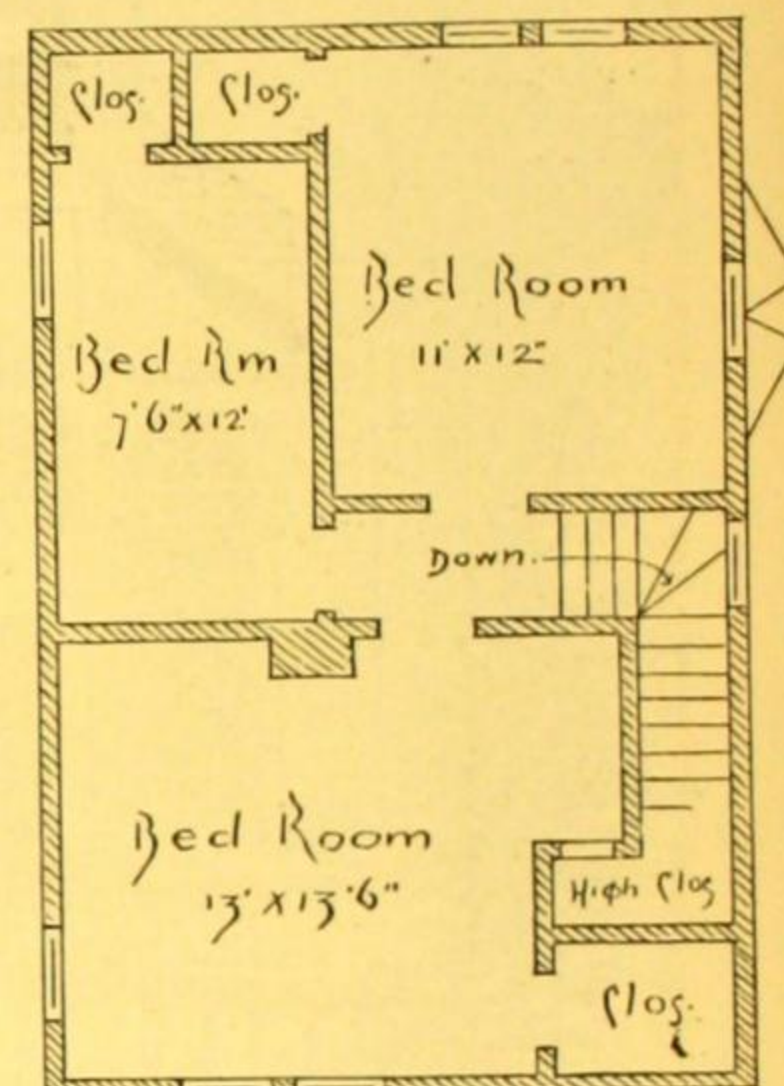
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



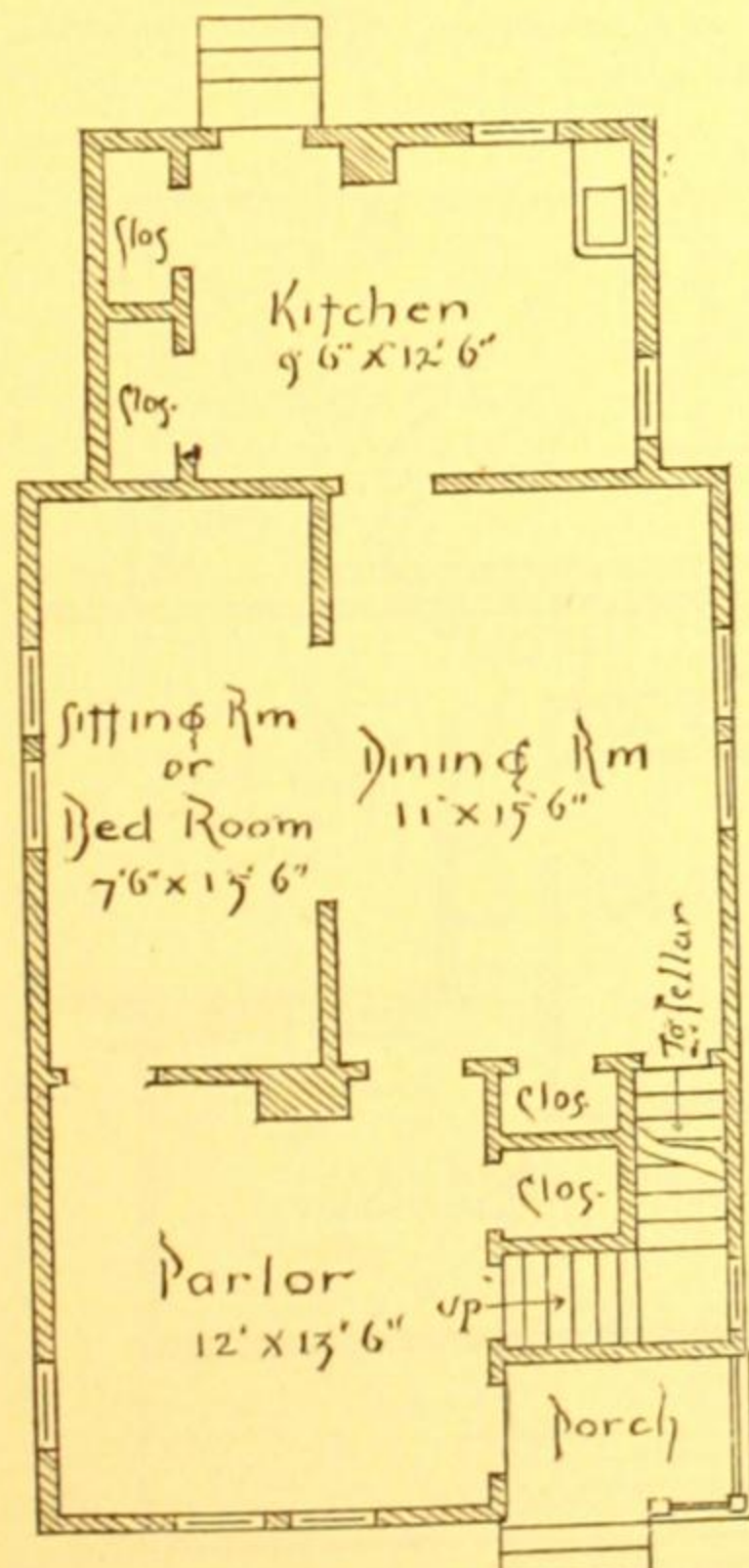
SECOND FLOOR. NO. 320

DESCRIPTION OF DESIGN NUMBER 321

COST : \$1,200, complete.

Size of house, general appearance and arrangement are same as design No. 319. A kitchen extension 10 ft. by 16 ft. is added, giving a sitting or sewing-room or bed-room on first floor.

Cellar under the front portion of the house.



FIRST FLOOR. NO. 321

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

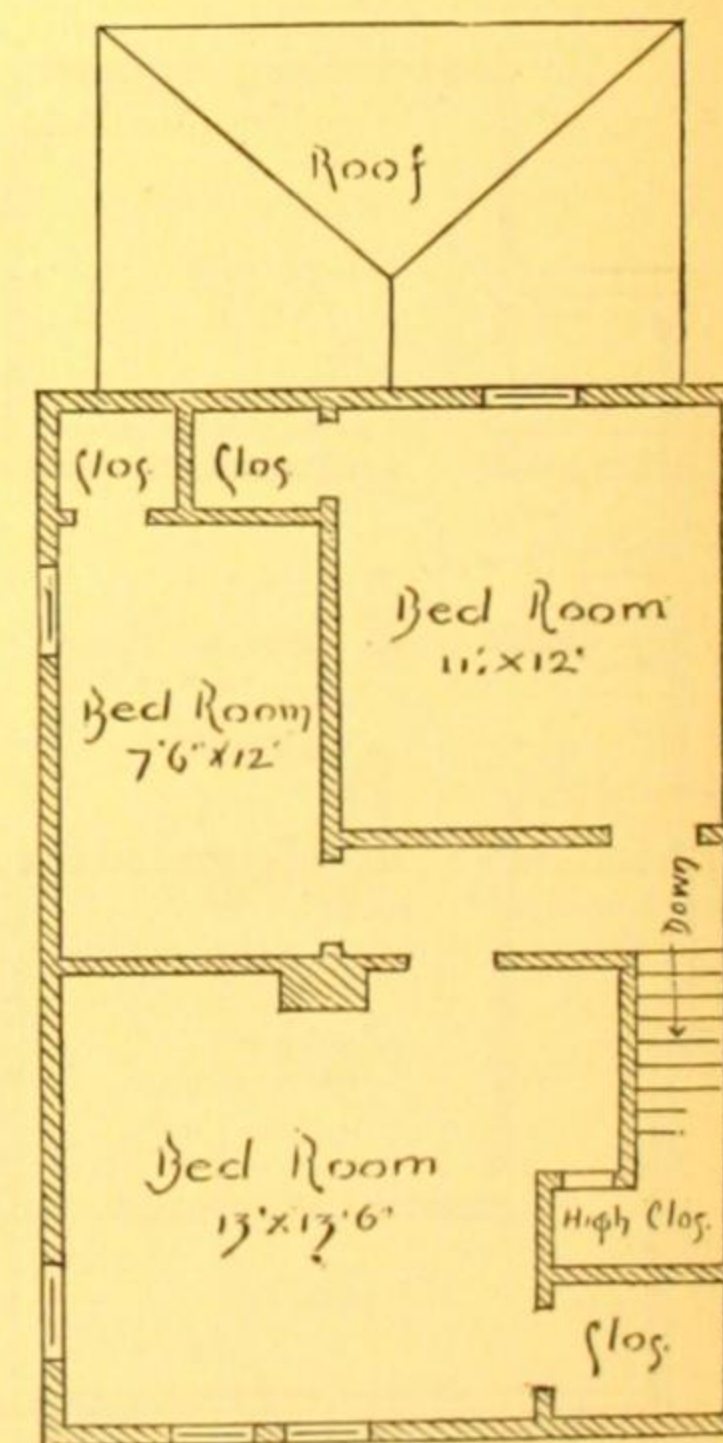
The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

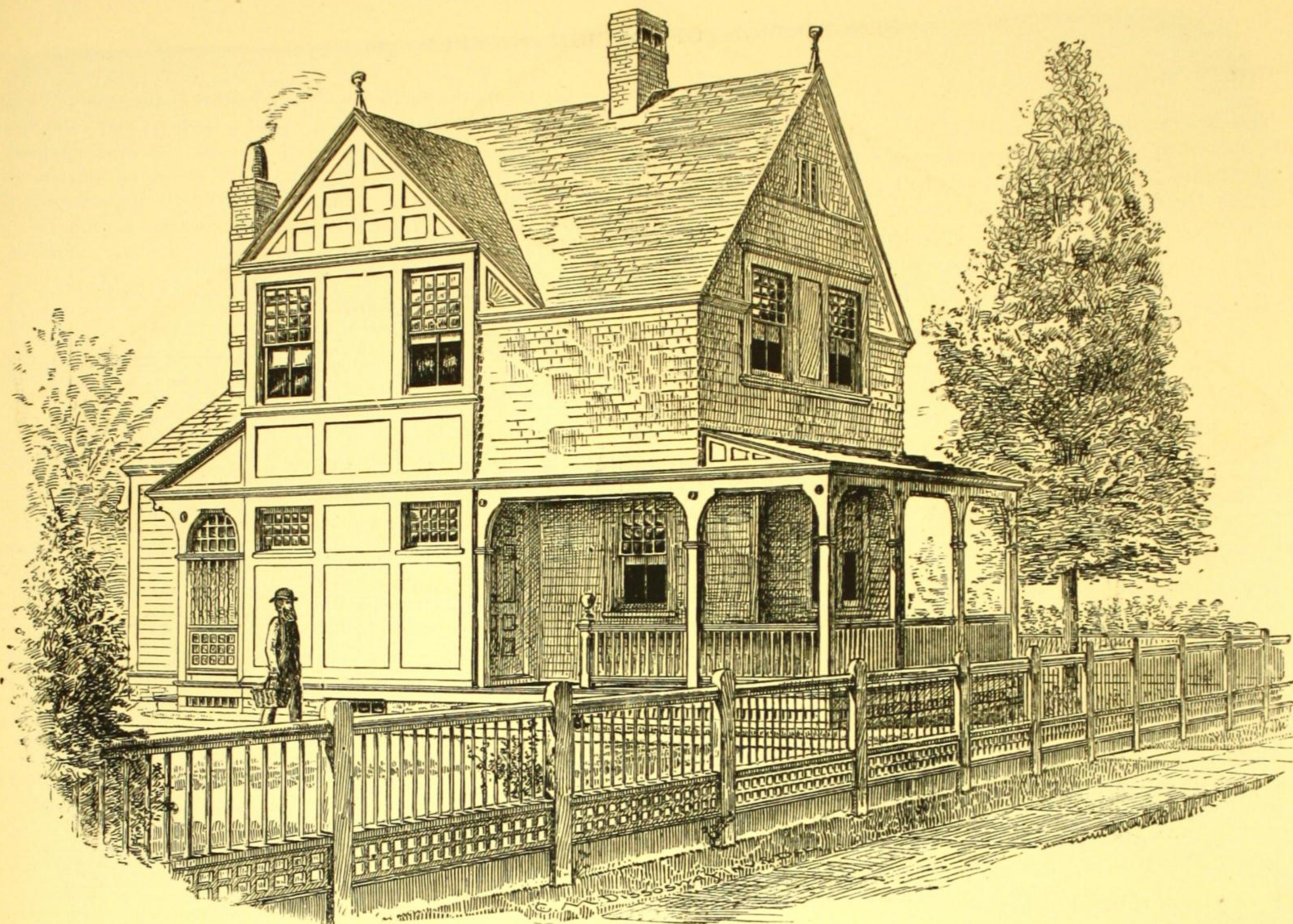
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

In this house, if a large dining-room is preferred in place of the two rooms shown on plans, the partition between sitting-room and dining-room can be done away with, making one room 15 ft. 6 in. by 19 ft.

If the building were set on posts and the cellar omitted it could be built for \$100 less than the estimate given above.



SECOND FLOOR. NO. 321



DESIGN No. 322. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 322

SIZE OF STRUCTURE: Front, 21 ft., 6 in., extreme width, 25 ft.
Side, 24 ft., 9 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards, Second Story, shingles; Roof shingles.

COST: \$1,500, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern

houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A compact arrangement of rooms.

Ample piazza.

All the rooms are of good size.

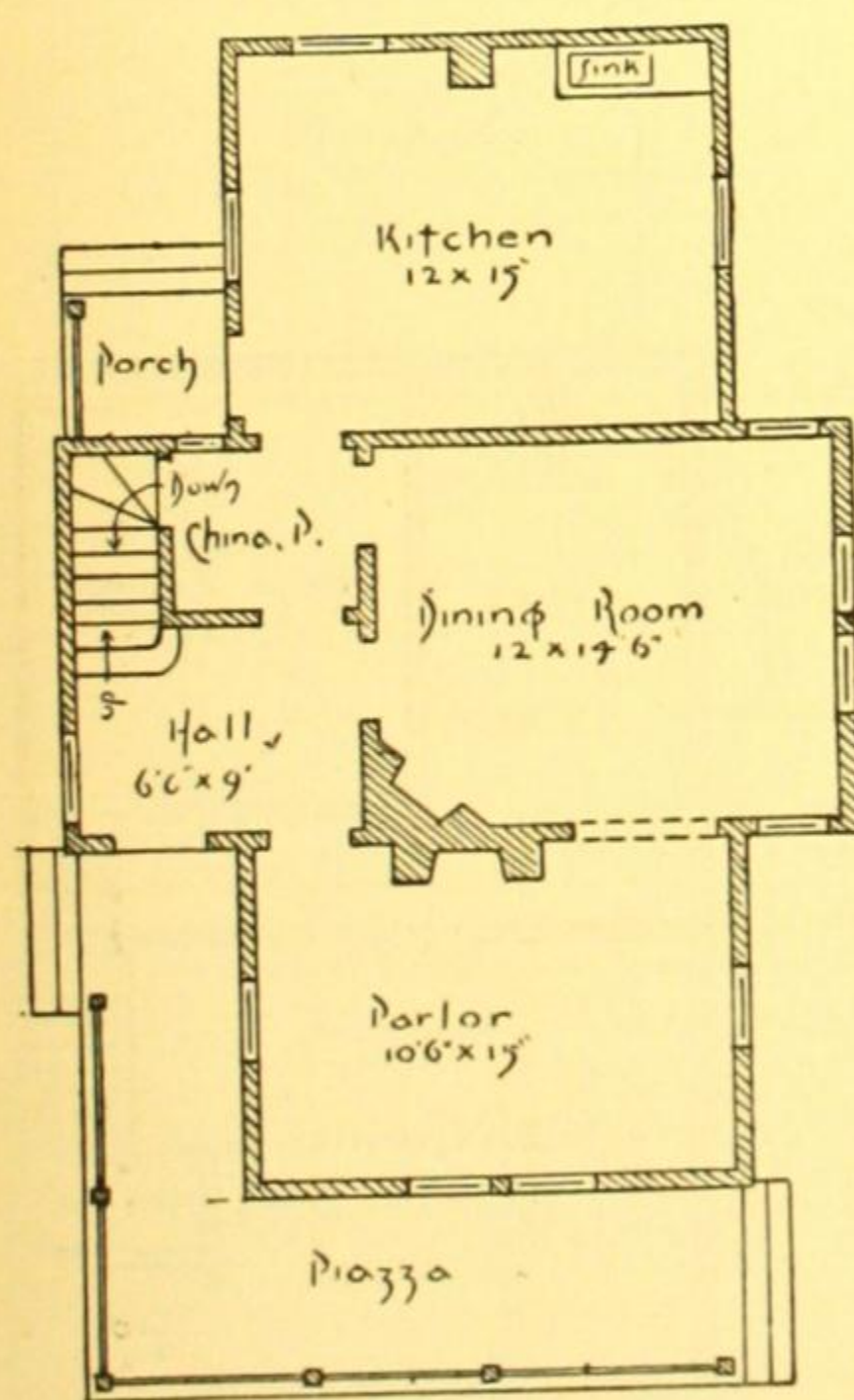
The parlor and dining-room connected by a large opening, where a curtain should hang.

Fire-place in parlor and dining-room, with pretty wood mantels of appropriate design.

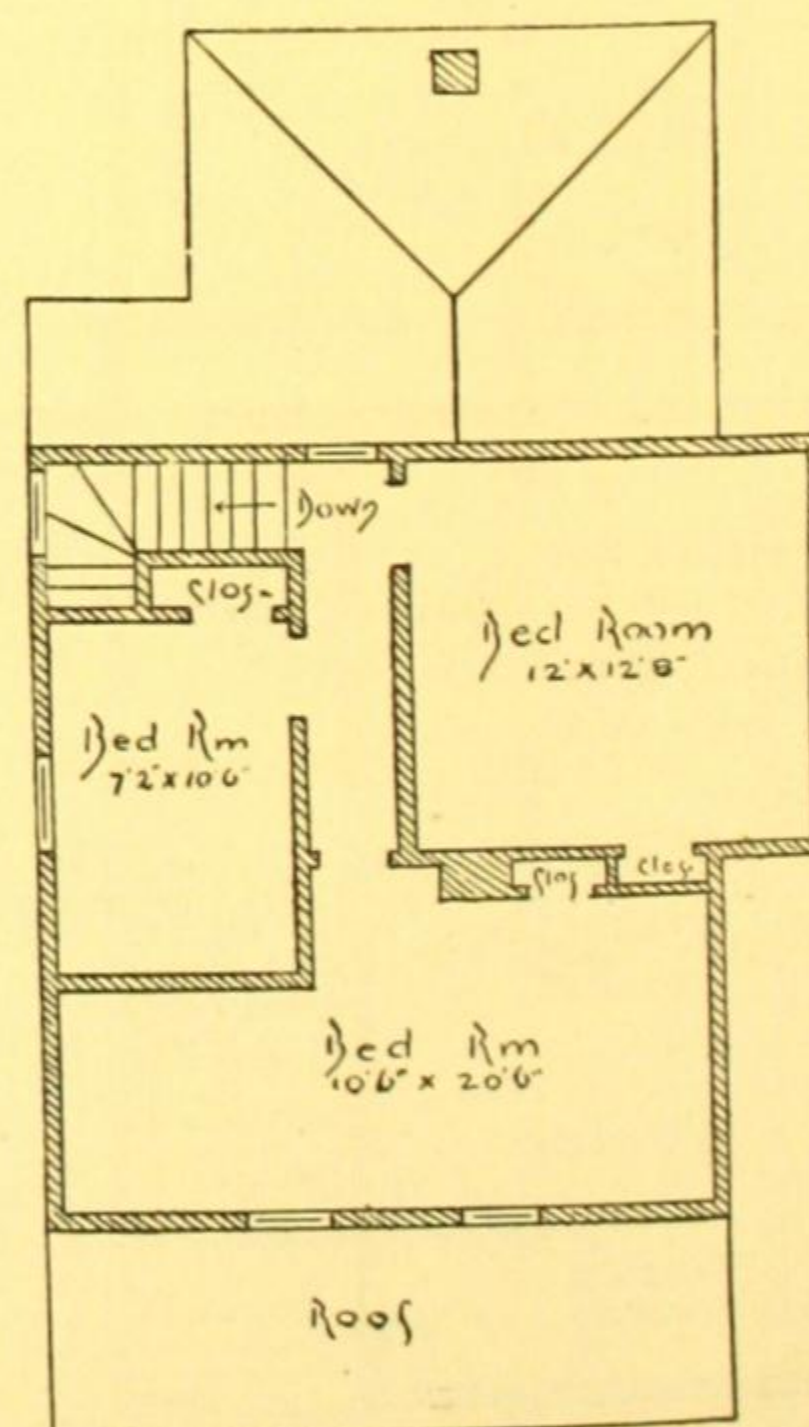
Three good rooms in the second story.

Cellar under the hall and dining-room.

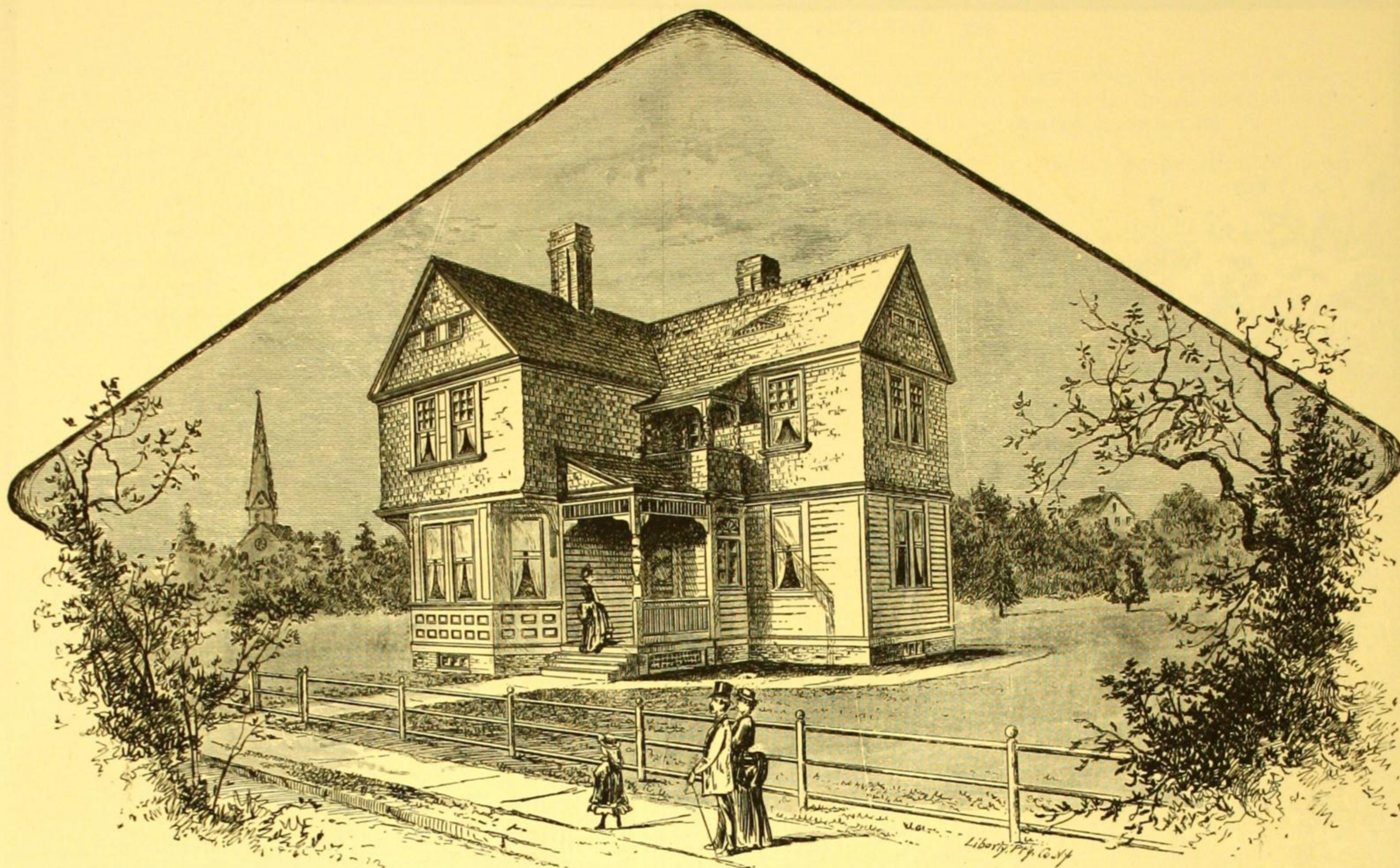
An excellent design for a sea-side, lakeside or mountain cottage; the arrangement of rooms and the large window and door openings insure a good circulation of air.



FIRST FLOOR. NO. 322



SECOND FLOOR. NO. 322



DESIGN No. 323. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 323

SIZE OF STRUCTURE: Front, 32 ft. Side, 44 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,700, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in

our Working Drawings, and careful directions for their execution are given in our Specifications.

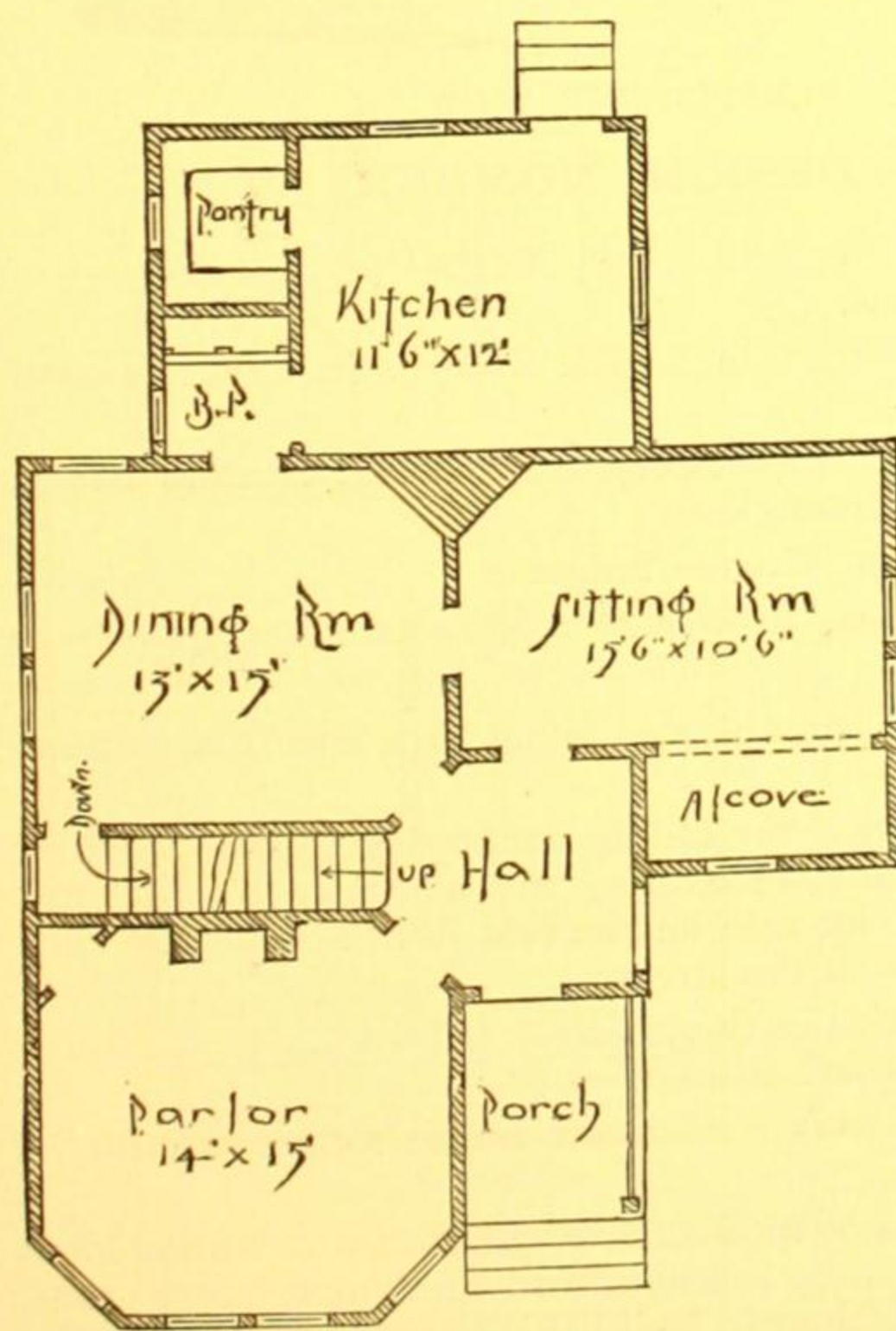
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Plenty of rooms and most of them good size.

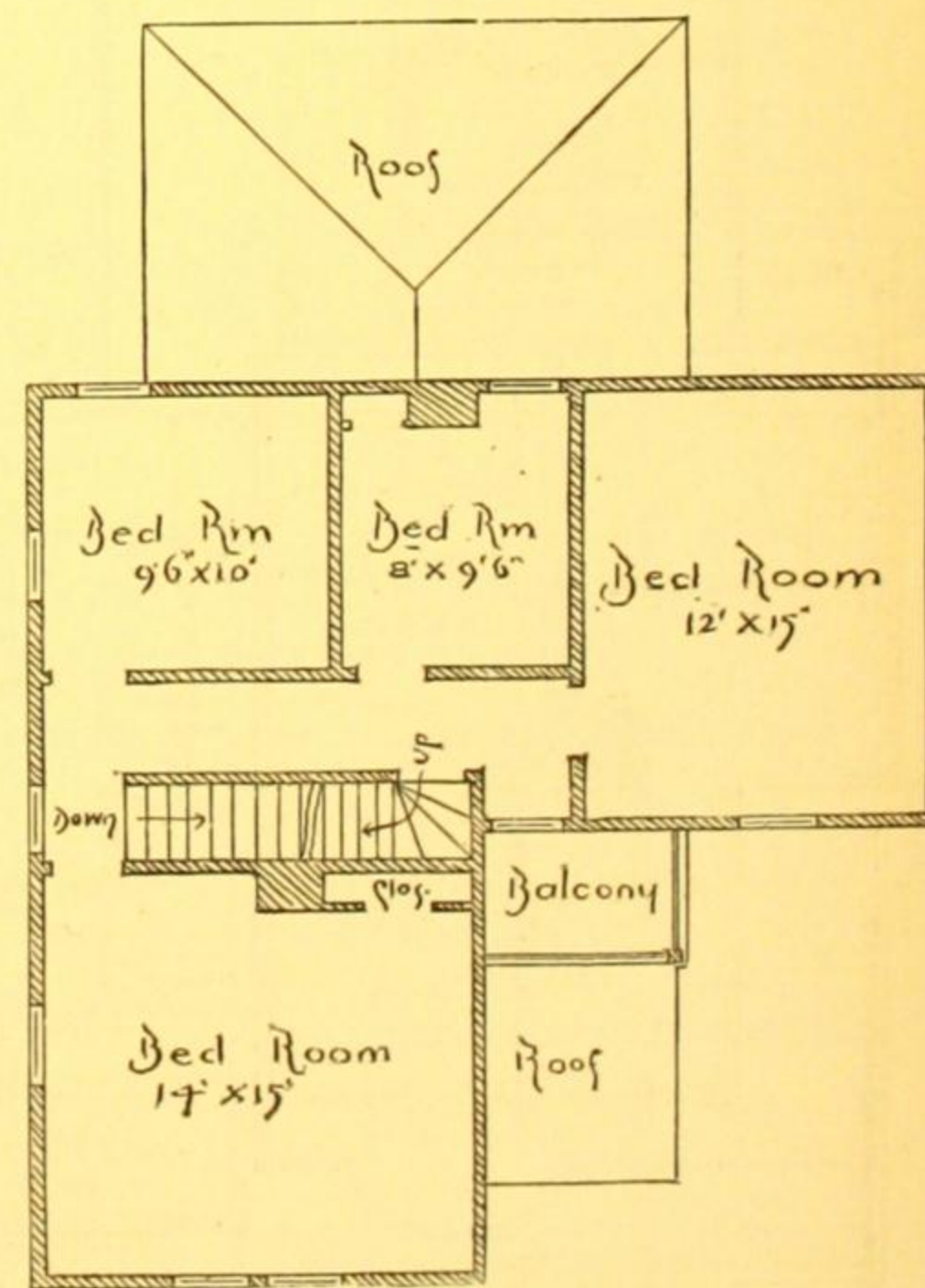
An excellent seaside house by adding more veranda.

Brick walls under the whole house with cellar under the dining-room. Large cellars are not necessary in these days; with a wall under the house it is just as warm, dry and healthful as if the whole were excavated. Large cellars are costly if they are well built. An illy-built one is of little use and a positive source of danger. Of course there are certain kinds and conditions of soil which make it desirable to excavate under the whole house, but ordinarily where there is a good dry top soil a large excavation is neither necessary nor desirable.

There are four bedrooms on second floor. The smaller one in the rear can be made a bath-room, with tub and water-closet for an additional \$200.



FIRST FLOOR. NO. 323



SECOND FLOOR. NO. 323



DESIGN No. 324. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 324

SIZE OF STRUCTURE: Front, 21 ft., 6 in. Side, 45 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES; Cellar, 6 ft., 6 in.; First Story, 9 ft., 2 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, panelled; Roof, shingles.

COST: \$2,200, complete, except kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

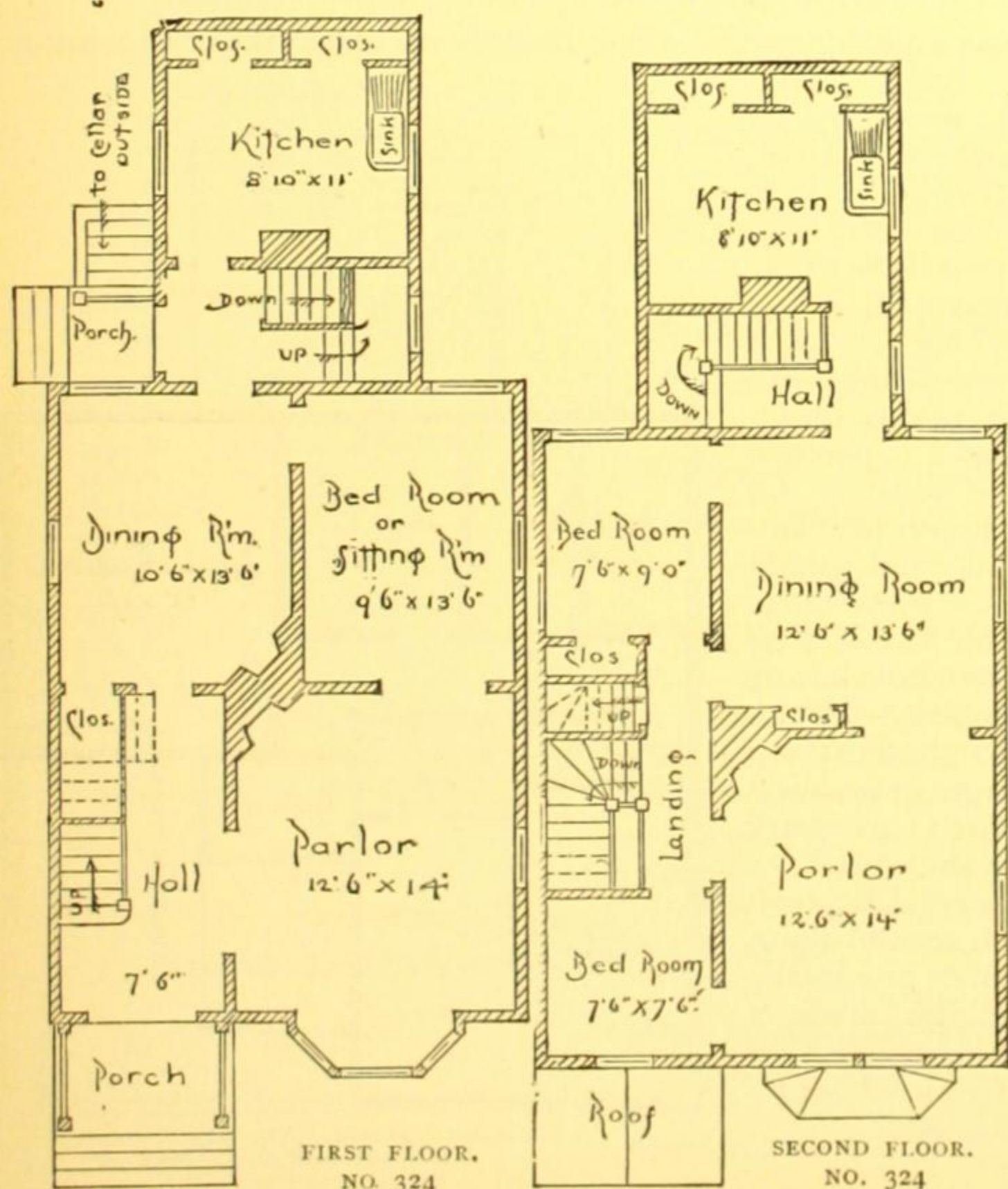
SPECIAL FEATURES.—Designed for a city or village lot, and to accommodate two small families.

By using the rear hall and stairway, the family occupying the second floor can reach the cellar and the yard, and thence along the alleyway by the side of the house to the street, and not intrude on the first floor at all. Or they can descend into the front hall to reach the street.

There is one bed-room of fair size in the attic (10 ft., 6 in. x 11 ft., 6 in.), also a bath-room and water-closet, beside storage-room.

Two small families would find this a pleasant house to live in, and inexpensive to build.

It is quite suggestive to the man of moderate or small means who is looking for a good investment. If his family is small, and he is now paying rent, what better investment can he make than to build this house, which provides a home rent free, and insures an income at the same time?



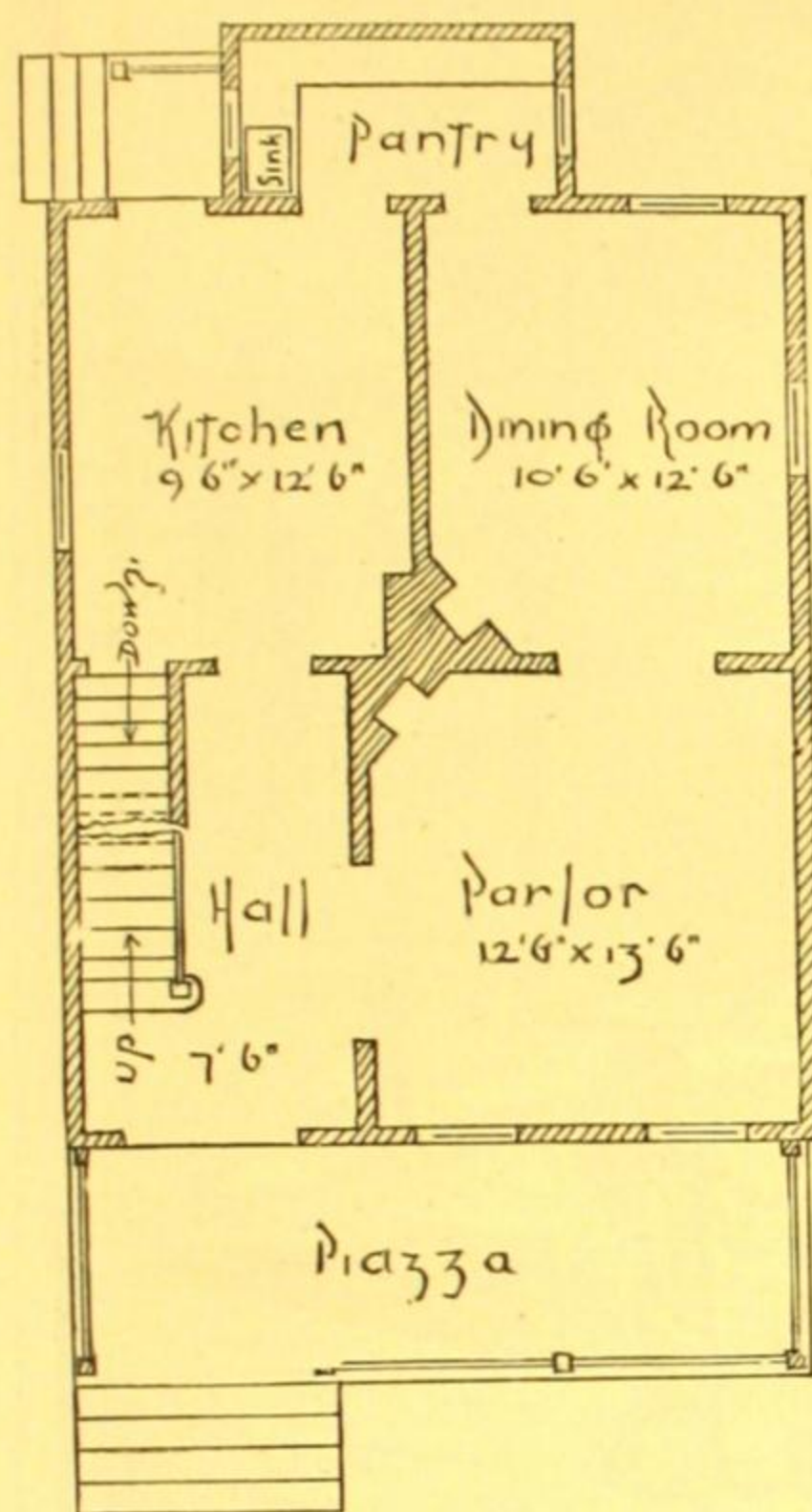
DESCRIPTION OF DESIGN NUMBER 325

SIZE OF STRUCTURE: Front 21 ft., 6 in. Side, 27 ft., extreme depth, 38 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 8 in.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards, front shingled; Roof, shingles.



FIRST FLOOR. NO. 325

COST: \$1,600, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

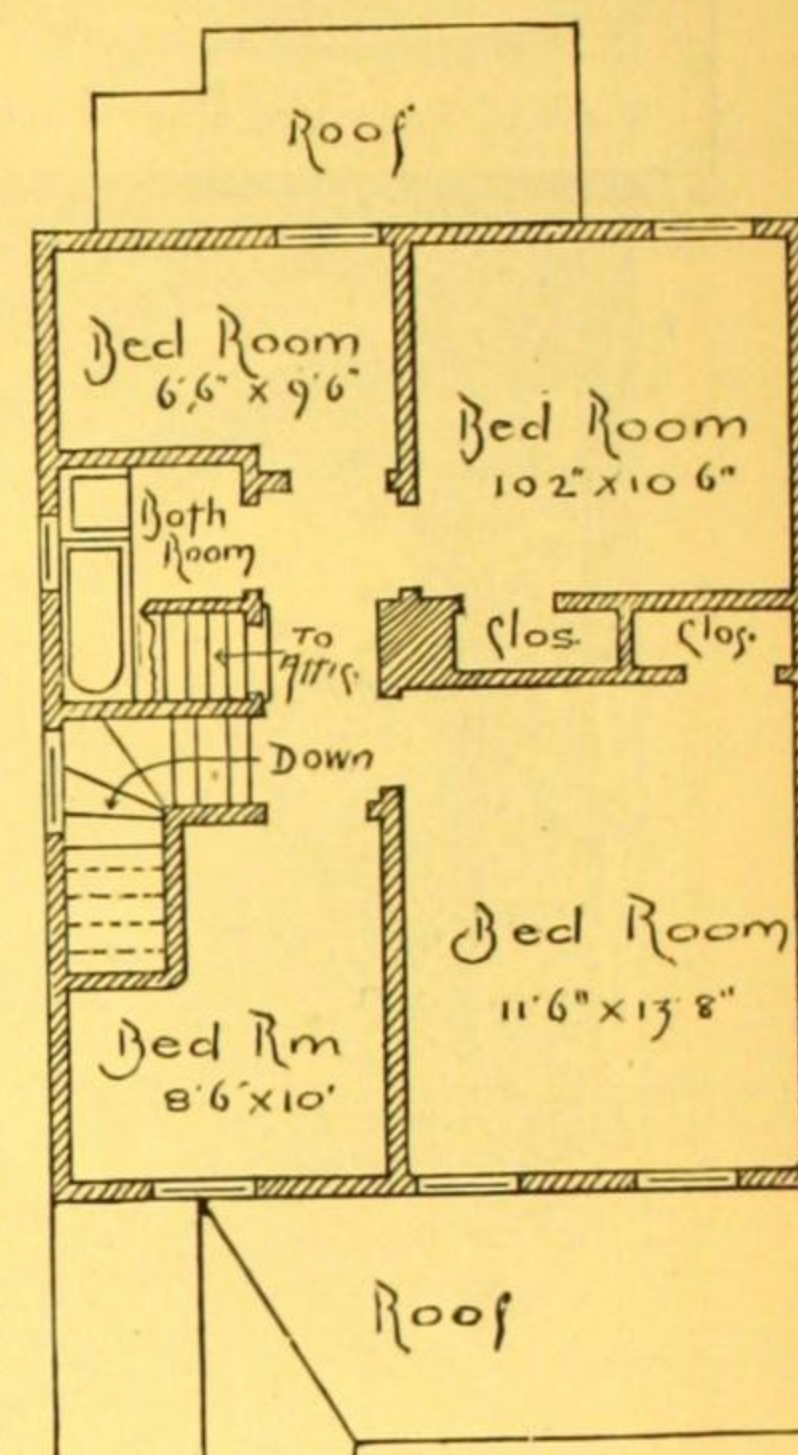
SPECIAL FEATURES.—This is a modification of the preceding design.

The front gable is panelled, and the second story front shingled down to the veranda roof.

Cellar under the whole house, with a stairway to same from the kitchen, and an entrance from the outside.

Bath-room and four bed-rooms in the second story. Two bed-rooms can be finished in the attic if required, but this is not included in our estimate.

This plan is a very popular one, and has been built many times from our plans, that is, the same general arrangement of rooms, larger or smaller or modified, as it can be in many ways. It has always proved more than satisfactory. Where the size of the plot of ground admits, it is better to build the stairway projection as shown in the plans of Number 326.



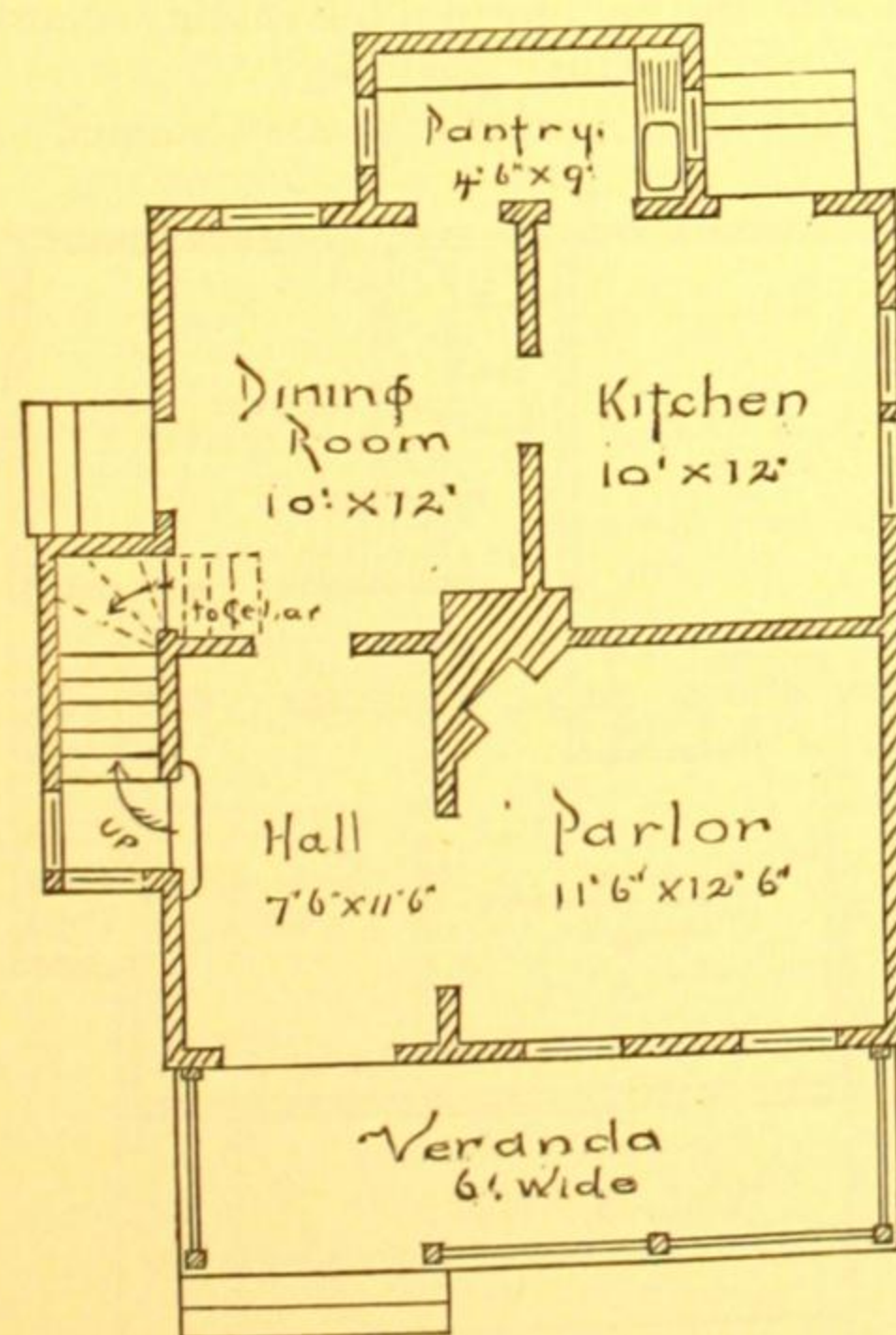
SECOND FLOOR. NO. 325

DESCRIPTION OF DESIGN NUMBER 326

SIZE OF STRUCTURE: Front, 21 ft., 6 in.; width, including staircase extension, 25 ft. Side, 30 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 8 in.; Second Story, 8 ft.



FIRST FLOOR. NO. 326

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards; front above veranda roof is shingled; Roof, shingles.

COST: \$1,600, complete, except kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim,

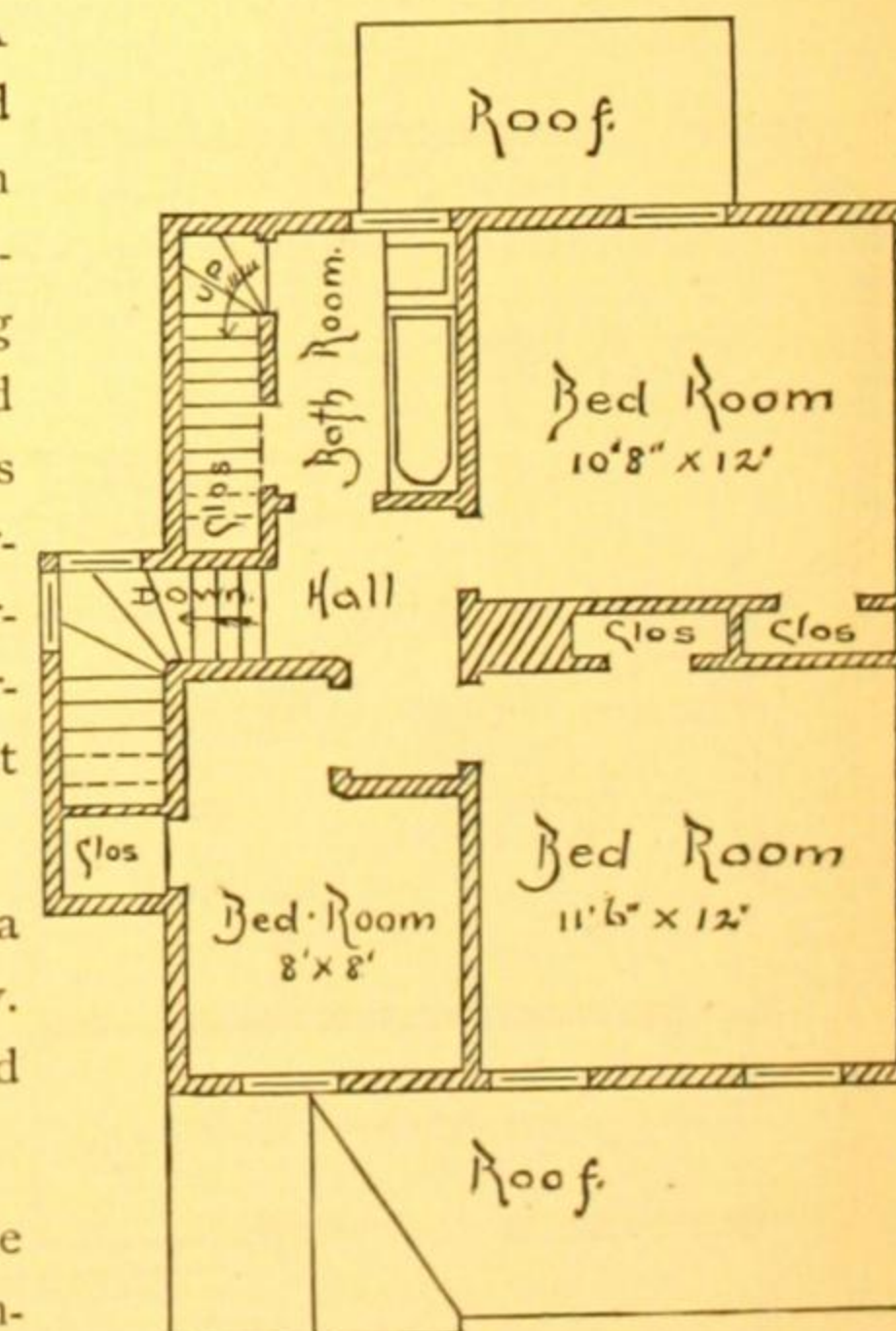
Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

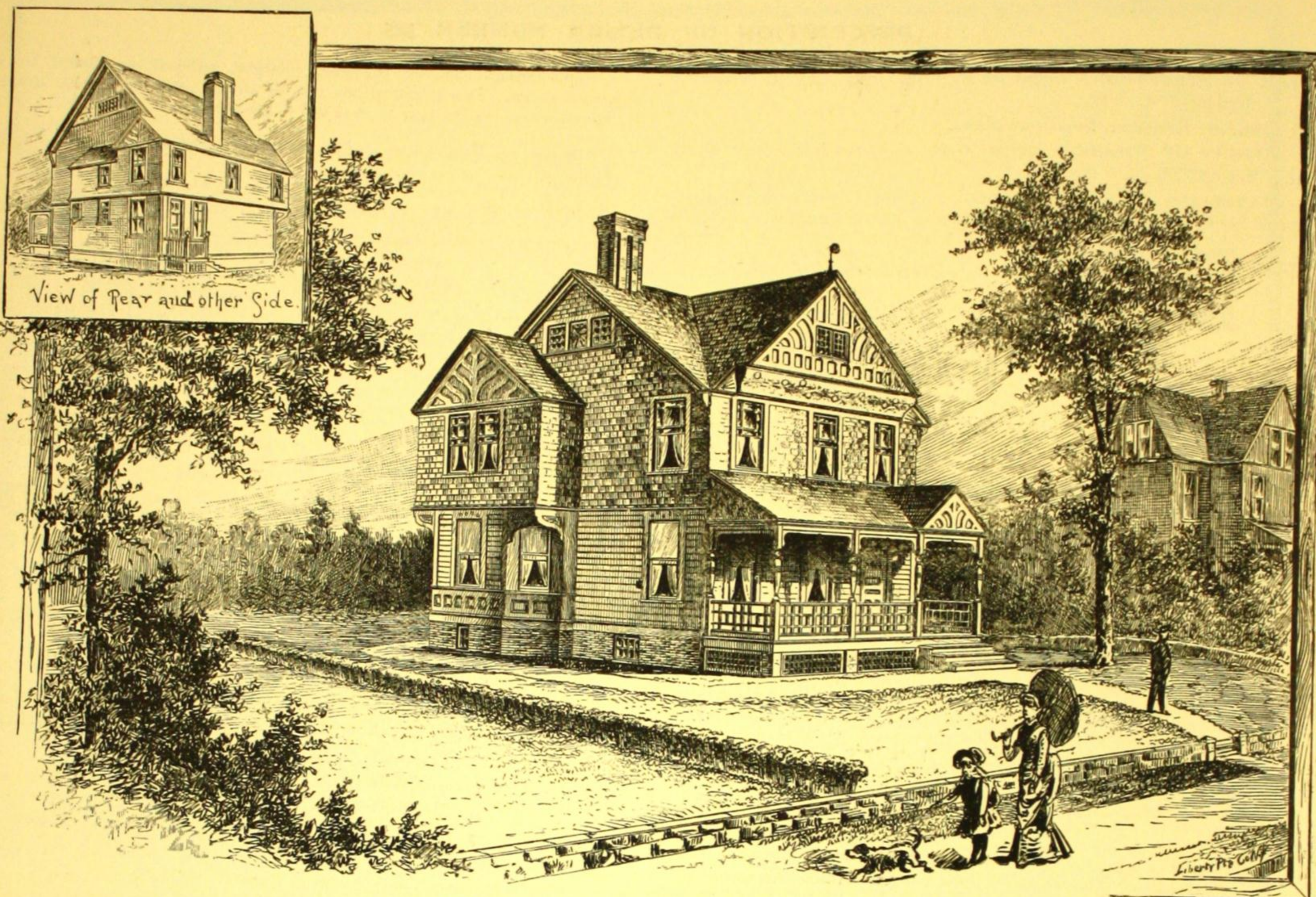
SPECIAL FEATURES.—A small but complete and compact house, similar in appearance to Design Number 324 on the preceding page. The veranda is carried across the front. The walls are shingled above the veranda roof, and it has a stairway projection. Its appearance is not so plain as that of Number 324.

Three bed-rooms and a bath-room in second story. Two rooms can be finished in the attic if desired.

Cellar under the whole house; inside and outside entrance to same.



SECOND FLOOR. NO. 326



DESIGN No. 327. PERSPECTIVE VIEW

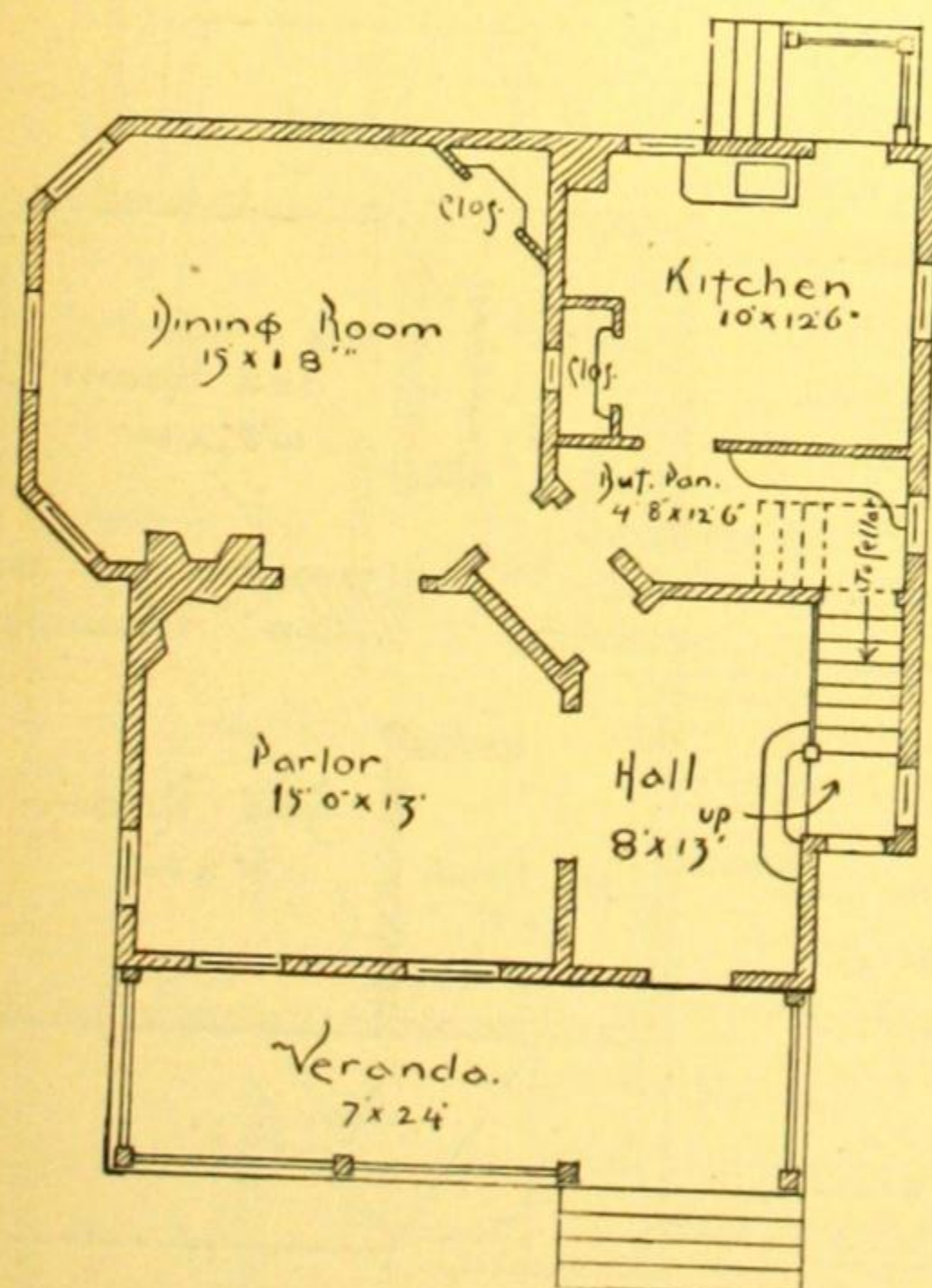
DESCRIPTION OF DESIGN NUMBER 327

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; extreme width, 32 ft. Side, 29 ft., 6 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 3 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.



FIRST FLOOR. NO. 327

COST: \$2,200, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The views given above show the true appearance of the Model House when properly put together, or when actually constructed; the large view showing the front and left hand side, and the small view the rear and the right hand side. Detailed directions for putting the Model together are given on the next page.

This is a very popular house, and deservedly so. It combines a most

convenient arrangement of rooms with a very attractive exterior, and is built at a moderate cost.

The large butler's pantry, well lighted, effectively separates the kitchen, and kitchen odors, from the rest of the house.

The dining-room is so large that it makes a fine sitting-room as well. A small opening between this room and the kitchen closet, with a sliding door, makes it easy to pass dishes through, and economizes steps and time.

The parlor is connected with the hall by double folding doors, and with the dining-room by a wide portiere opening.

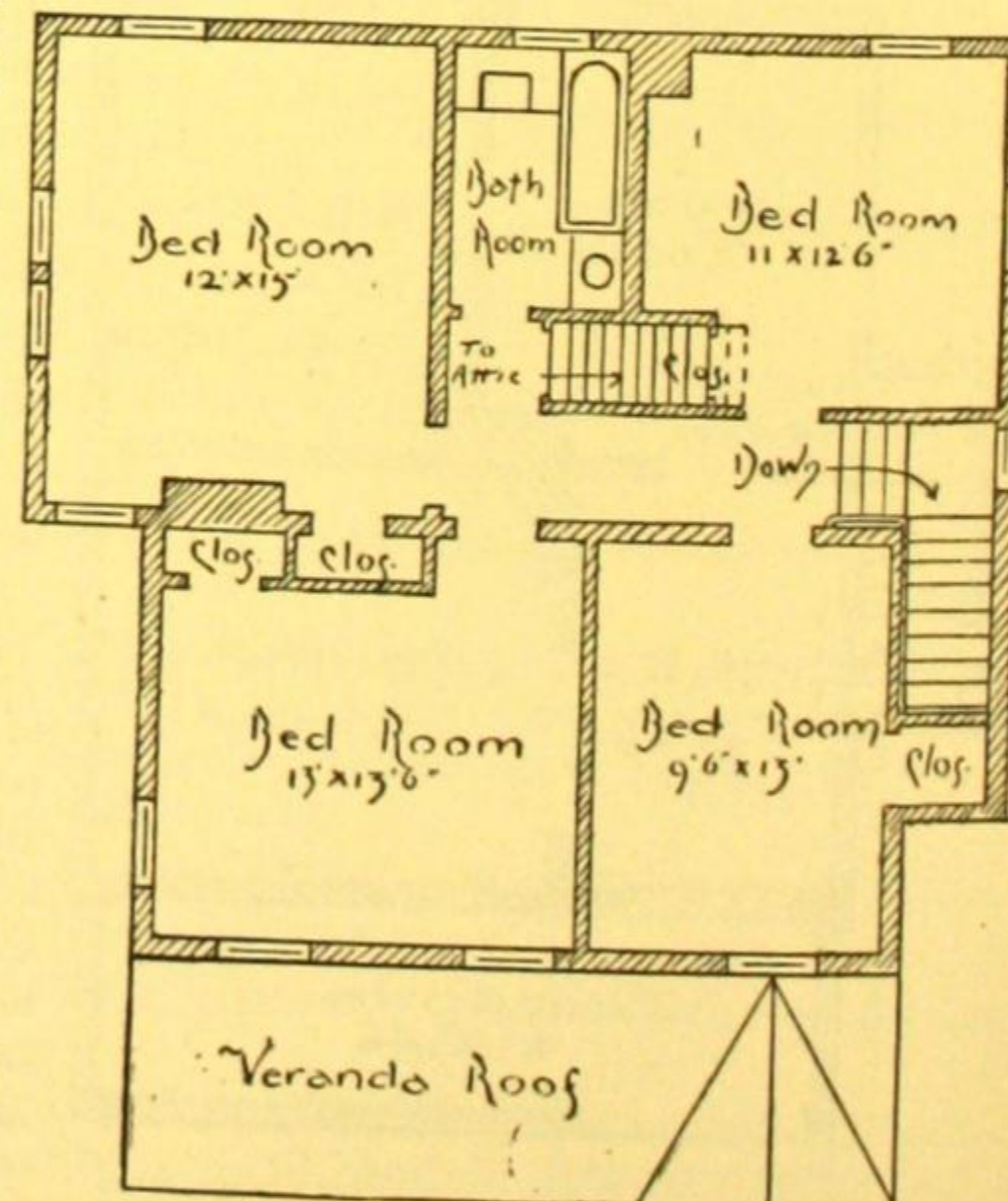
Four large bed-rooms, a bath-room, and closets are obtained on the second floor, and two good rooms can be finished in the attic if desired.

Cellar under the hall and parlor.

The veranda is 7 ft. wide.

The house can be heated by a fire-place heater in the parlor or dining-room. Or the space under the dining-room and kitchen can be excavated and a furnace put in, at an additional expense of about \$225.

The water pipes are protected against freezing by carrying them by the side of the kitchen chimney.



SECOND FLOOR. NO. 327

A PAPER MODEL OF DESIGN NUMBER 327

DIRECTIONS FOR PUTTING IT TOGETHER

As a supplement to this number of Shoppell's Modern Houses we present a sheet of colored diagrams, so arranged and drawn as to be readily put together to form an accurate miniature model of Design Number 327. We select this particular cottage to illustrate in this way because it is one of our most popular designs; being of a moderate cost, it is within the reach of many to build.

At the first glance the diagrams may appear intricate, but by commencing at No. 1 of the directions found below and by following them carefully in detail, the operation will be found to be simplicity itself, a child of eight years of age being fully competent, with ordinary care, to construct it.

This model will be found of value to the architect and draughtsman as well as to the intending builder, who, in a few hours can realize, in a most interesting and instructive manner, the appearance and proportions of a complete and perfect building.

Of course like everything else that is worth doing at all, it is worth doing well.

The plans are accurately drawn on a scale of 3-16 of an inch to the foot. Each piece will be found to be a perfect fit if carefully adjusted according to directions.

The first requirement is a perfectly firm and level base. To secure this cut out the ground plan and paste or gum it carefully on a block of wood of the proper size, or on thick pasteboard. The wood is preferable, as it overcomes all tendency to warping.

Use a sharp pointed knife to score the pieces on the dotted lines, being careful to pass the point as nearly through the centre of the dotted line as possible. Do not cut too deep, merely enough so that on bending the paper it will make a sharp, clean angle. This should be tried first on a margin of the paper. After scoring all the dotted lines of a piece (using a straight-edge or ruler), bend all the portions so scored into perfect shape before attempting to gum them. This will give at once a clear idea of the form of the part and where and how it fits.

In some cases (for instance the base of the roofs), the colors run inside the dotted lines. This is simply to prevent raw edges of white appearing if roof pieces do not fit accurately. If proper care is used everything will fit accurately.

The gum should be as thick as possible—like pitch—so that the parts will adhere quickly and not warp. To secure this, get five cents worth of powdered gum-arabic at the nearest drug store and pour it into any bottle of common mucilage, stirring it thoroughly. This is necessary for rapid work and a satisfactory result.

The cornices may puzzle the beginner at first it is simply necessary, after scoring all the dotted lines of a piece, to bend the parts so scored one under the other until they are in this position, then gum the two upper horizontal surfaces together and hold them in position until they adhere firmly. The eaves of the gables of the main roof assume this form. All the moldings or cornices of a piece should be firmly gummed (making them take as little room as possible) before attaching the pieces in place.

In setting up the four walls of the main building and the walls of the projections care should be taken that they come accurately to the lines on the ground plan, as a poor beginning makes a worse ending.

Perspective views of the cottage as it appears when completed are shown on the opposite page.

The different parts go together in the following order:

- No. 1.—A. & B. Front and one Side Wall.
 " 1.—C. Side Wall.
 " 1.—D. Rear Wall.

NOTE.—It is better to attach these four walls together before fastening them to the ground plan; taking care to adjust the end of No. 1.—C and No. 1.—B marked "X" to the points on No. 1.—D marked "XX" as No. 1.—D projects beyond the others at both ends.

- No. 2.—A. Base of Projection (octagonal), on Wall No. 1.—B.
 " 2.—B. Piece forming brackets and base of upper portion of projection.
 " 2.—C. Walls of upper portion of projection (rectangular).
 " 2.—D. Portion of Roof of same with cornices.

NOTE.—Wherever cornices or moldings occur they should be bent and gummed in shape before attaching the piece of which they are a part, in its place.

- No. 3.—A. Walls of Projection on side No. 1.—C.
 " 3.—B. Piece forming cornice and base of Roof of same.
 " 3.—C. Piece forming cornice and base of Gable of same.
 " 3.—D. Part of Gable Roof. Put these together and then fasten in place.
 " 3.—E. Gable Piece.

NOTE.—Where brackets occur in this explanation the pieces enclosed by them are to be fastened together before attaching to building.

- No. 3.—F. Roof on lower portion of projection.
 " 3.—G. Gable end of same.

- No. 4.—A. Front and sides of Piazza.
 " 4.—B. Floor of Piazza.
 " 4.—C. Piece forming cornice and base of Roof.
 " 4.—D. Roof of Piazza.
 " 4.—E. Gable end of Roof.
 " 4.—F. Gable end of Roof.
 " 4.—G. Gable Roof over Entrance.
 " 4.—H. Gable Front over Entrance.

- No. 5.—Main Roof.

NOTE.—Care should be taken that all the cornices and moldings on this piece should be firmly and accurately fastened before putting it in place; and it should not be fastened in position till all the walls, piazza, &c., are firmly adjusted.

- No. 6.—A. Front Gable Roof.
 " 6.—B. Gable Piece showing ornaments at lower corners.
 " 6.—C. Front Gable Piece with ogee at bottom.

NOTE.—The curves of the ogee to be got with back of knife blade—curling the strip lightly, back and front until it comes to its place.

- " 6.—D. Brackets under eaves at corners.

- No. 7.—Front steps to Piazza.

NOTE.—The dotted lines on stairs marked "X" are to be slightly scored from back of paper so as to bend an opposite direction.

- No. 8.—A. Platform and steps at Rear Door.

- " 8.—B. Railing to same.

- No. 9.—A. Chimney on Rear of Roof.

- " 9.—B. Chimney on Ridge of Roof.

- " 10.—Ornament on Ridge of Front Gable.

 DESCRIPTION OF DESIGN
 NUMBER 328

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; extreme width, 32 ft. Side, 45 ft., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 3 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,600, complete, except mantels and kitchen range.

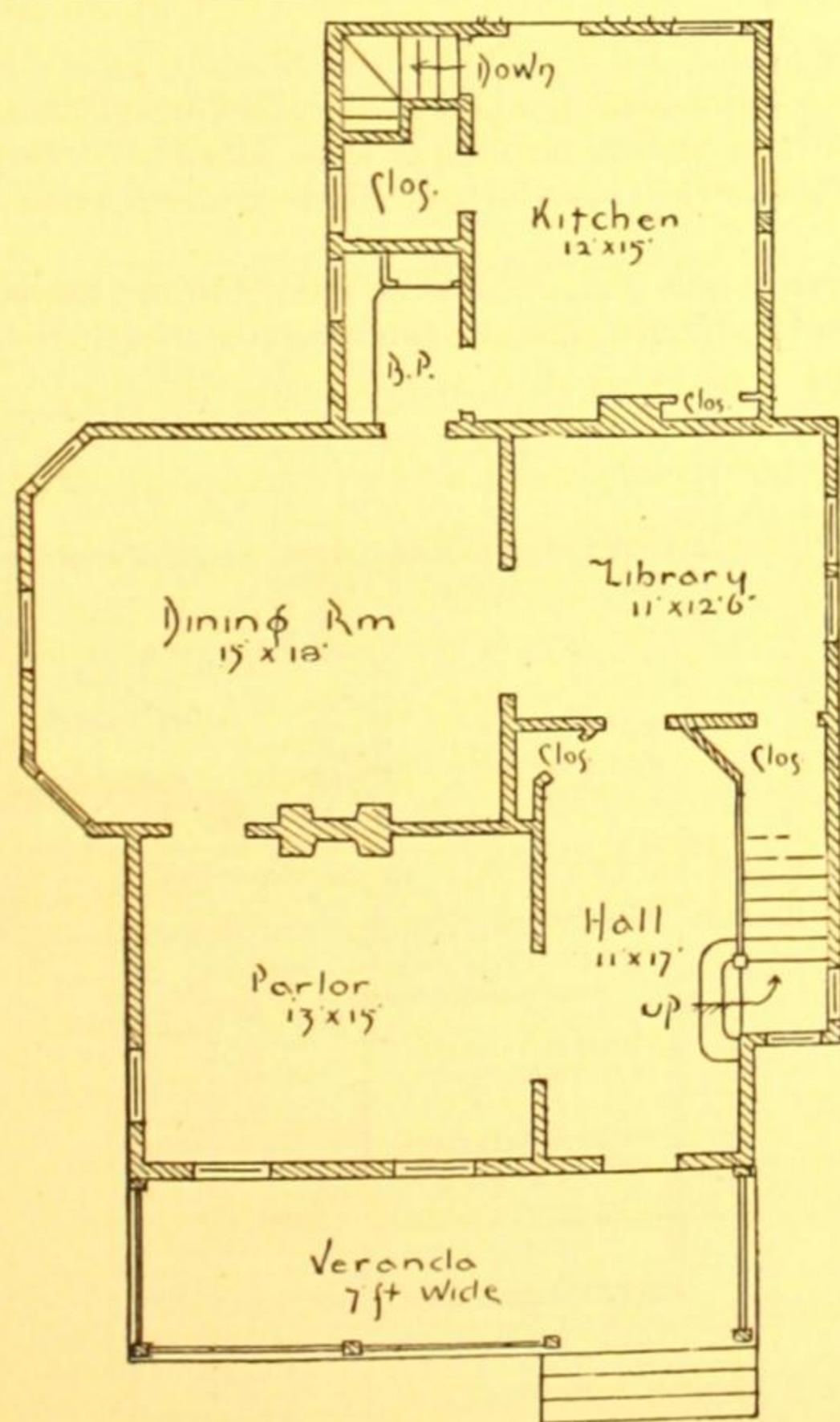
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

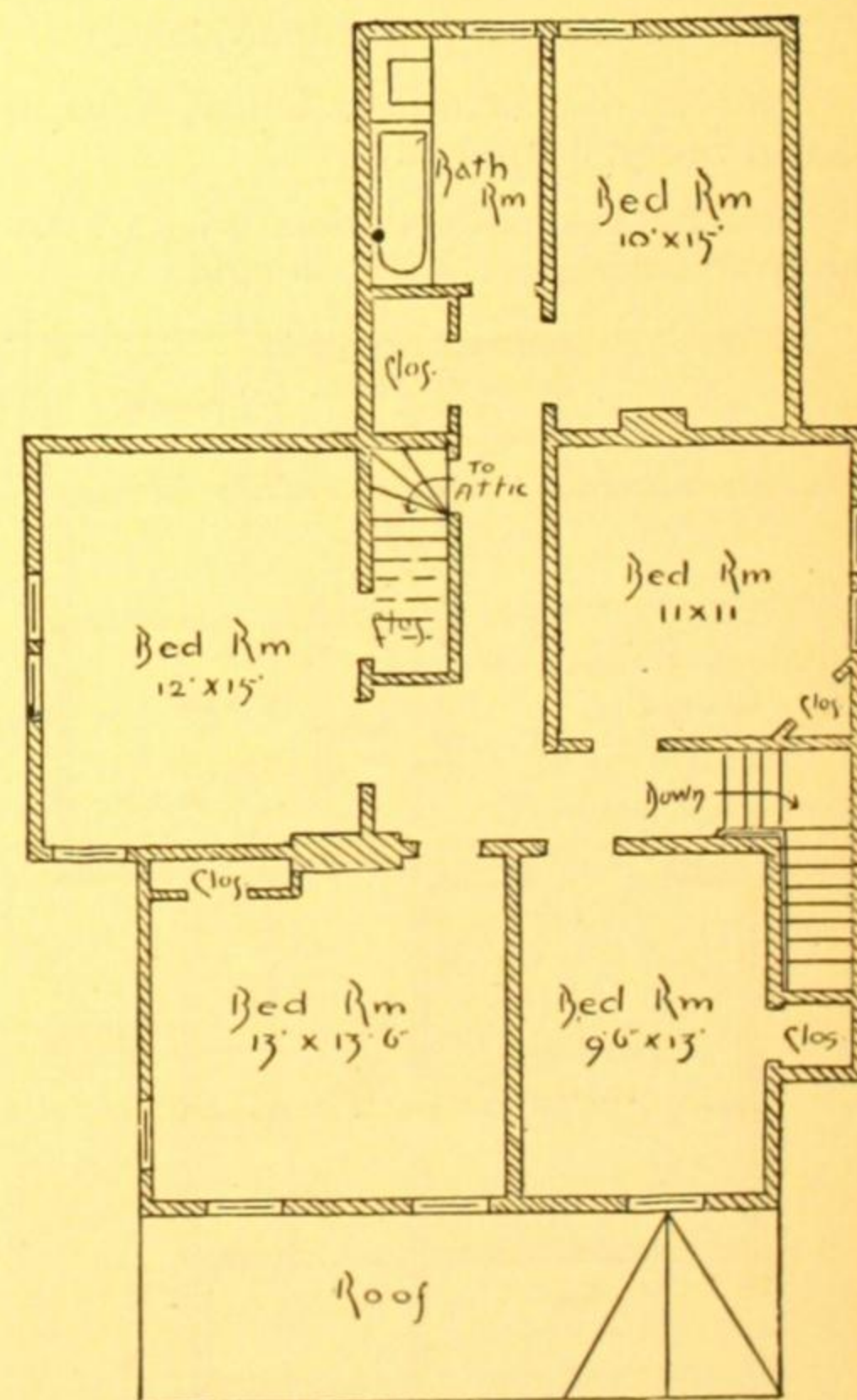
The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—A modification of the design shown on the opposite page.

An extension is added at the rear containing kitchen and pantries on the first floor, and a bath-room, bed-room and closet on the second floor.



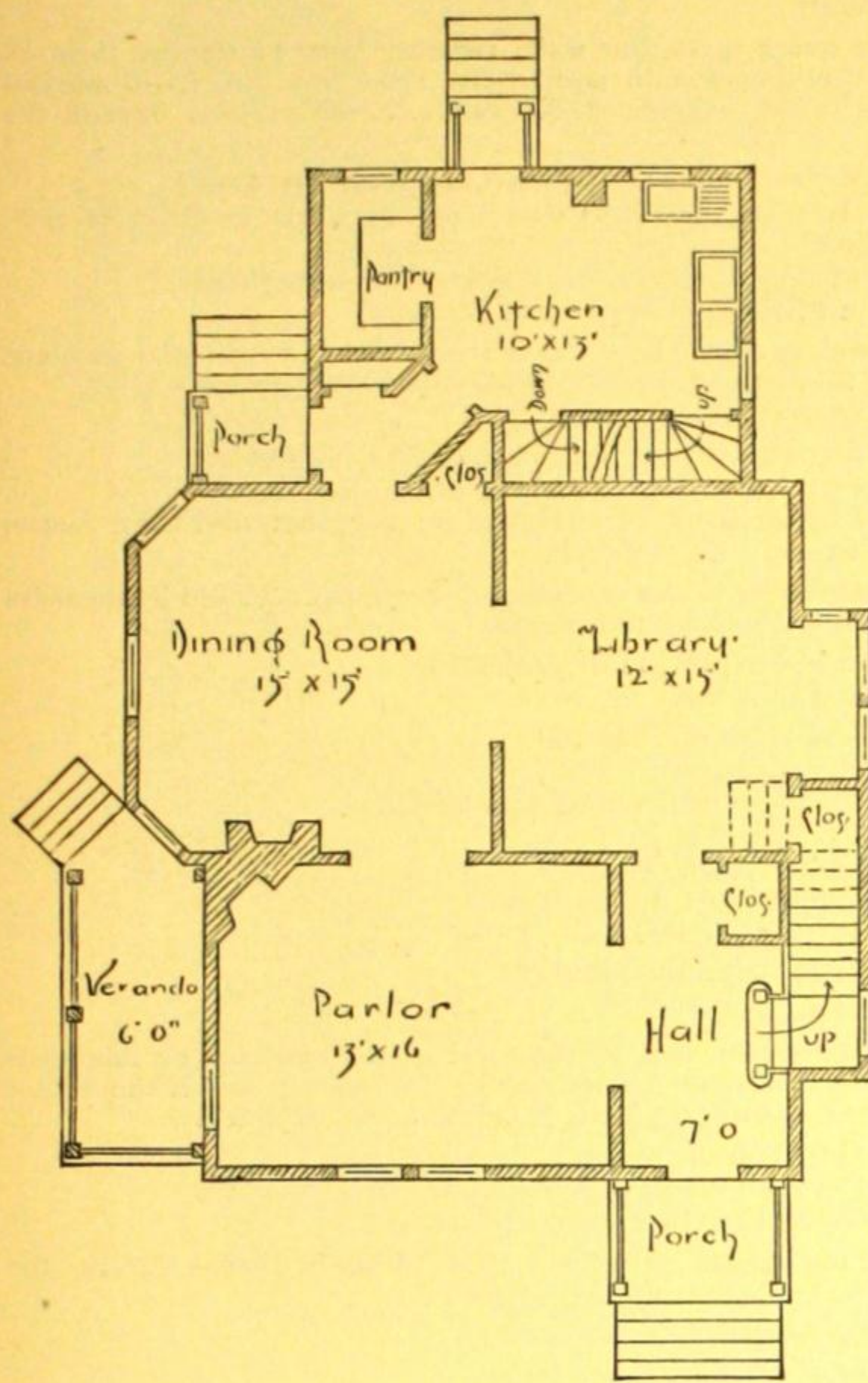
FIRST FLOOR, NO. 328



SECOND FLOOR, NO. 328

DESCRIPTION OF DESIGN NUMBER 329

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; width through dining-room and library, 31 ft., 6 in. Side, 43 ft



FIRST FLOOR. NO. 329

SIZE OF ROOMS:
See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 3 in.

MATERIALS:
Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,500, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers

will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

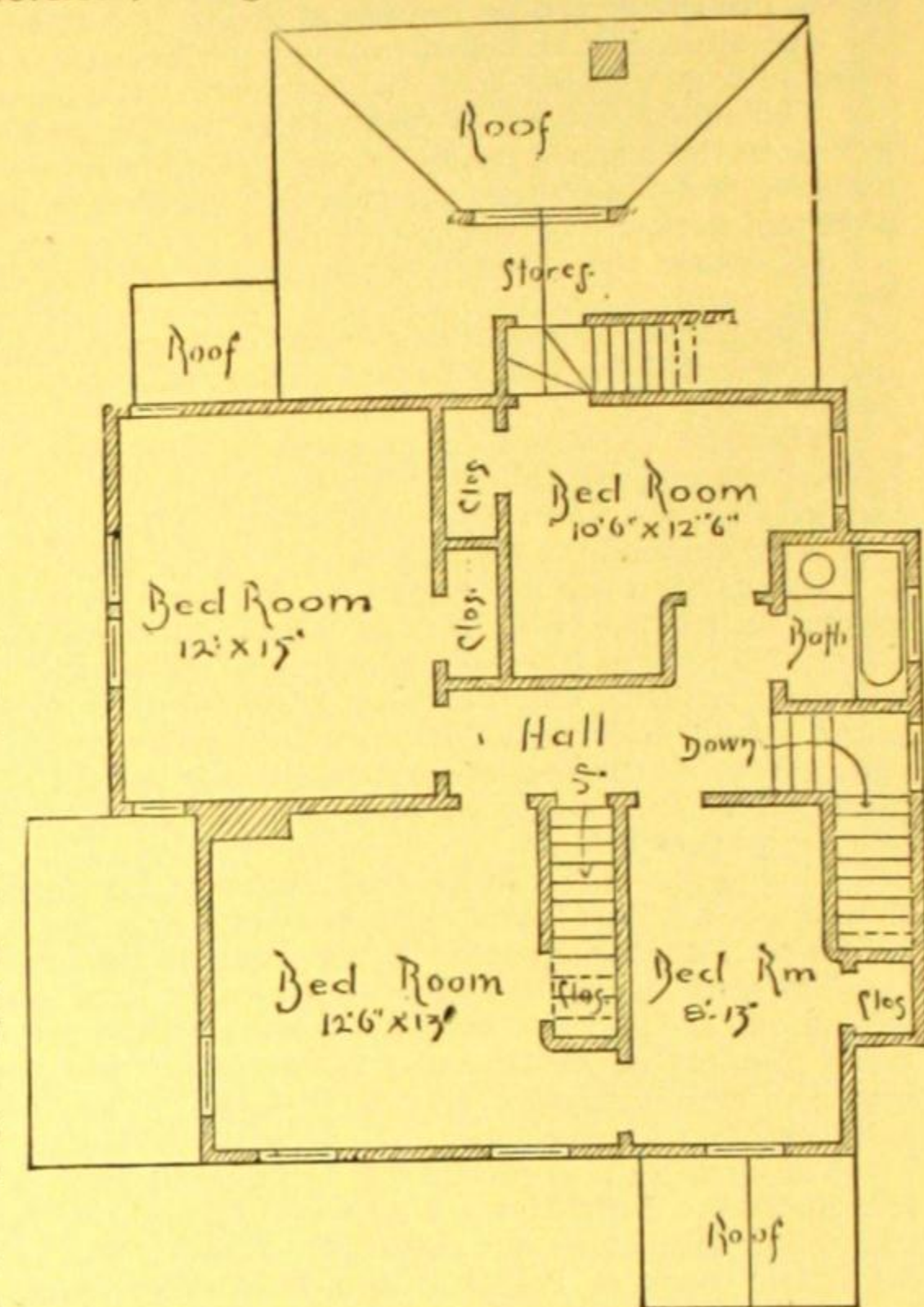
SPECIAL FEATURES.—A modification of design Number 327, having the same general appearance and ground plan, but with an extension added at the rear.

The side window of the parlor opens to the floor, giving access to the veranda.

The back staircase enters the rear bedroom in the second story and also gives access to the storage space under the roof of the extension.

Two good rooms can be finished in the attic.

A cellar under the whole house, with stone walls.



SECOND FLOOR. NO. 329

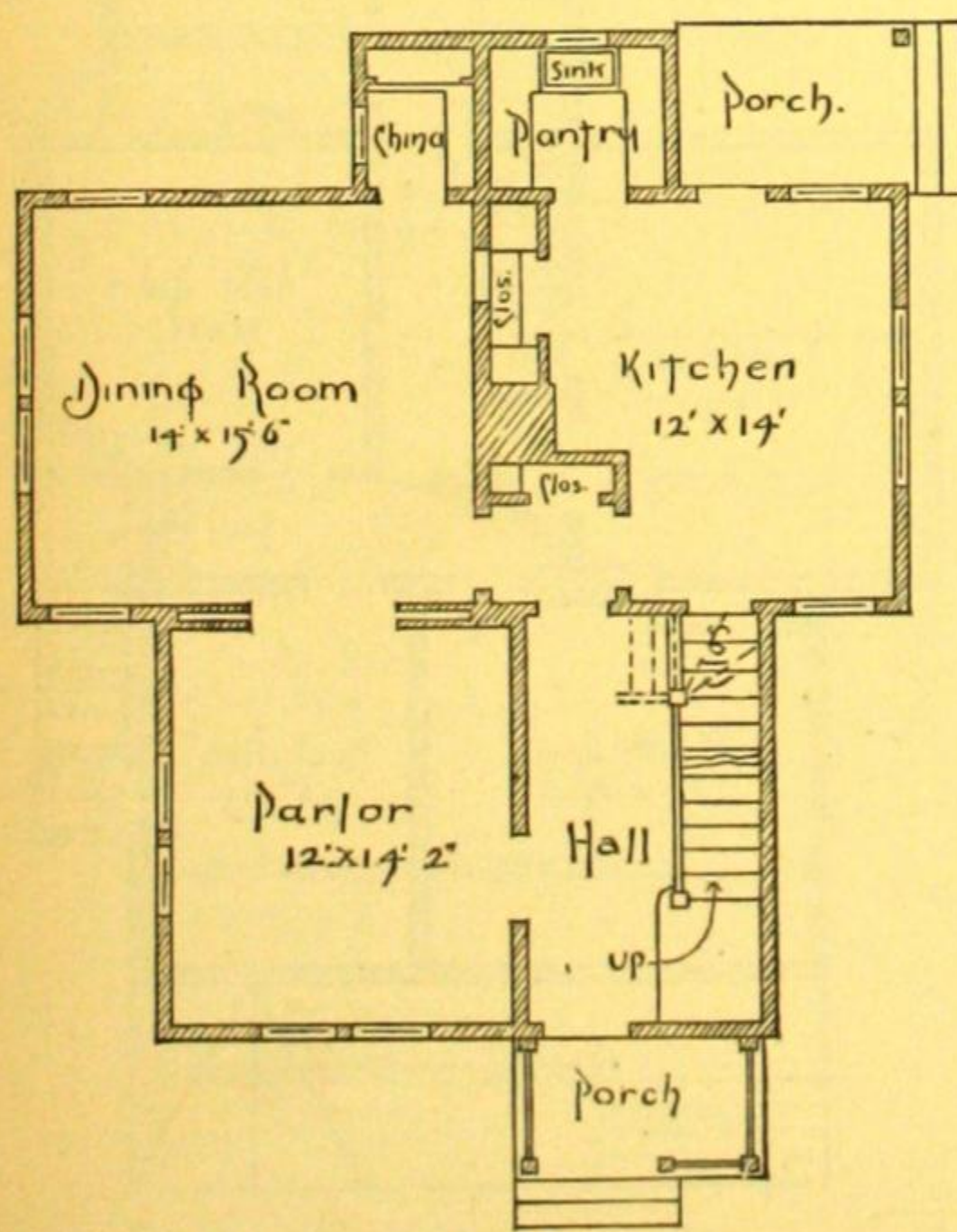
DESCRIPTION OF DESIGN NUMBER 330

SIZE OF STRUCTURE: Front, 21 ft., 6 in.; extreme width, 31 ft. Side 35 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.



FIRST FLOOR. NO. 330

COST; \$1,800, complete, except furnace and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers

will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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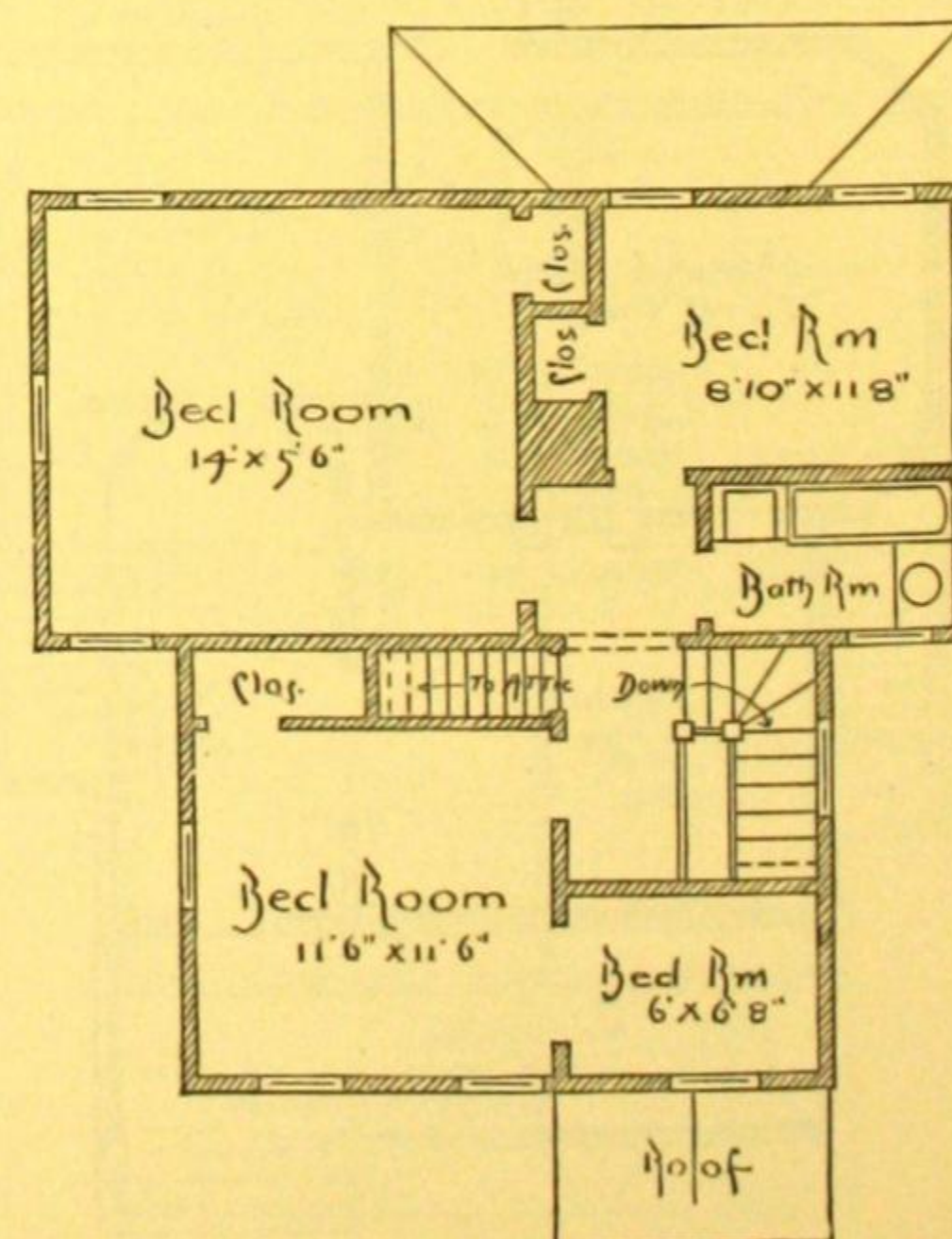
SPECIAL FEATURES.—Similar in appearance and general plan to design Number 327.

A furnace is relied on for heating the house. No chimney is provided for the parlor.

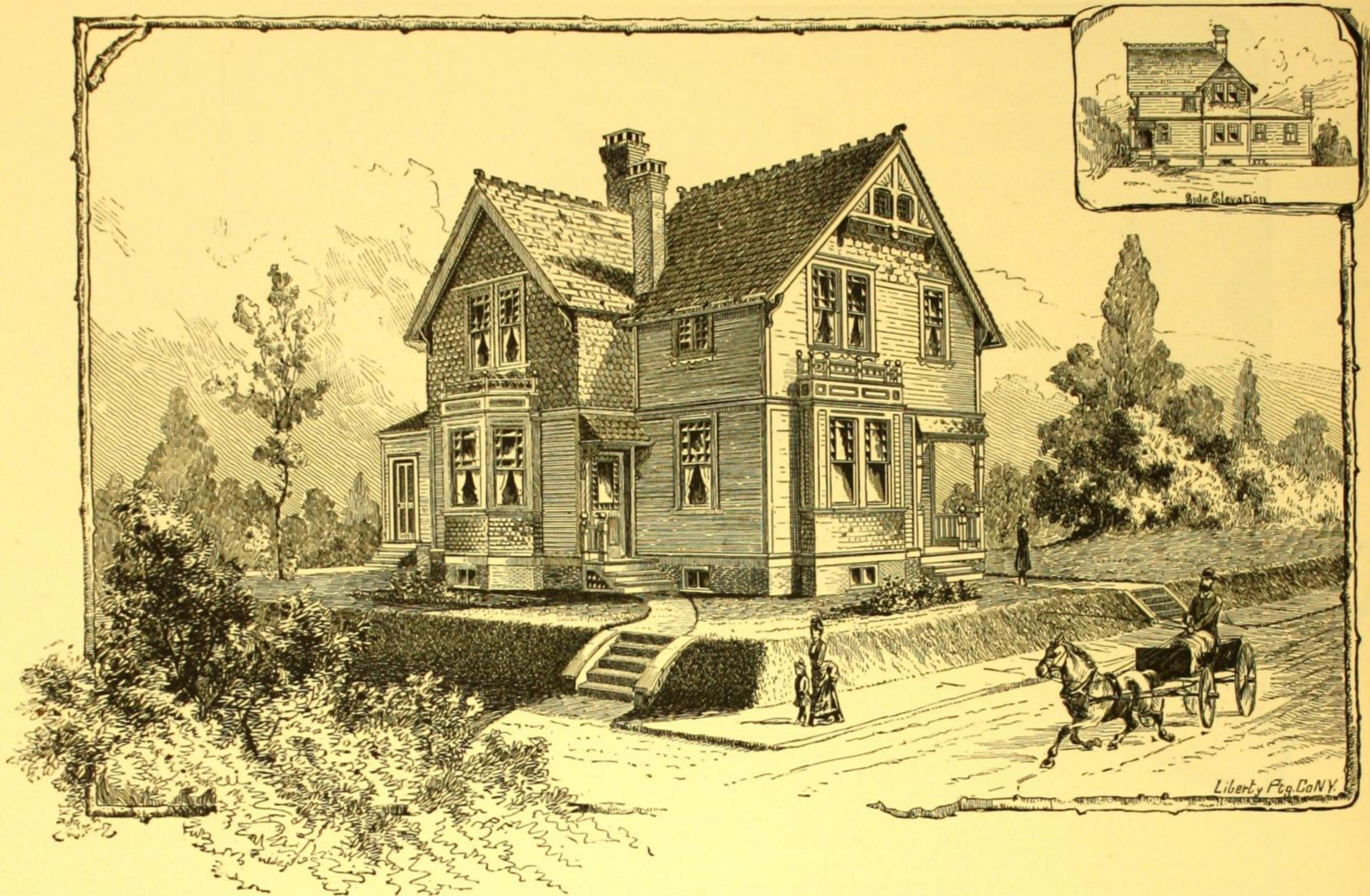
Large china-closet for the dining-room and a pantry for the kitchen.

Four bed-rooms and a bath-room in the second story.

Two bed-rooms finished in the attic. Cellar under the whole house.



SECOND FLOOR. NO. 330



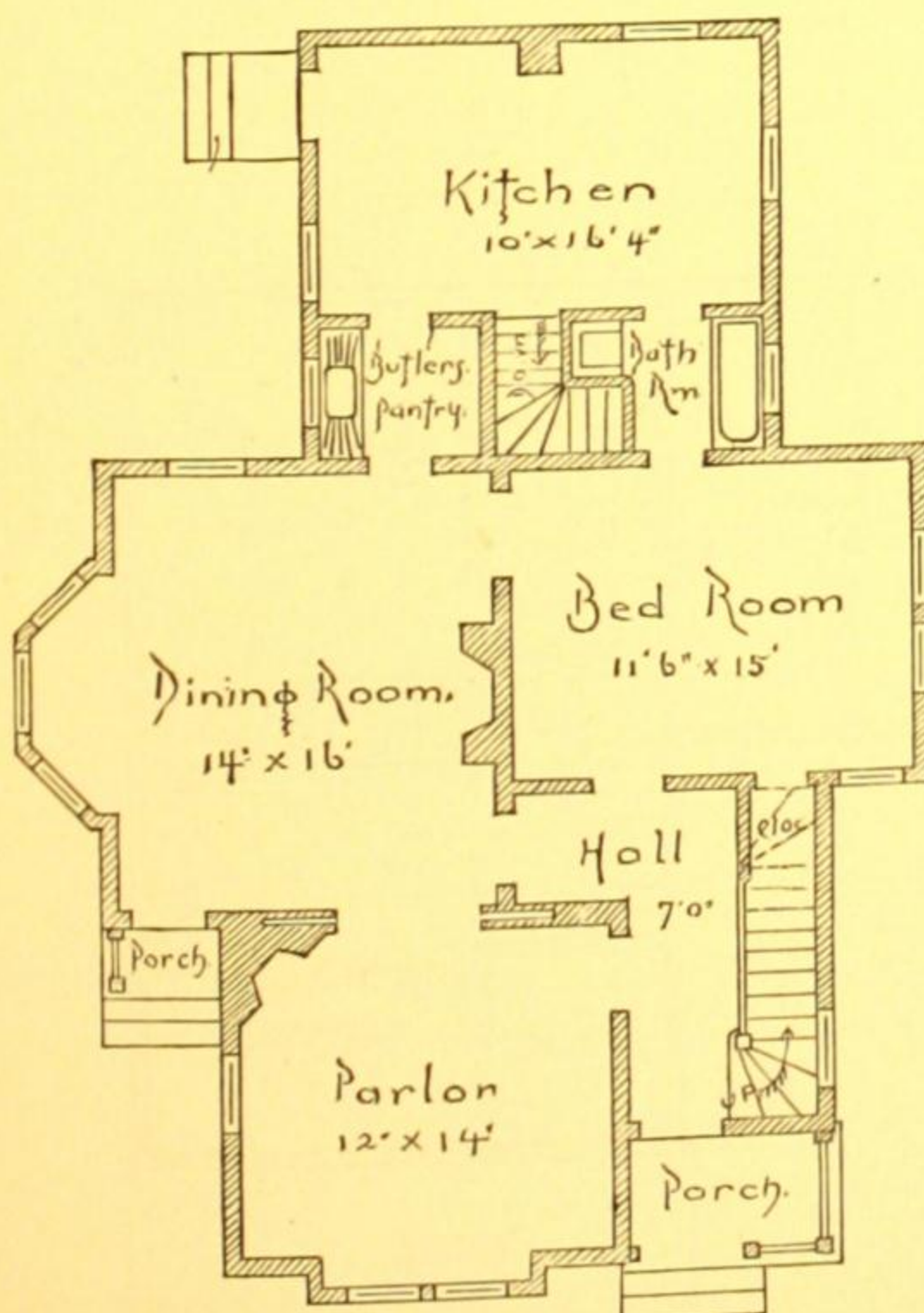
DESIGN No. 331. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 331

SIZE OF STRUCTURE: Front, 22 ft., 6 in. Extreme width, 33 ft., 6 in. Side, 47 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.



FIRST FLOOR. NO. 331

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$2,400, complete, except mantels, furnace and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Cellar under the whole house, with stone foundation walls.

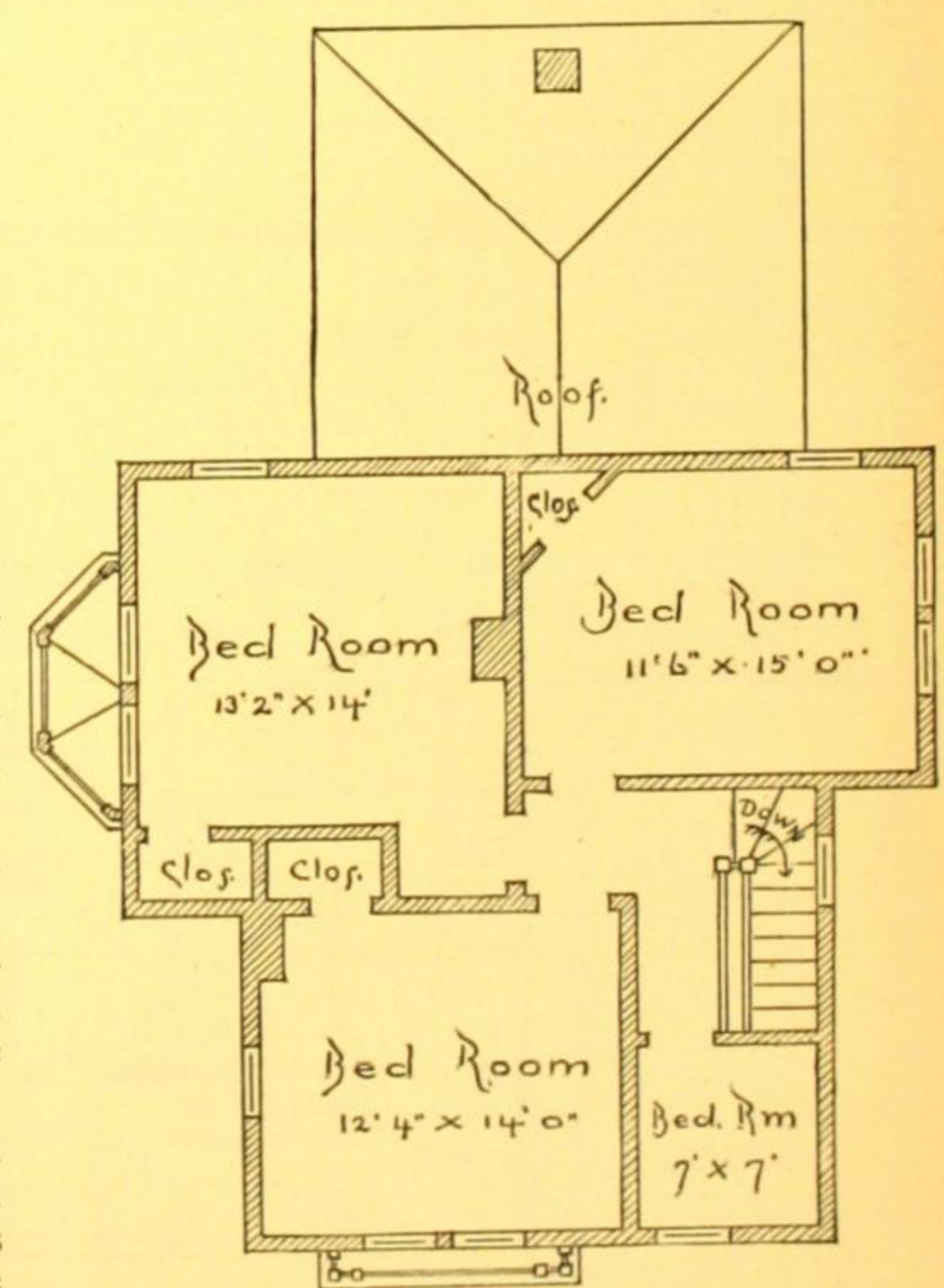
A furnace is used for heating the house in addition to the fire-places.

Sliding doors between the parlor and the dining-room.

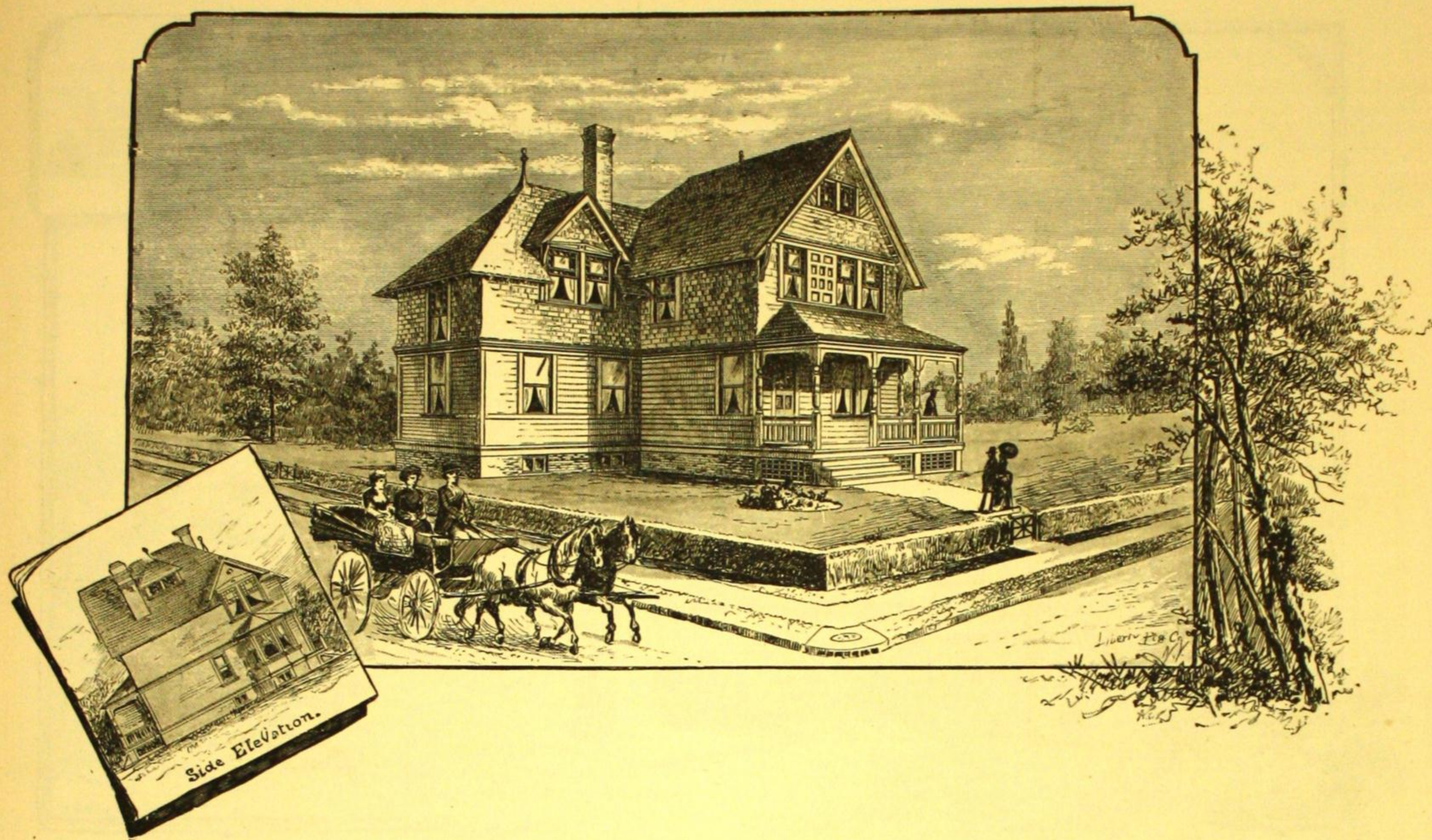
Dresser and sink in the butler's pantry.

Bath-tub and water-closet on first floor, connected with the bed-room.

This is a story and a half house, and can be built in many parts of the country for less than our estimate.



SECOND FLOOR. NO. 331



DESIGN No. 332. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 332

SIZE OF STRUCTURE: Front, 20 ft.; including side wing, 36 ft. Side, 32 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS. Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST \$2,000, complete, except mantels.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Large rooms, and a large bay-window in the dining-room.

Sliding doors connect the parlor and dining-room. Double folding doors between the hall and the parlor.

Three bed-rooms and a bath-room in second story, the front room having a large alcove. This alcove can be made a bed-room 6 ft., 6 in., x 7 ft., if preferred.

One good bed-room is finished in the attic.

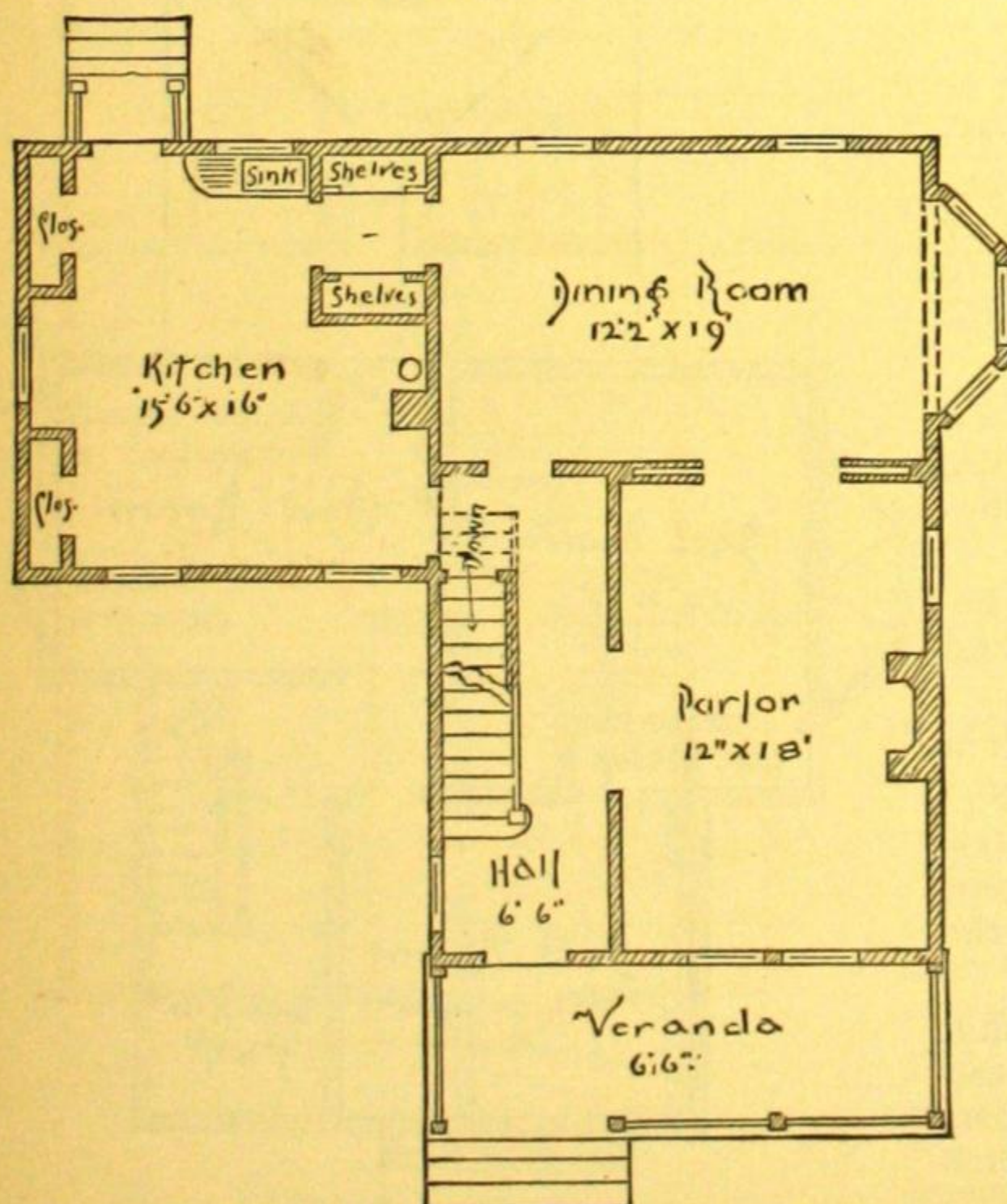
Cellar under the whole house.

NOTES

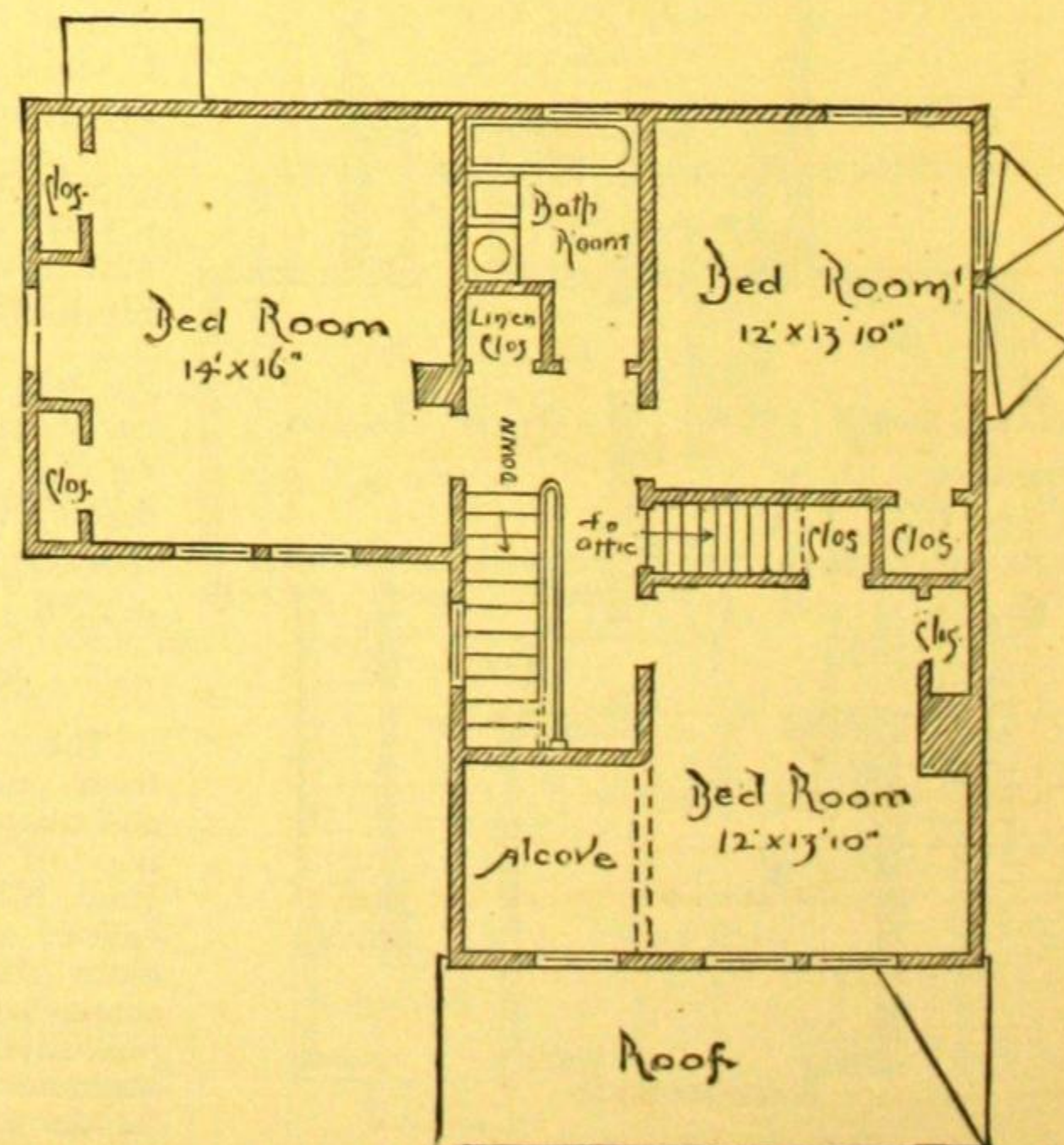
The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR, NO. 332



SECOND FLOOR, NO. 332

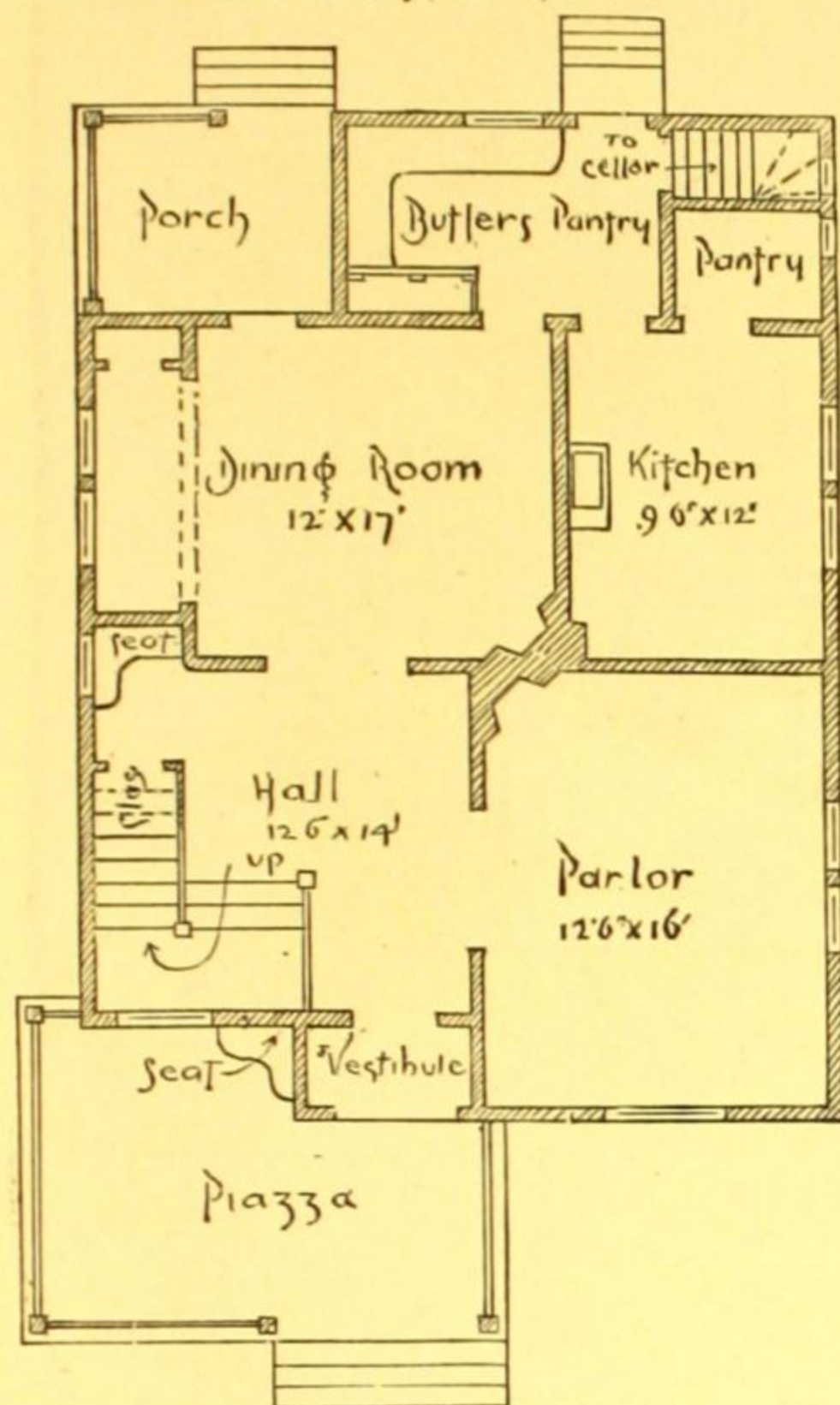
DESCRIPTION OF DESIGN NUMBER 333

SEE FRONTISPIECE FOR EXTERIOR VIEW

SIZE OF STRUCTURE: Front, 30 ft., including projection of front veranda. Side, 45 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.



FIRST FLOOR. NO. 333

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,600, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and care-

ful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—For the exterior appearance of this house, see the colored frontispiece.

Large, fine hall and staircase. Under the upper part of the staircase a nook is formed, with seat and window.

The hall is connected with the parlor and with the dining-room by double folding doors.

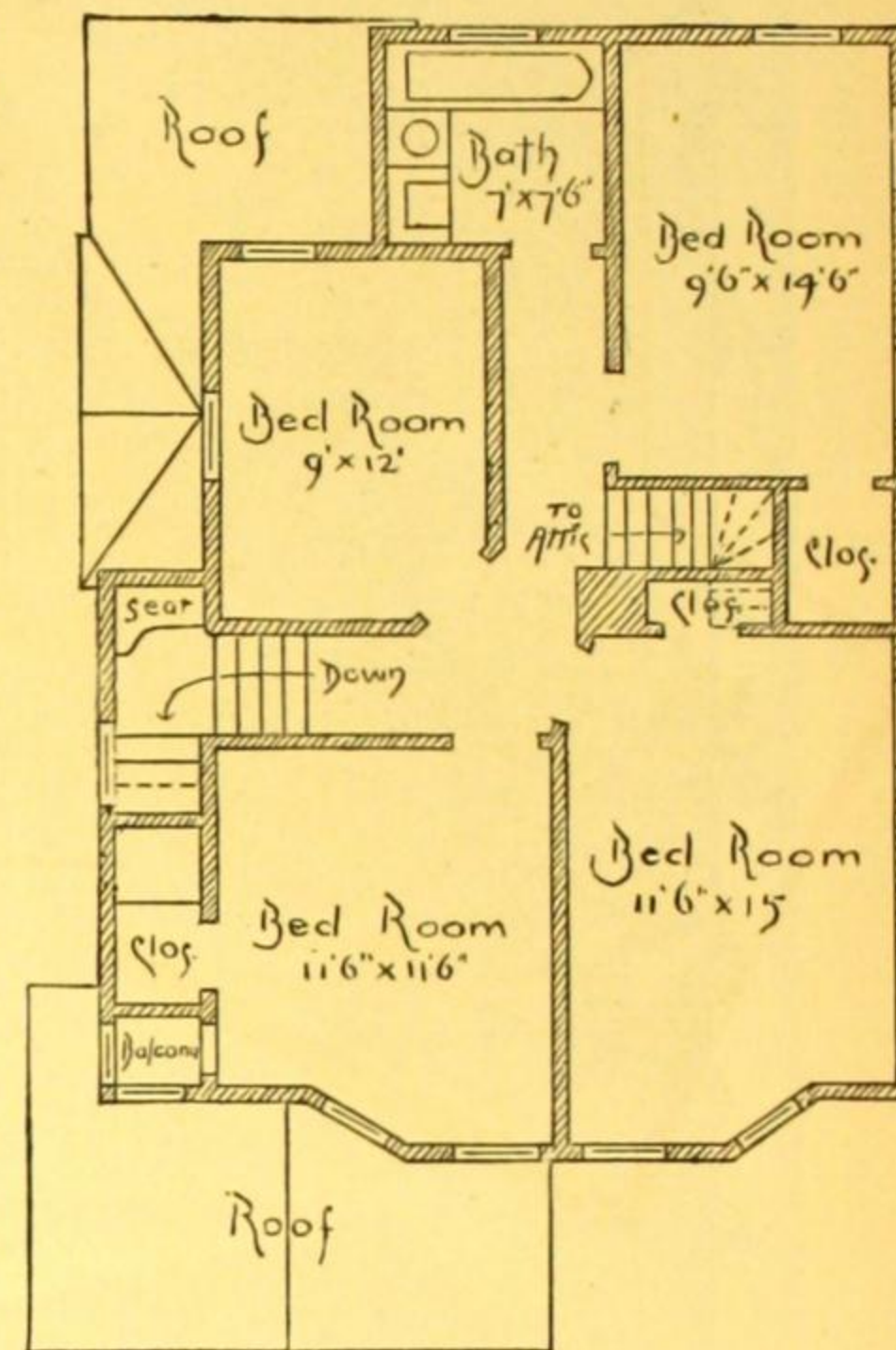
Very large butler's pantry between the dining-room and kitchen, and a large store pantry for the kitchen.

Fire-place in dining-room and parlor.

Cellar under the whole house.

Two good rooms can be finished in the attic.

A window and a recessed seat on the upper landing—a pretty nook for waiting or reading. Small and inexpensive features like this often make the modern house, although moderate in size, more convenient and comfortable than many of its pretentious neighbors.



SECOND FLOOR. NO. 333

DESCRIPTION OF DESIGN NUMBER 334

SEE FRONTISPIECE FOR EXTERIOR VIEW

SIZE OF STRUCTURE: Front, 30 ft. Side, 49 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

COST: \$2,800, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of

modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

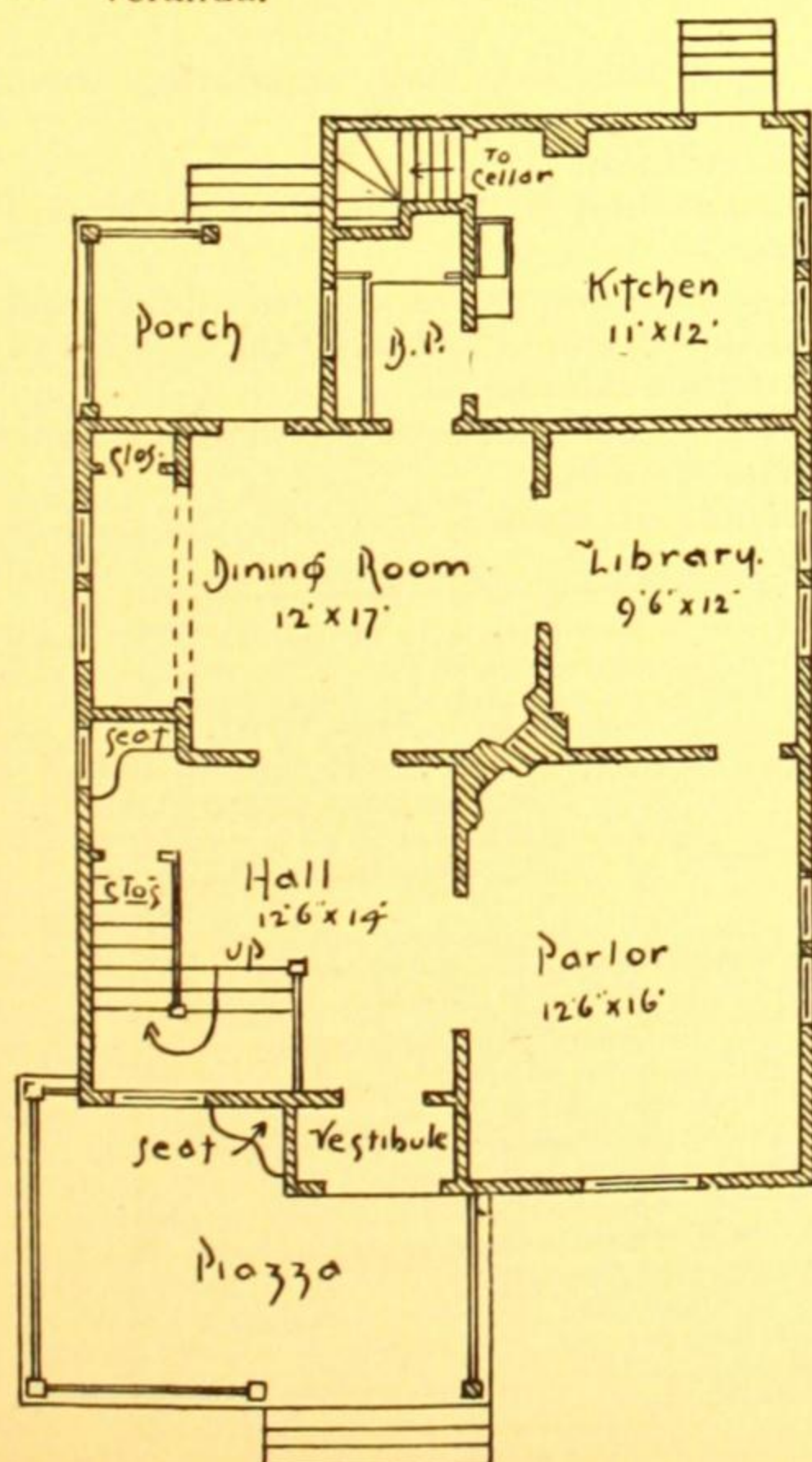
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The heights of stories, materials, &c., are the same as for those of design No. 333, described above; this is a modification of that design having the rear extension enlarged to make a kitchen and pantry, and an additional bed-room in the second story.

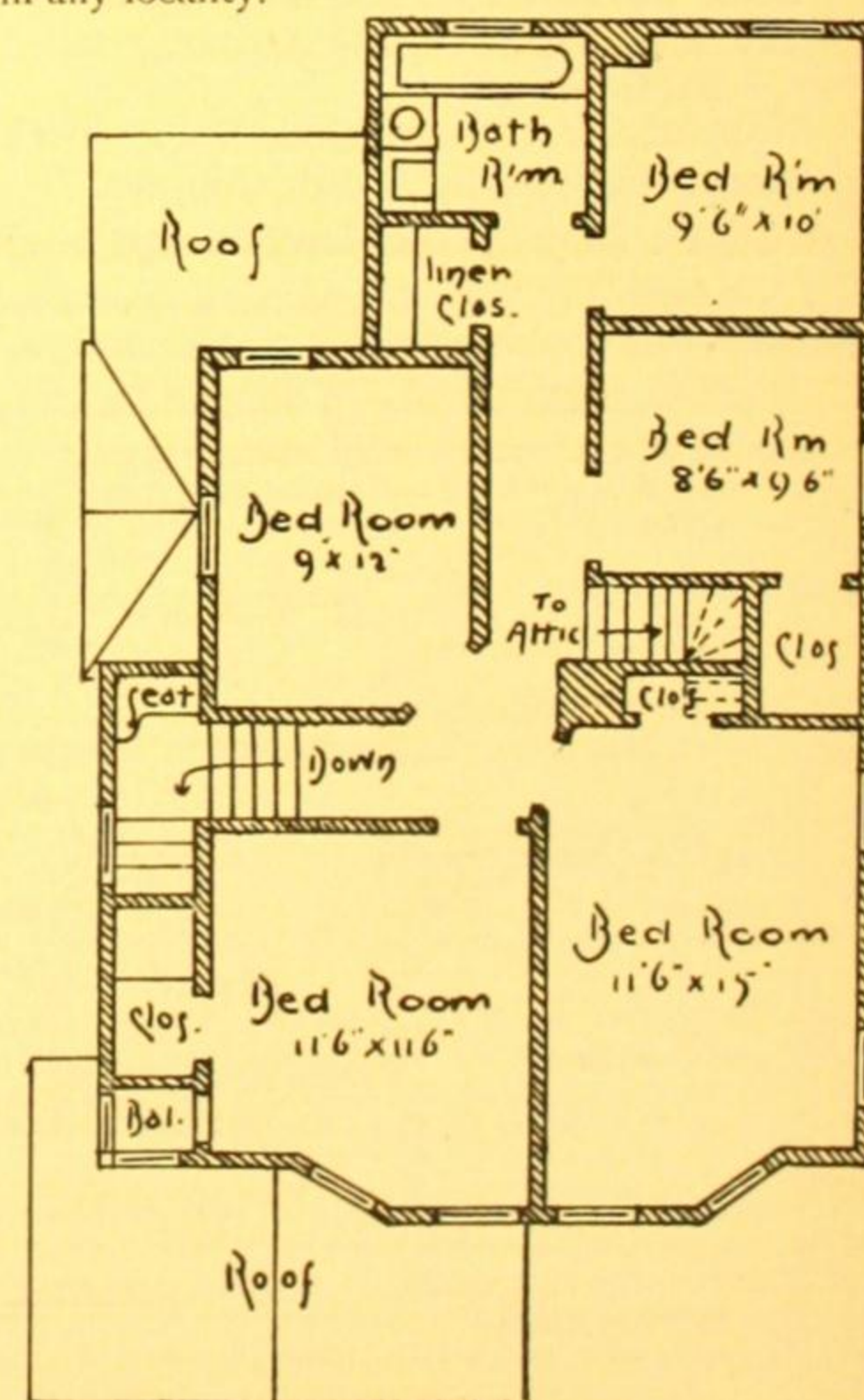
On the first floor the rooms and the hall all connect and can be thrown together. A spacious house for entertaining.

The front porch is 10 ft. wide at the widest point; being low it affords a shady and cool retreat.

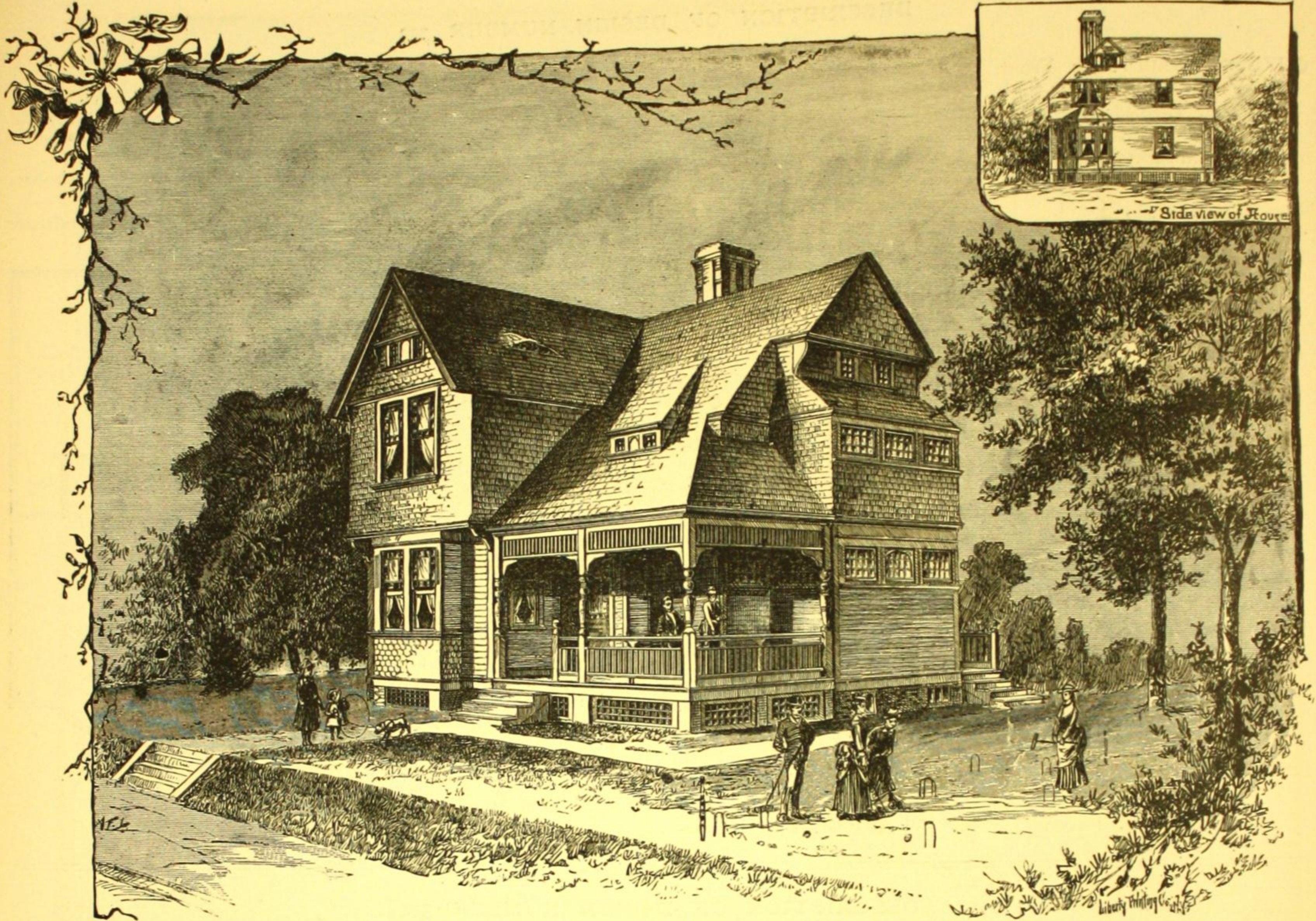
Cellar under the whole house.



FIRST FLOOR. NO. 334



SECOND FLOOR. NO. 334



DESIGN No. 335. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 335

SIZE OF STRUCTURE: Front, 32 ft., 6 in. Side, 30 ft., 6 in.
SIZE OF ROOMS: See floor plans.

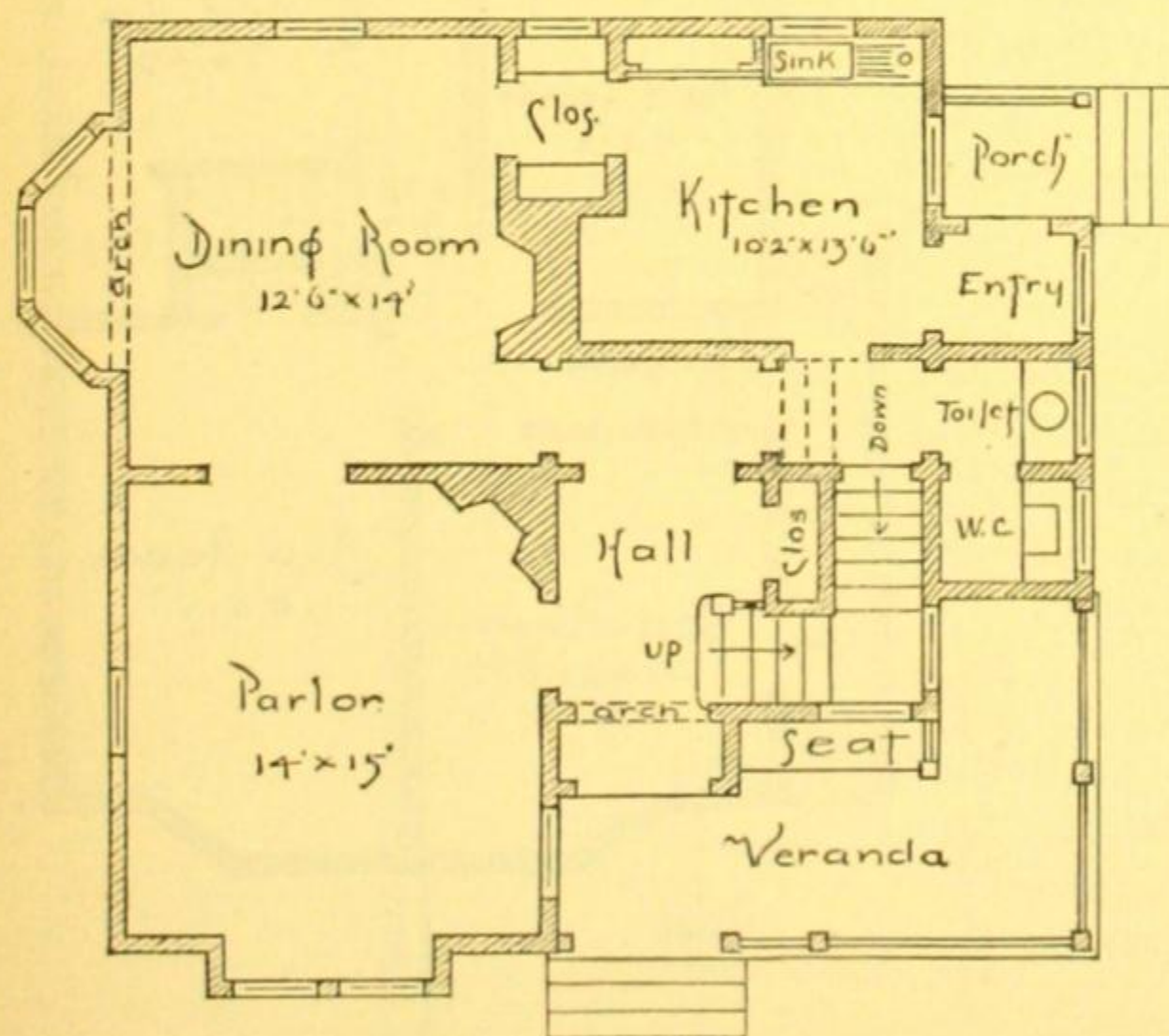
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$2,500, complete, except kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Toilet and water-closet on the ground floor, bath and wash-basin on the second floor.



FIRST FLOOR. NO. 335

It will be noticed that all this plumbing is kept out of the main part of the house, yet it could not be located more conveniently. It is completely out of the way and out of notice on the ground floor, as the small side-hall must first be entered through a door.

The kitchen also, and the

cellar-stairway are entered from this side hall, separating them thoroughly from the living rooms.

All the plumbing is in direct lines.

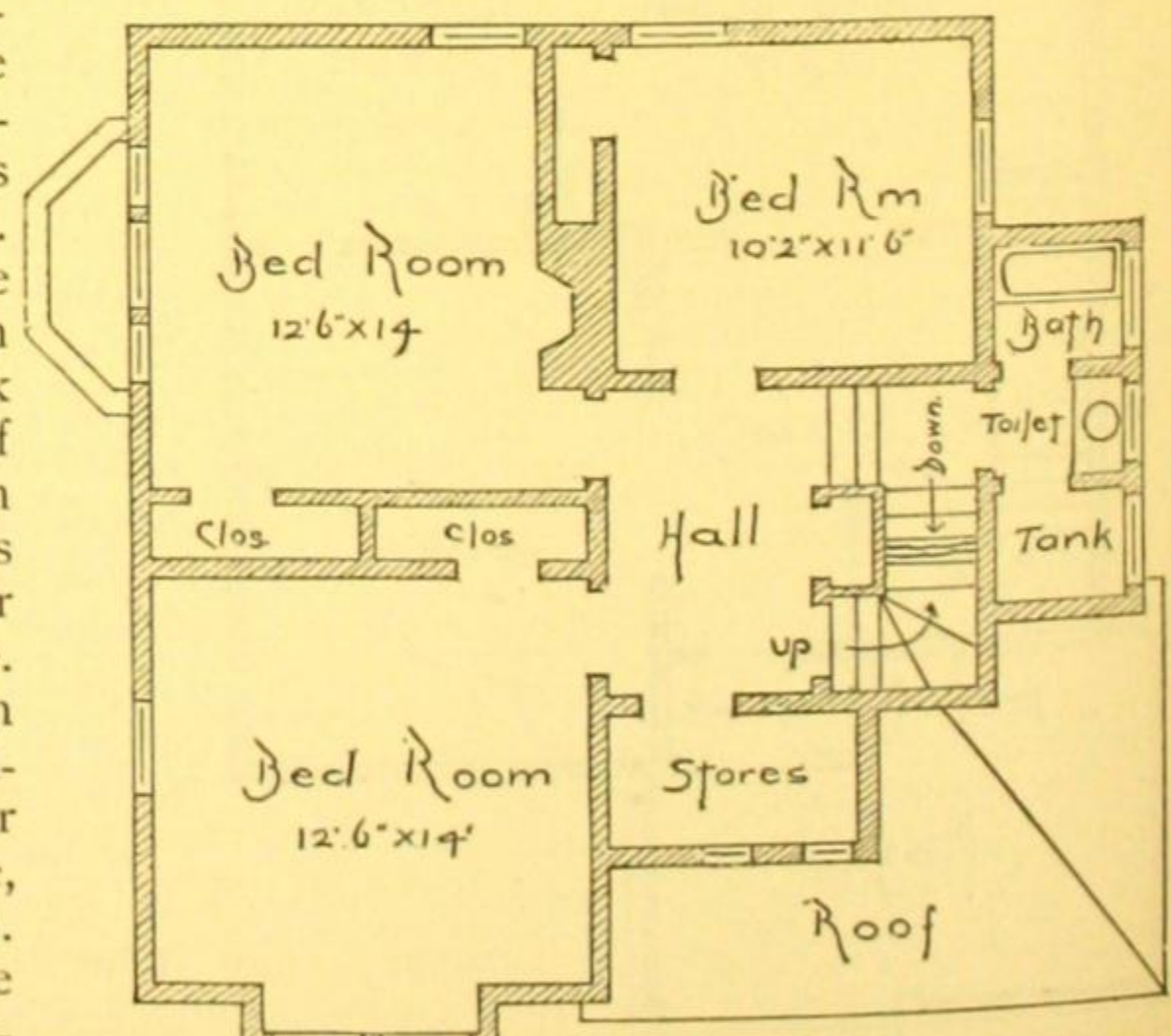
The intention is to use curtains only between hall and parlor and between parlor and dining-room.

The flue for the parlor fire-place is connected with the kitchen and dining-room chimney by a galvanized iron pipe, saving the expense of carrying up and topping out another chimney.

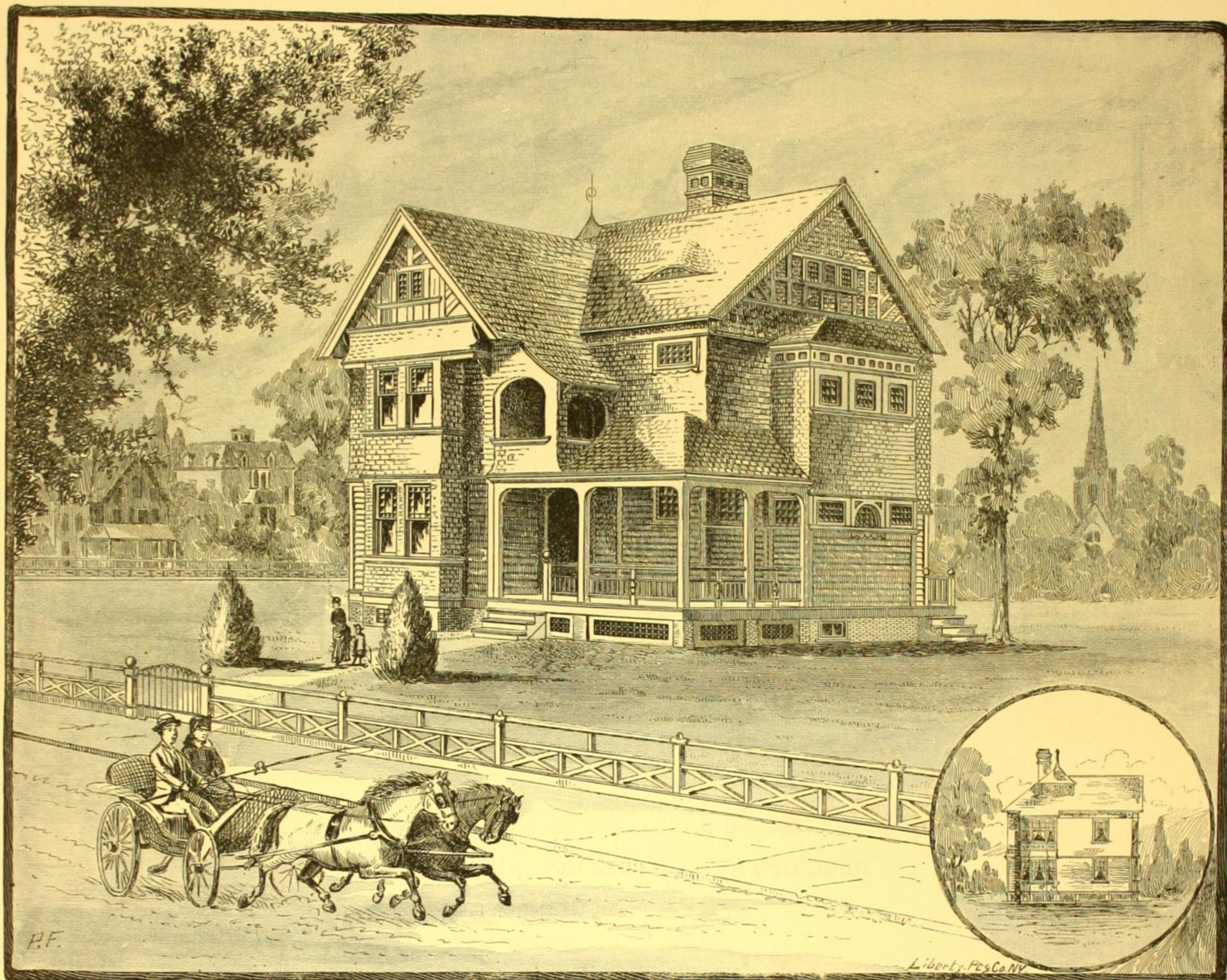
The stairway is an easy and pleasant one with two platform landings, and lighted by stained glass windows.

The space between the ceiling of second story and the roof is well ventilated; although not large enough for bedrooms, it makes good storage room.

Cellar under the hall and kitchen enclosed by brick walls; the rest of the house is set on brick piers. This was designed for a seaside cottage. We will furnish specifications calling for walls under the whole house, if this is desired. An entrance to the cellar from the outside is provided.



SECOND FLOOR. NO. 335



DESIGN NUMBER 336—PERSPECTIVE VIEW

COST, SAME AS DESIGN No. 335

The floor plans for this Design are same as those of Design No. 335, shown on the preceding page.

LOW COST AND SUBSTANTIAL CONSTRUCTION

In the army, in mining towns and in the oil regions, methods of constructing small houses cheaply and substantially have been demonstrated over and over again. That the best of such structures were substantial is proved by the fact that many of them are still standing and in use after many years of service.

These structures generally were atrocious in appearance. We do not suggest for a moment that their appearance be reproduced. We do say, however, that they demonstrated a method of framing and enclosing, which can be utilized in building tasteful *small* houses at a saving of fully one-third the usual cost.

The working drawings and specifications of designs Nos. 312 and 313, views and plans of which are shown in another part of this book, have been prepared for this method of construction, utilizing also other economies that are briefly described below.

Foundations.—The foundations may be walls, piers or posts. We recommend the latter because they are substantial and they are the most economical. It must be remembered that low cost is the object to be kept in view.

Plank Framing—We can think of no better term than this, although it does not fully satisfy us. This manner of framing does away with the regular timber or studded frame, thus economizing in material, and greatly in the matter of labor.

The sills for the first floor joists are formed by spiking two joists together, and nailing a strip to the lower inside edge to notch the joists on. The joists are also secured by spiking through the sill into the ends of the joists with large spikes. The sills are laid on the foundations and spiked to the posts if such are used. Then the floor is laid, nailing well. Next the corner boards are nailed together and set up plumb and braced. Then raise the second floor joists on temporary props, cut to the height of the story, a floor joist forming the plate or girt, and through it spiking into the ends of the joists. Then proceed to side up vertically with inch boards, running as high as it is proposed to carry the walls, from the corner boards around until the plank walls are complete. Put on plates and nail the upper ends of planks to them. Cut out window and door openings, set window frames, put on rosin sized sheathing paper and corner strips. Then weather board and shingle in the usual way. Raise the roof, being careful to keep the plates straight.

Inside put on another sheathing of rosin sized paper, nail furring lath 1x1½ inches over joints of boards, then lath as for plastering, spacing them, however, double as far apart as for plastering.

Observe particularly to cut joints carefully and nail well. The liberal use of paper (which is inexpensive) makes such a structure warm. Nailing well makes it strong.

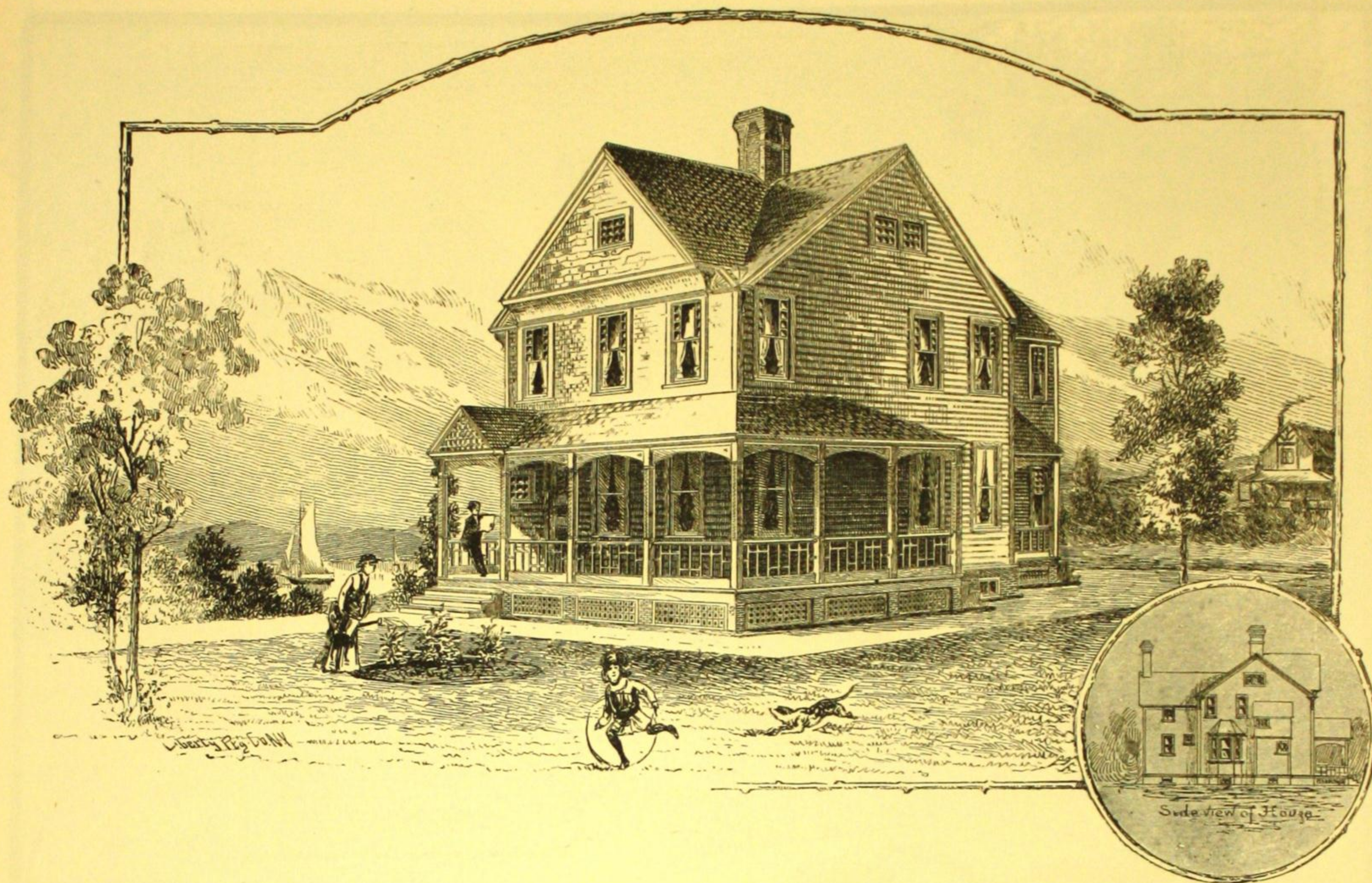
Plaster Board.—For walls and ceilings in place of plaster. This is a very strong manilla paper, and is pasted or cemented (not tacked) on to common plastering lath, which should be planed on one side to insure a smooth surface. But half the number of lath required for plaster are necessary. Unskilled labor can apply it. It is justly claimed for this finish that the expense is light as compared with plaster (just the point for us); that there is no cracking; that it is impervious to dampness; that it is warmer in winter and cooler in summer than plaster; that it does not shrink and is easily repaired; that it can be applied at any season of the year. Its color is salmon and its natural appearance is good; wall paper can be applied to it the same as to plastered walls.

The reader will note that we now have three layers of paper in the walls of the house. Paper is one of the best non-conductors of heat and cold. It is well known that a half-dozen newspapers are as good as a blanket; it may be said as well that they will keep out as much cold as a plaster wall.

Paper Roofs.—This is heavy manilla paper, of extra weight and quality and painted on one side. It is tacked on a foundation of matched boards (the best) or of common mill boards laid edge to edge. It requires no battens, and looks very neat. It withstands weather and winds, does not corrode, and does not injure the rain water. Its cost is about one-half that of shingles.

Many people who are "set in their ways" and who may think well of all other suggestions in this article, will draw the line here. They will have no paper roof. We confess to a feeling of that sort ourselves. We like the appearance of shingles better, but for strict economy we feel bound to recommend paper roofs of the best quality.

Fire-Clay Flues.—These come in two-foot lengths and are of various diameters, with beveled joints or flanges and stove-holes in the proper places. Strong and tight joints can be made by unskilled laborers. A layer of brick on the floor is all the foundation needed. An ornamental top and top base set on finishes the whole. Experience has proved that these flues are perfectly safe. They cost less than half the cost of brick chimneys.



DESIGN No. 337. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 337

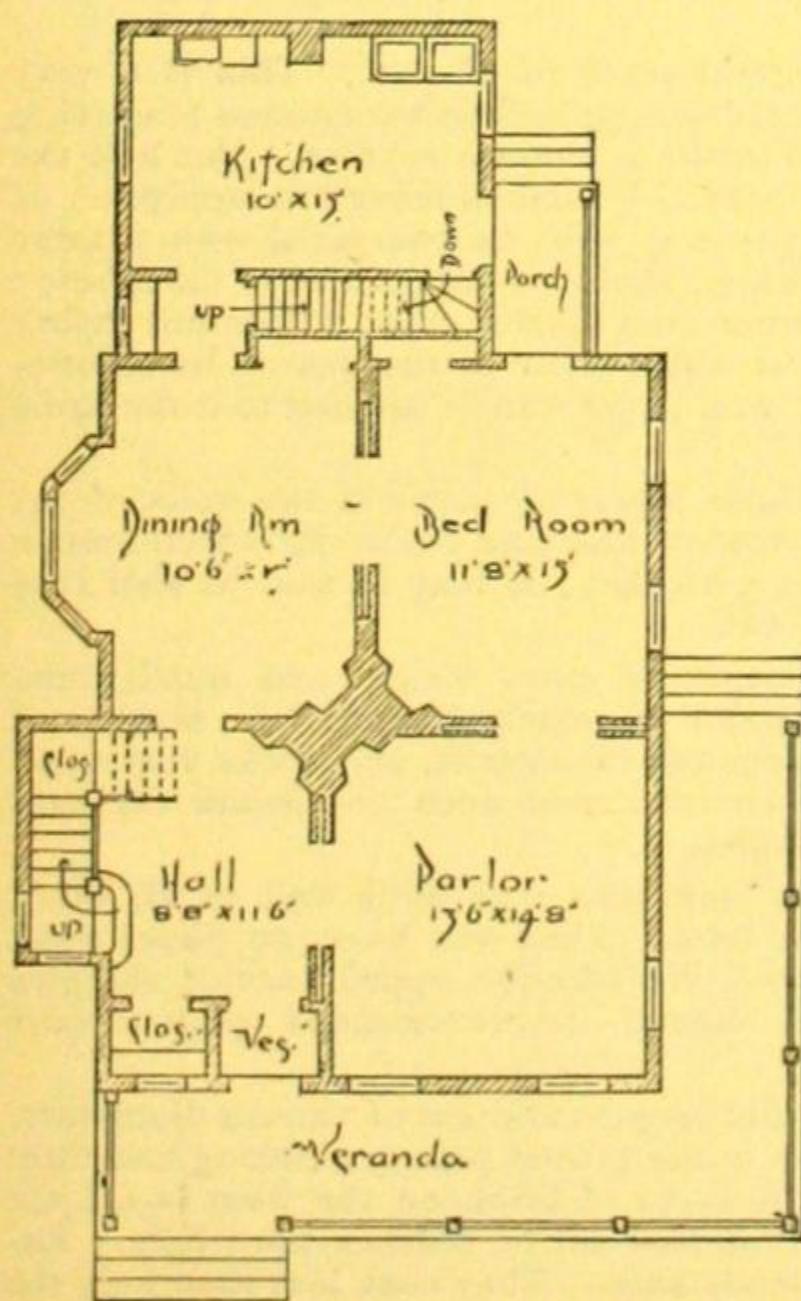
SIZE OF STRUCTURE: Front, 24 ft. Side, 45 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards (shingles on the front); Roof, shingles.

COST: \$2,800, complete, except mantels and kitchen range.



FIRST FLOOR. NO. 337

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Stair-

case, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Vestibule and large hall with the staircase recessed.

Sliding doors connect hall and parlor, parlor and bedroom, and bedroom and dining-room.

Fire-places in these four principal rooms.

Back stairway to second story.

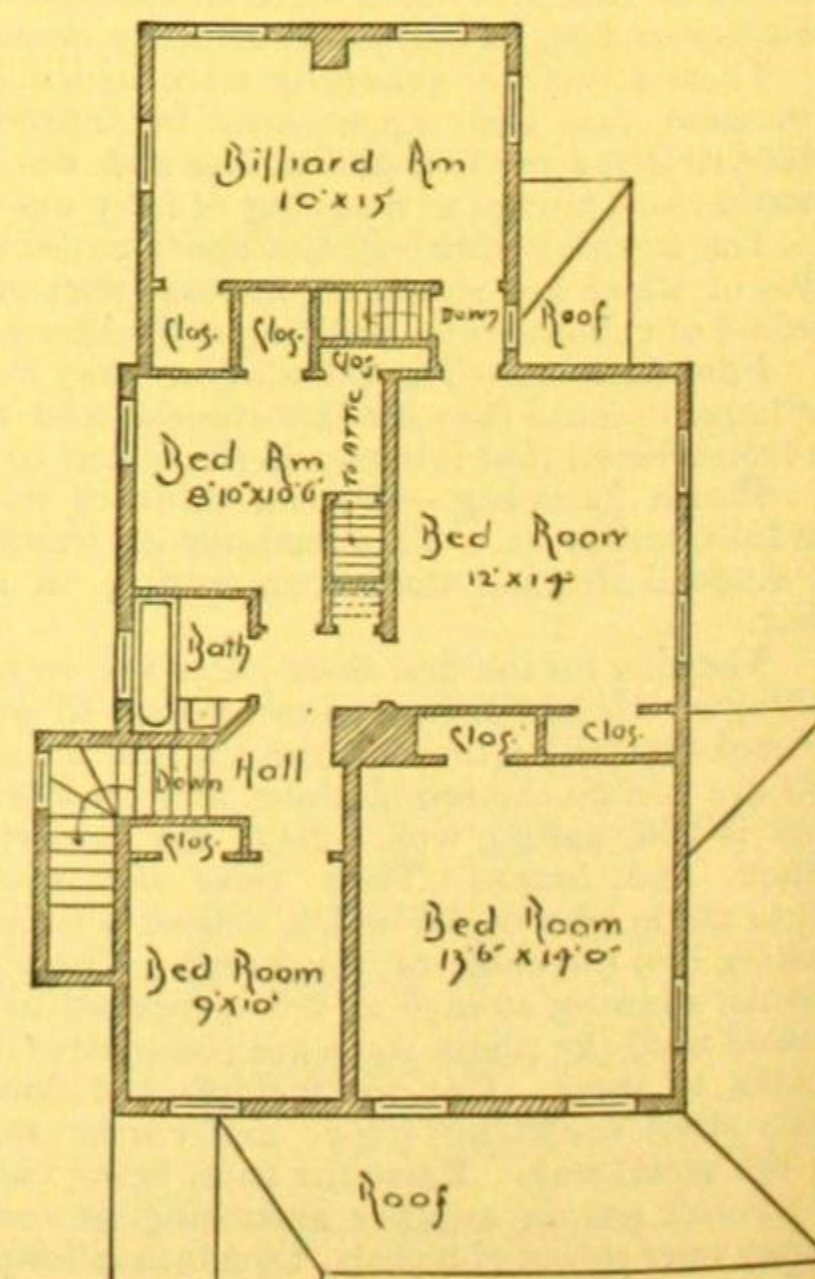
Stationary wash-tubs in the kitchen.

Four bed-rooms, bath-room and a billiard-room in the second story.

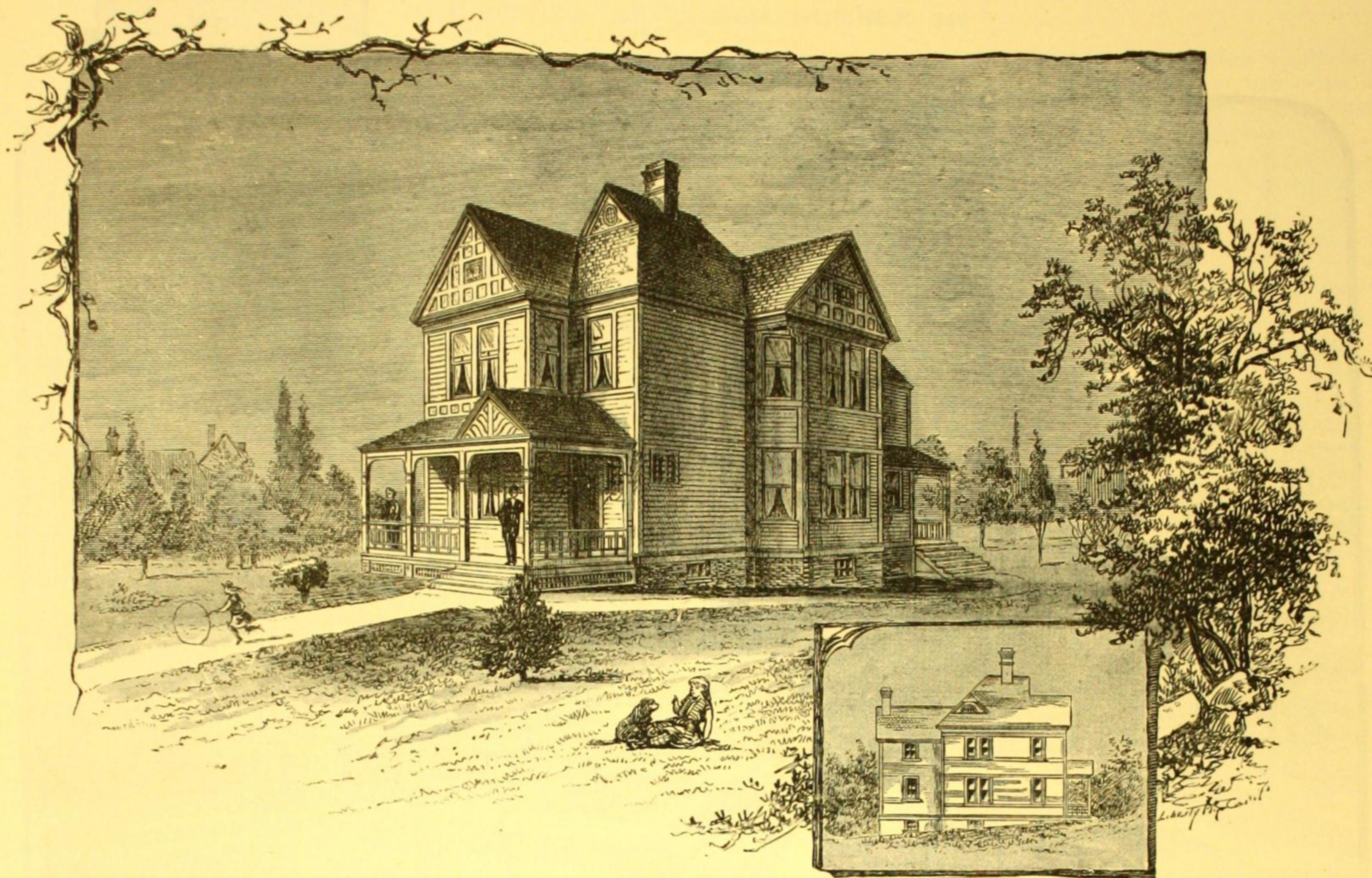
The attic is unfinished, but two or three rooms can be finished there if desired.

Cellar under whole house.

The veranda is 6 ft. wide.



SECOND FLOOR. NO. 337



DESIGN No. 338. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 338

SIZE OF STRUCTURE: Front, 22 ft., 6 in. Side, 47 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards; Gables, panelled; Roof, shingles.

COST: \$2,800, complete, except mantel, kitchen range and heater.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing

beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

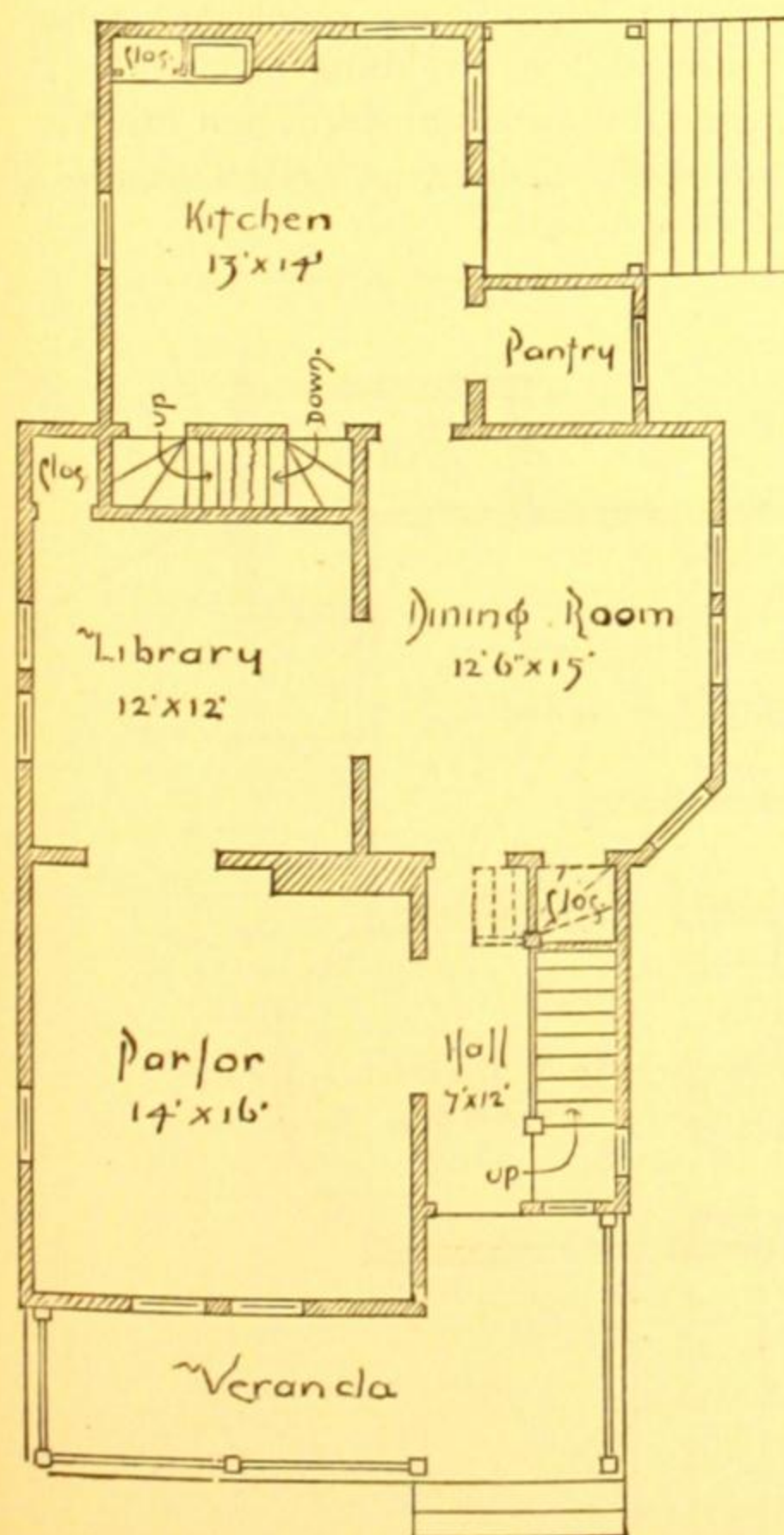
SPECIAL FEATURES.—The principal rooms connect by wide openings for portieres.

A bath-room can be put in where the rear bed-room is for an additional \$150 to \$200.

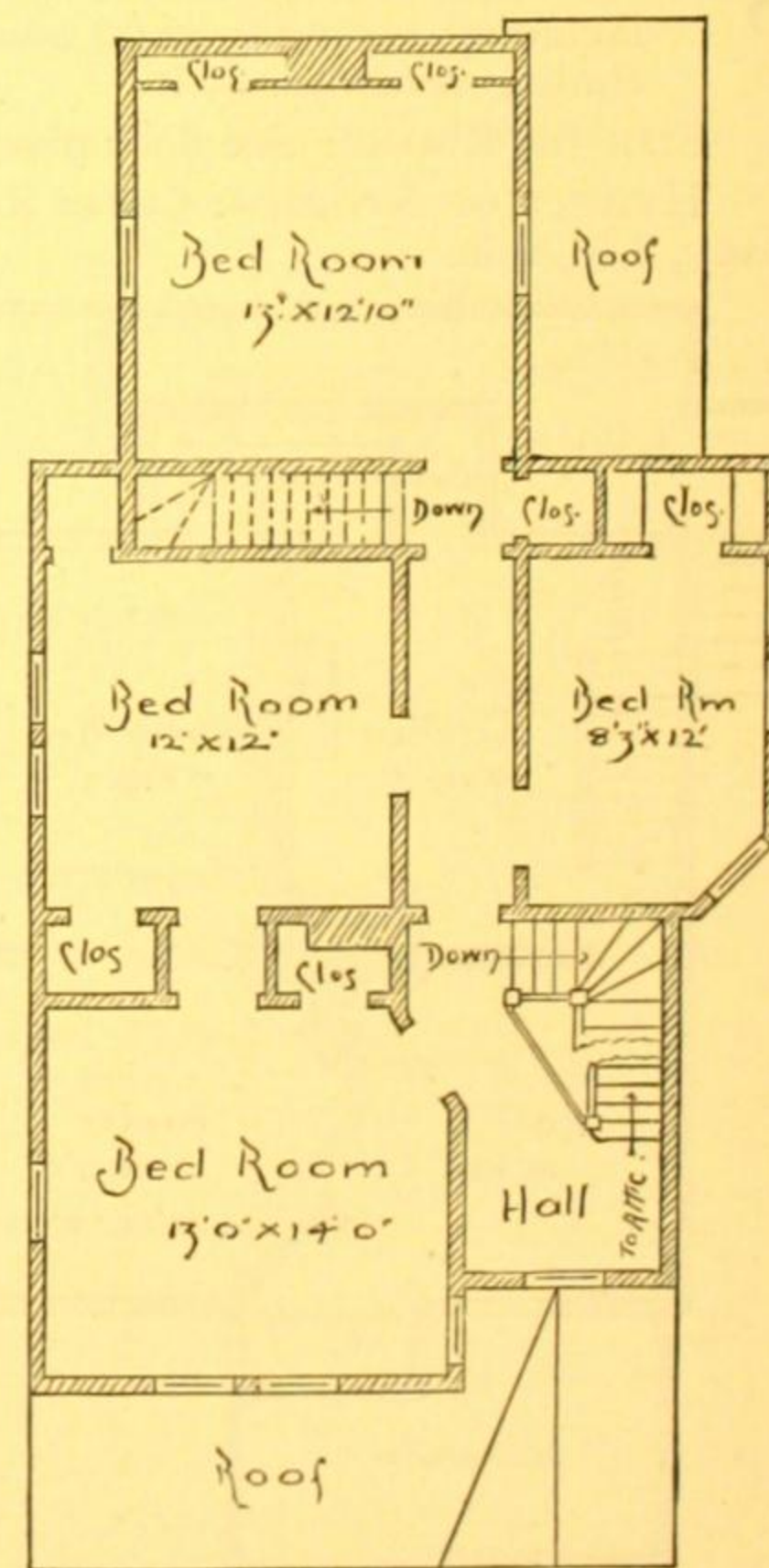
Three rooms can be finished in the attic, if desired. This is not included in our estimate, but the specifications provide for flooring the attic.

A cellar under the whole house with entrance to same from the outside as well as from the kitchen.

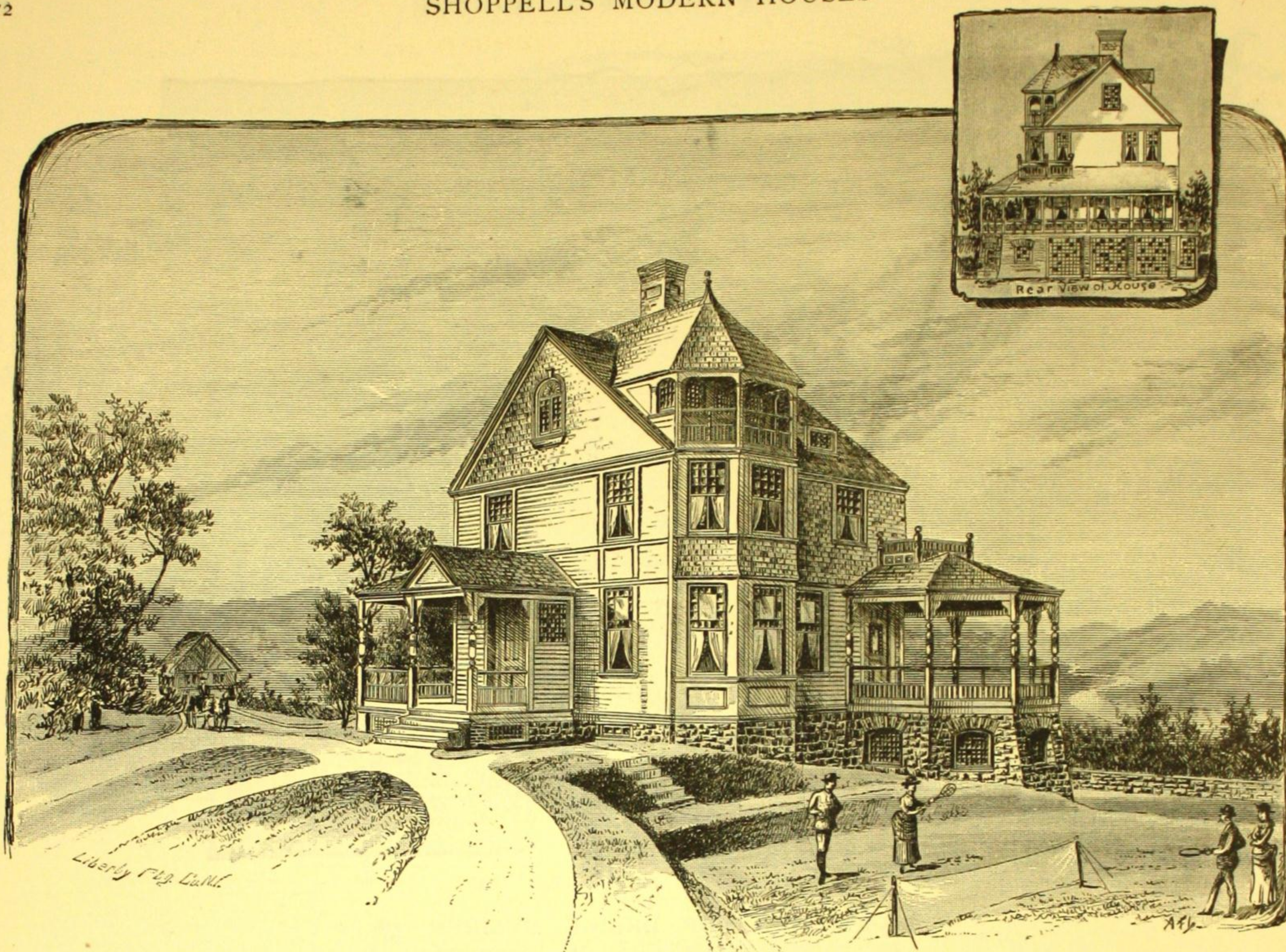
It is designed to heat with a furnace. The proper locations of the pipes and registers are shown on the working plans.



FIRST FLOOR. NO. 338



SECOND FLOOR. NO. 338



DESIGN No. 339. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 339

SIZE OF STRUCTURE: Front, 29 ft., 3 in.; extreme width at rear, including veranda, 42 ft. Side, 28 ft.; extreme depth including verandas, 45 ft.

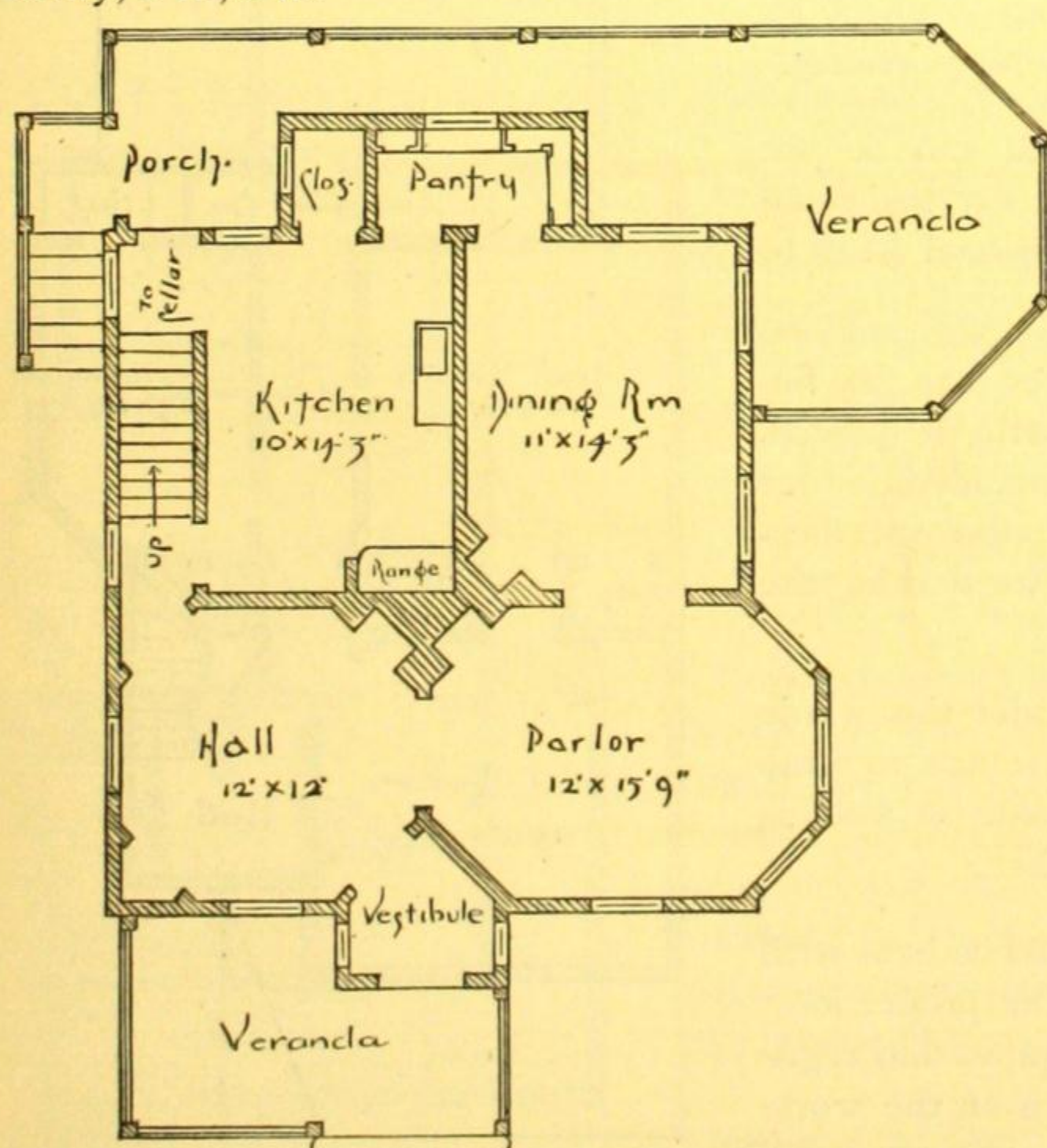
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$2,600, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 339

SPECIAL FEATURES.—Designed for side hill location, and where the best view is from the rear. For the latter reason a spacious veranda is placed at the rear.

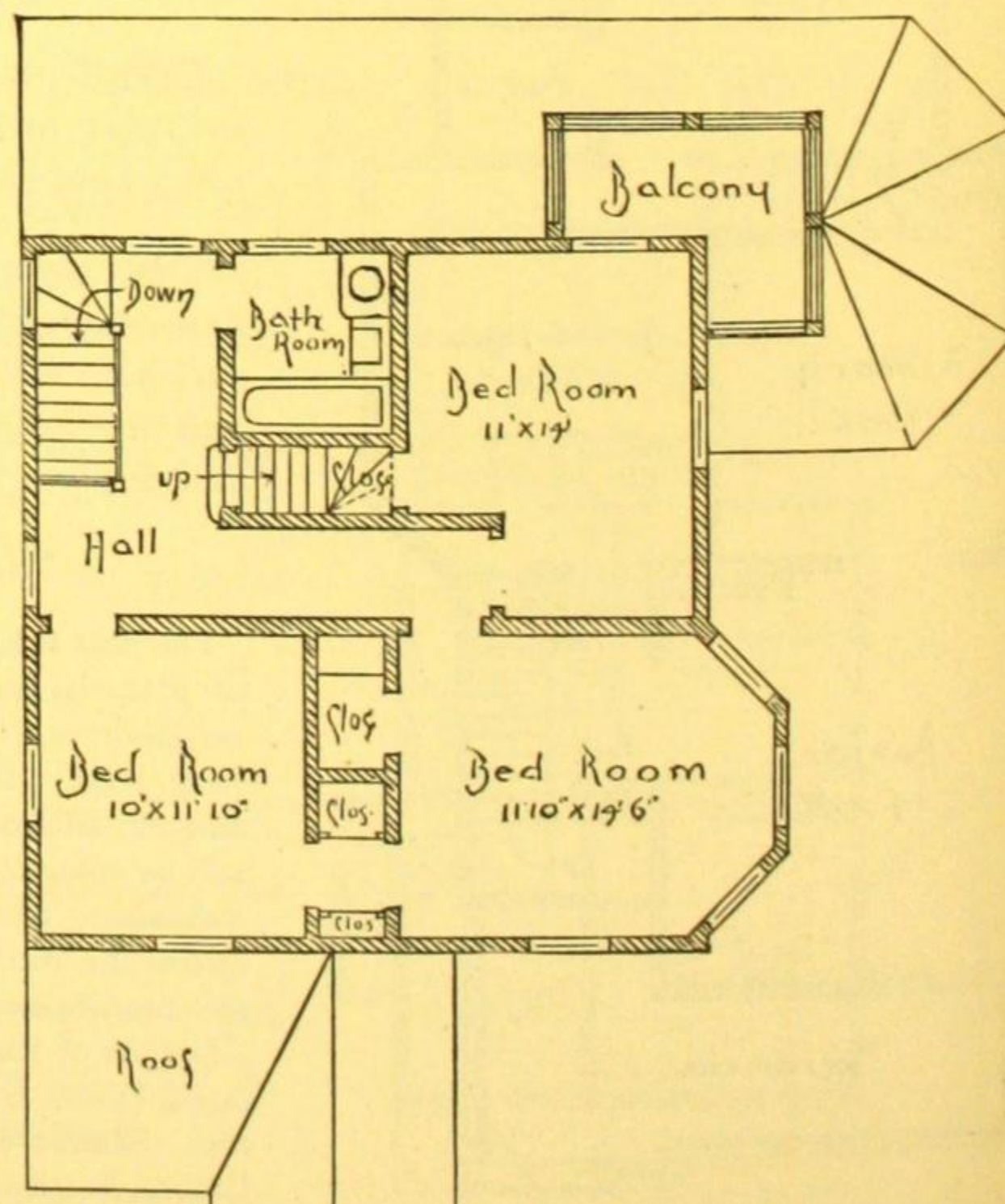
The rear dining-room window is a French casement, going down to the floor, to give access to the veranda.

The hall would be more correctly termed reception-room. It has a fire-place, and is connected with the parlor by a portiere opening. A curtain should be hung at the entrance to the stairway lobby.

The reception-room and parlor practically make one large apartment divided by the curtained opening.

Three bed-rooms in second story, and space for three more in the attic if required.

Cellar under the whole house.



SECOND FLOOR. NO. 339

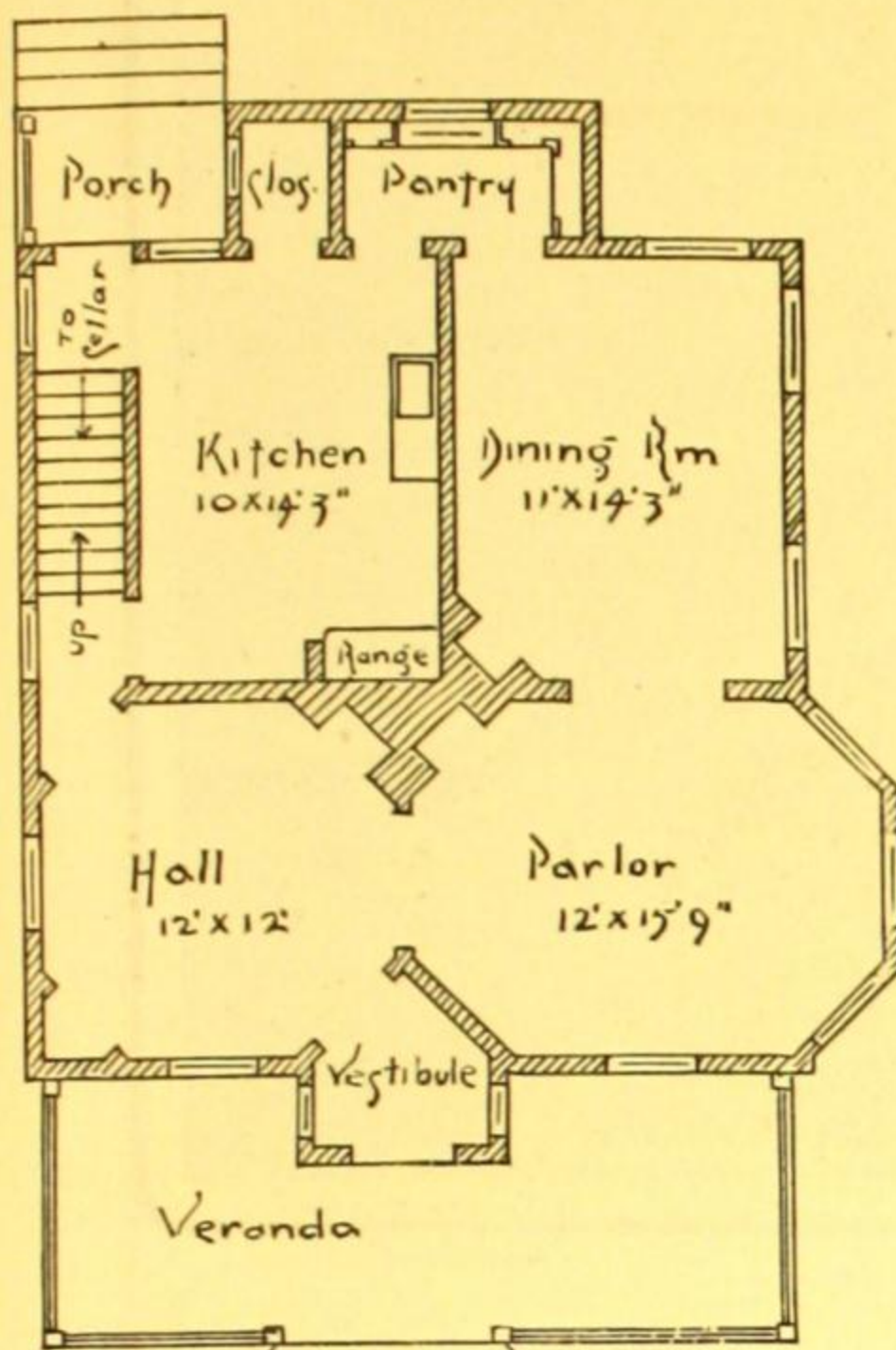
DESCRIPTION OF DESIGN NUMBER 340

SIZE OF STRUCTURE: Front, 29 ft., 3 in. Side, 28 ft.; extreme depth including front veranda and pantry, 41 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.



FIRST FLOOR. NO. 340

COST: \$2,300, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim,

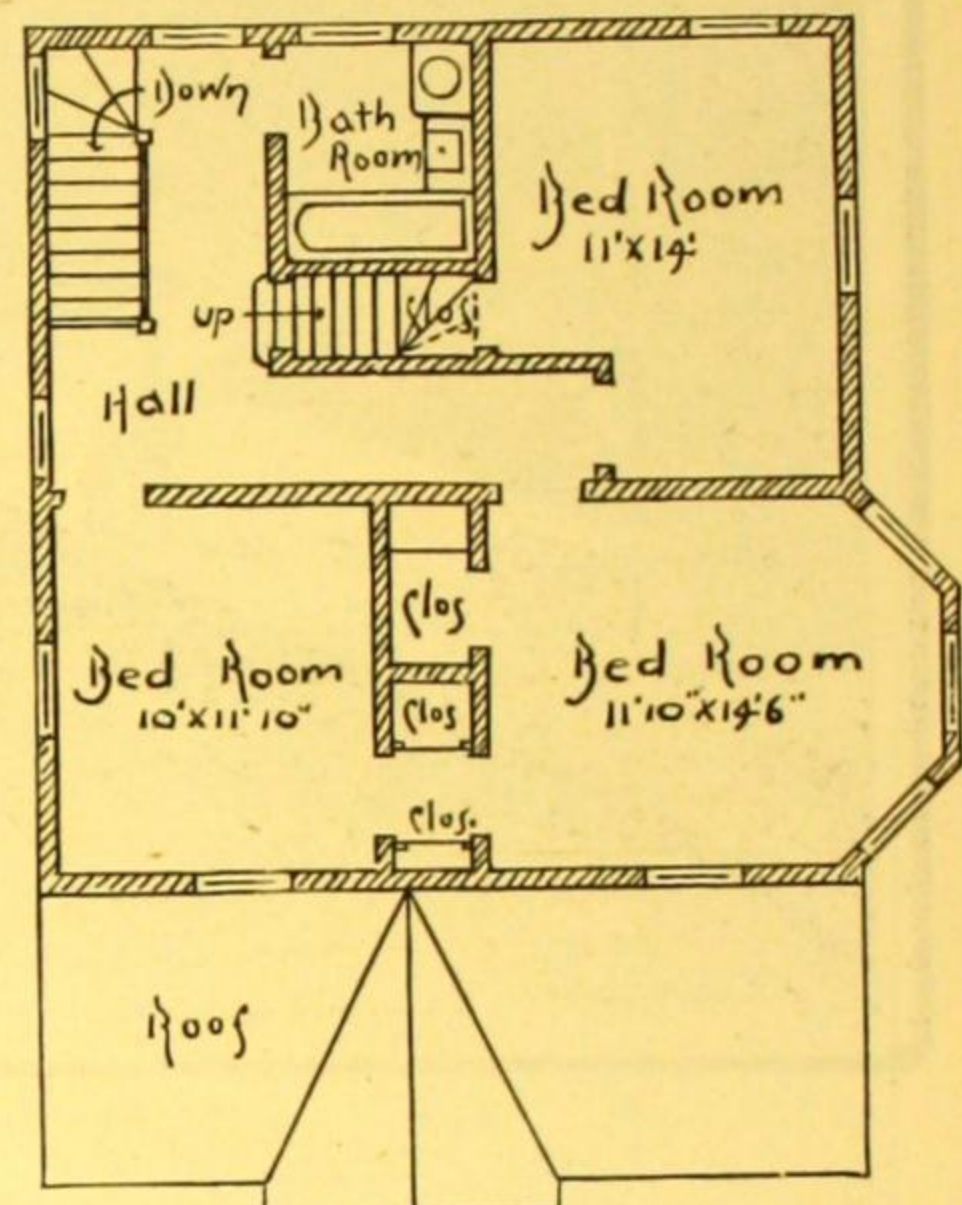
Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Similar in exterior appearance and general design to the preceding one; intended for the ordinary level lot. The rear veranda is left off, and the front veranda is carried across the full width.

Cellar under the whole house.

This house can be heated by a fire-place heater placed in the parlor or the dining-room, or one in both. The heat carried up to second story would warm the two front bed-rooms and the hall; from the hall the radiation would sufficiently warm the other two bed-rooms and the bathroom.



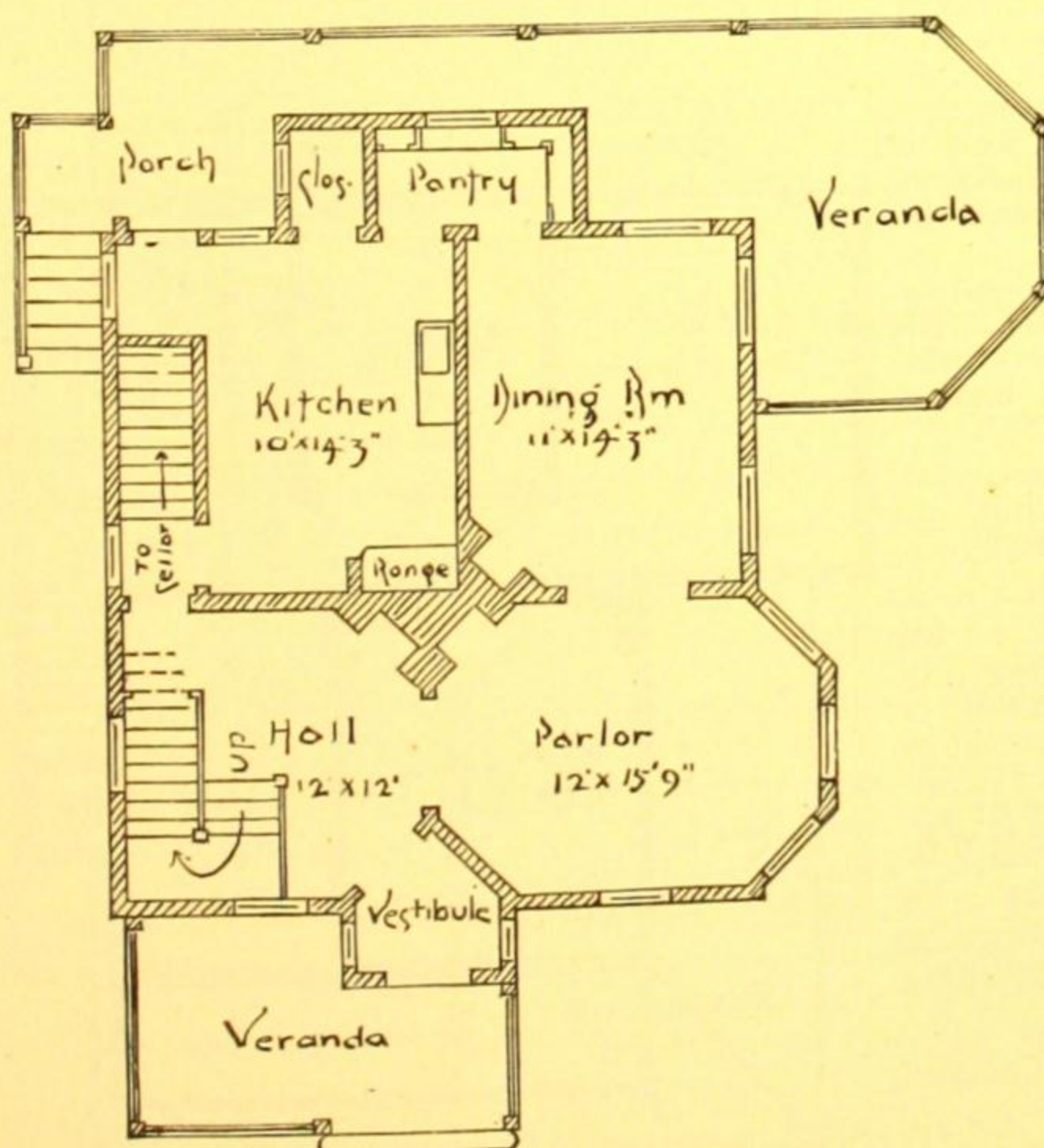
SECOND FLOOR. NO. 340

DESCRIPTION OF DESIGN NUMBER 341

COST: \$2,600, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

The same in size and general appearance as design Number 339.

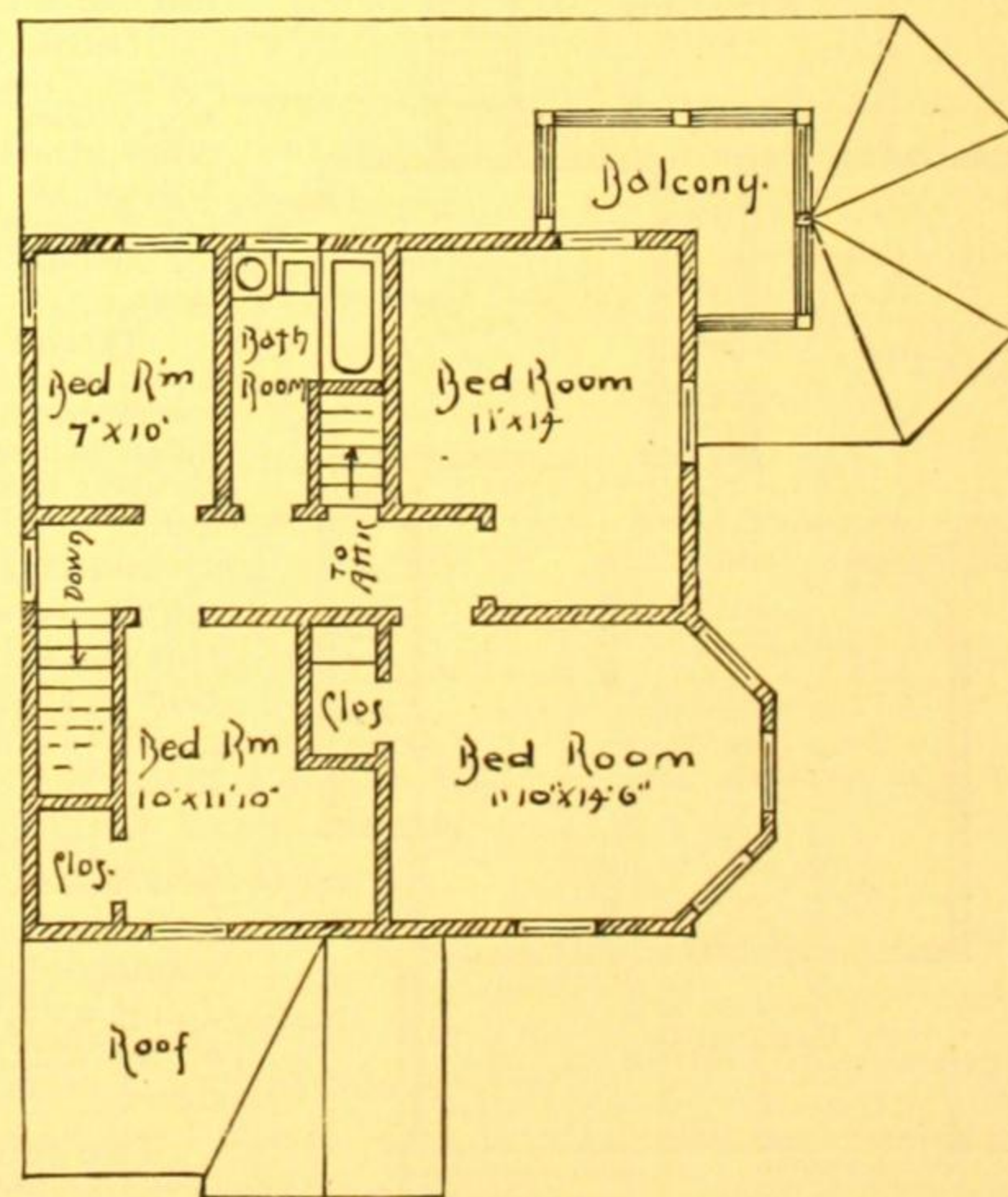


FIRST FLOOR. NO. 341

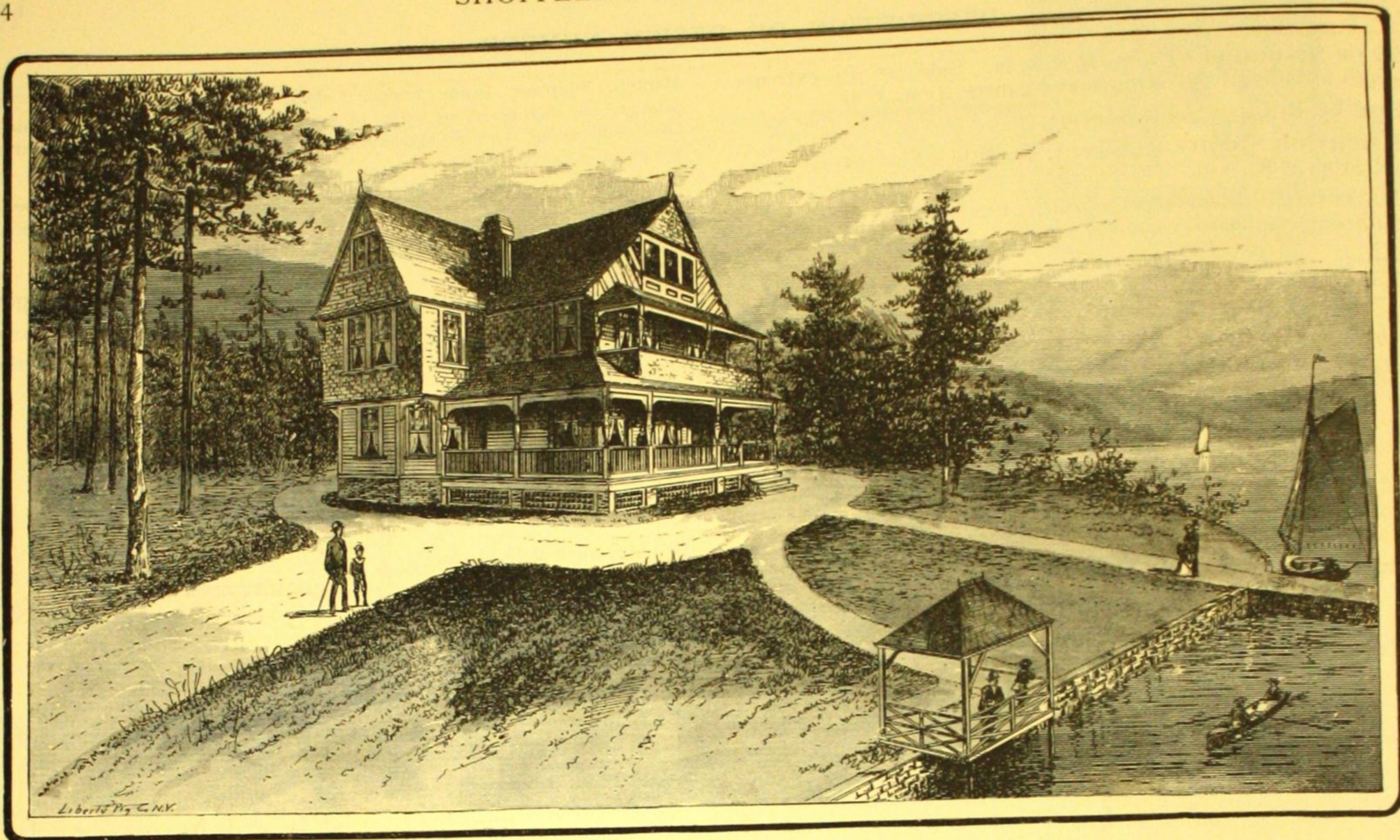
In this the staircase is put in the front or main entrance hall and is made an attractive feature.

Another bed-room is obtained in the second story, although the front bed-room is necessarily reduced in size.

This design also is appropriate for a side hill location.



SECOND FLOOR. NO. 341



DESIGN No. 342. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 342

SIZE OF STRUCTURE: Front, 28 ft.; extreme width, 37 ft. Side, 51 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles.

COST: \$2,600, complete, except mantels and kitchen range.

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

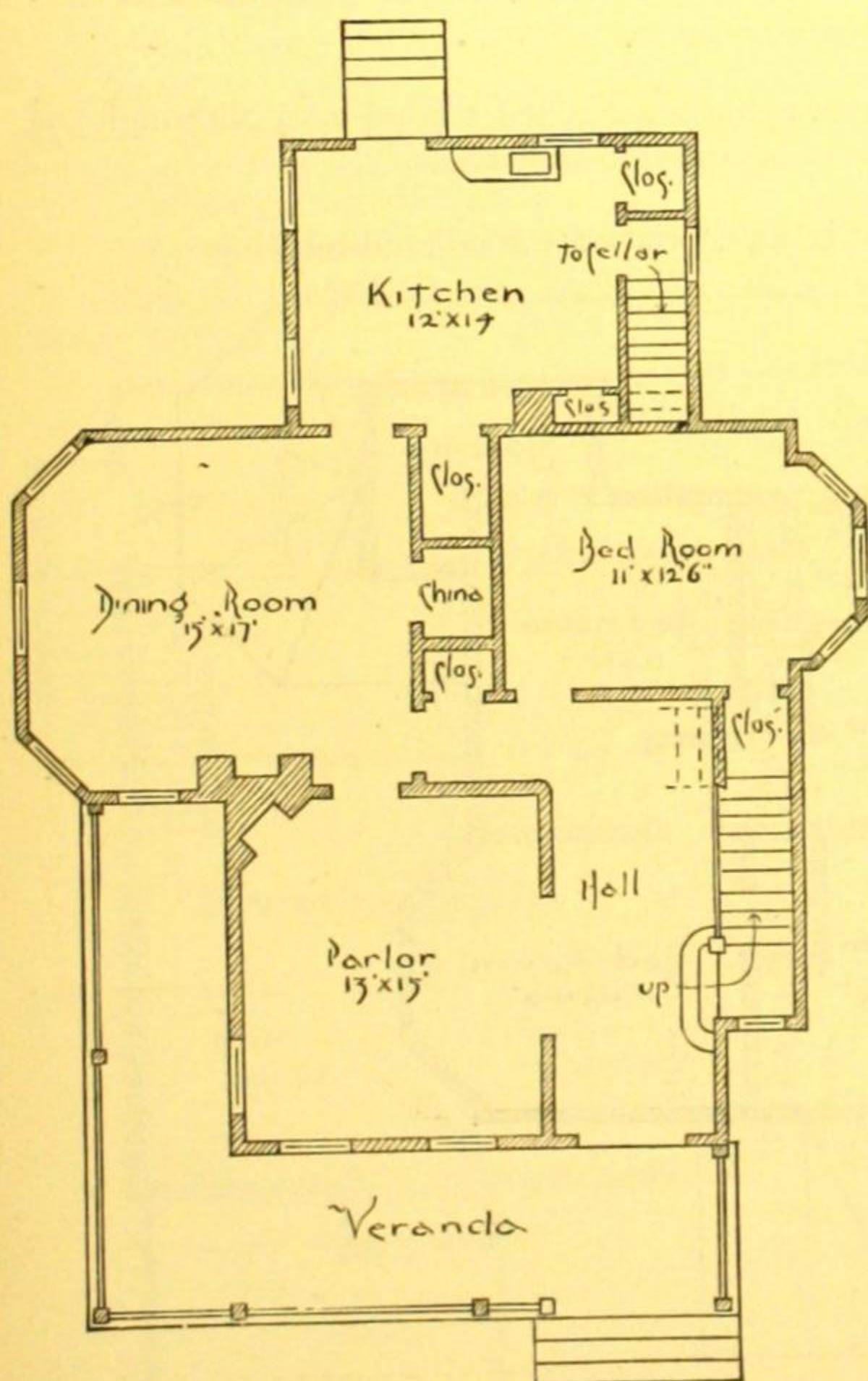
SPECIAL FEATURES.—Having an ample veranda and a large balcony, this is a suitable house for such a location as that shown in the view, or for any location where there is a fine outlook.

If preferred the bed-room on the first floor can be made a library or sitting-room, in which case it should be connected with the dining-room, by doing away with the closets between, or by making a passage of the china closet.

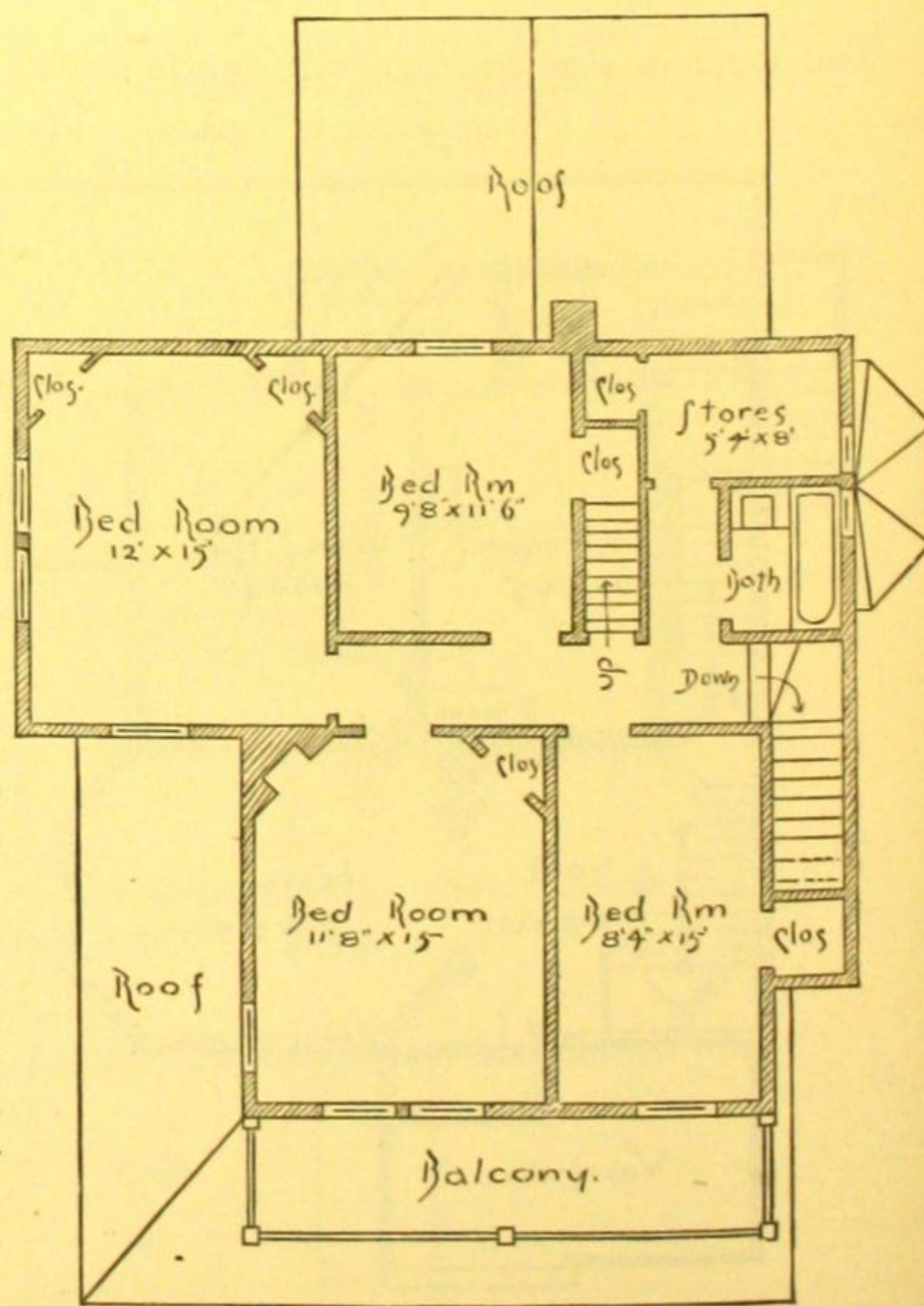
Two good bed-rooms can be finished in the attic if desired.

Cellar under the kitchen only.

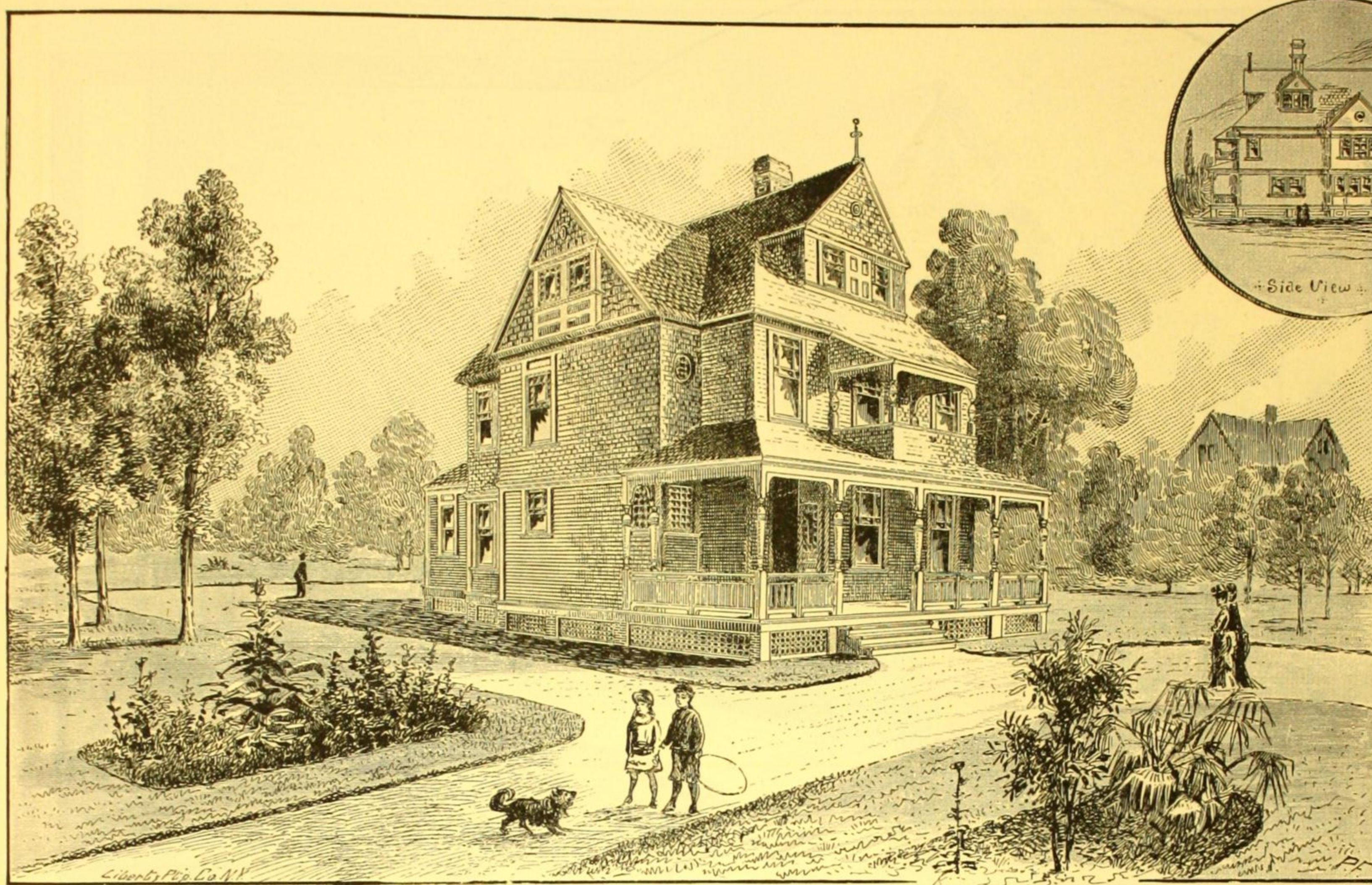
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 342



SECOND FLOOR. NO. 342



DESIGN No. 343. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 343

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; extreme width, including staircase projection and dining-room bay, 32 ft. Side, 42 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick piers; First Story, clap-boards; Second Story, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and

distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

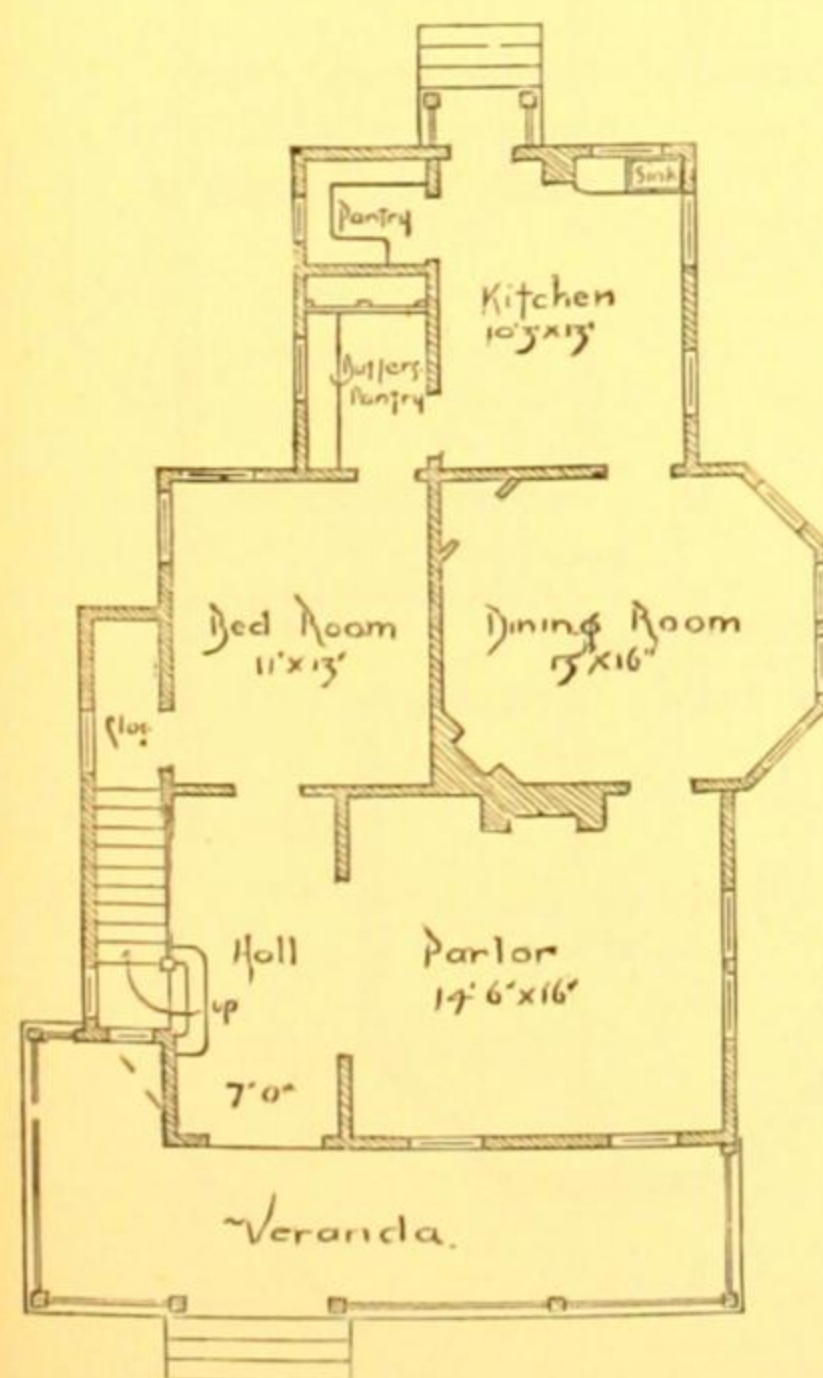
SPECIAL FEATURES.—Designed for erection in the South, this house has no cellar, but is built upon a foundation of brick piers. A cellar under the whole house, with stone and brick walls, would cost about \$200 additional.

The bed-room on first floor can be used as a library or sitting-room, and if so used it should be connected with the dining-room.

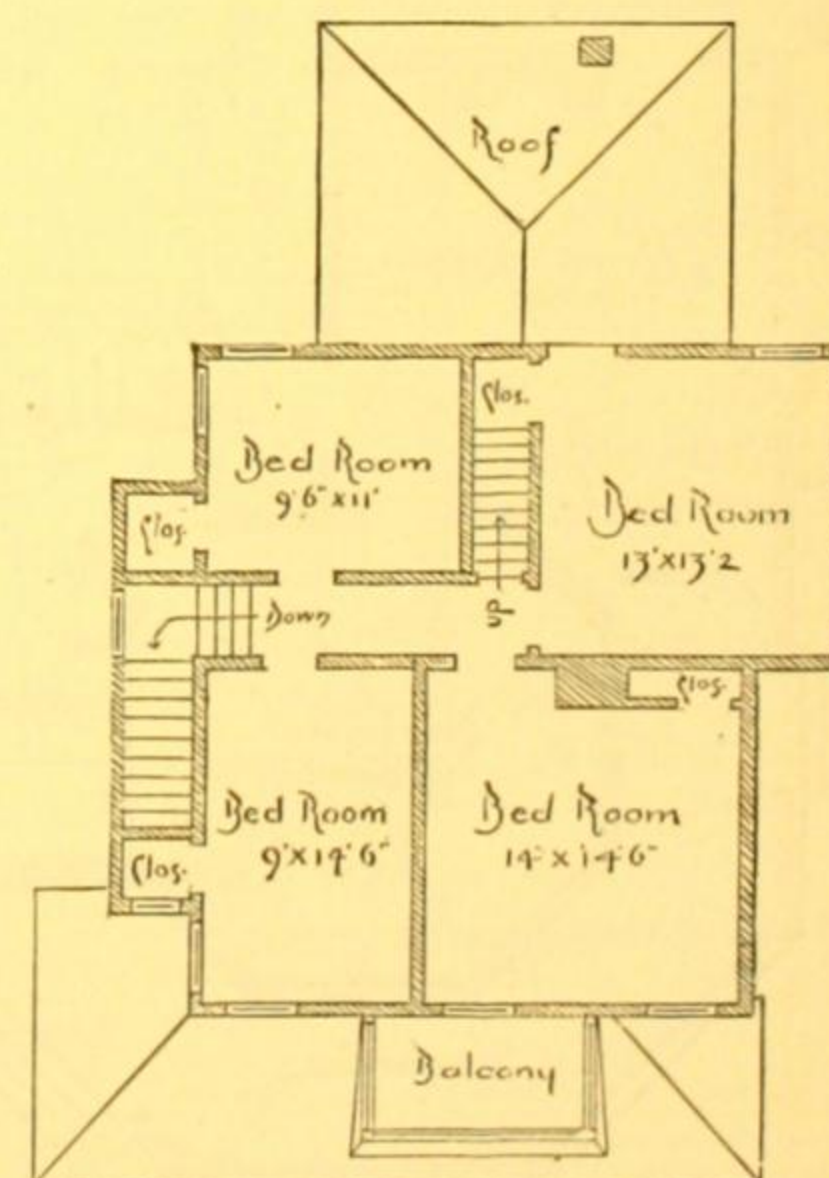
Open fire-places in the parlor and dining-room.

This would make a good sea-side house; the ample veranda and the covered balcony are desirable features in a house intended as a summer residence.

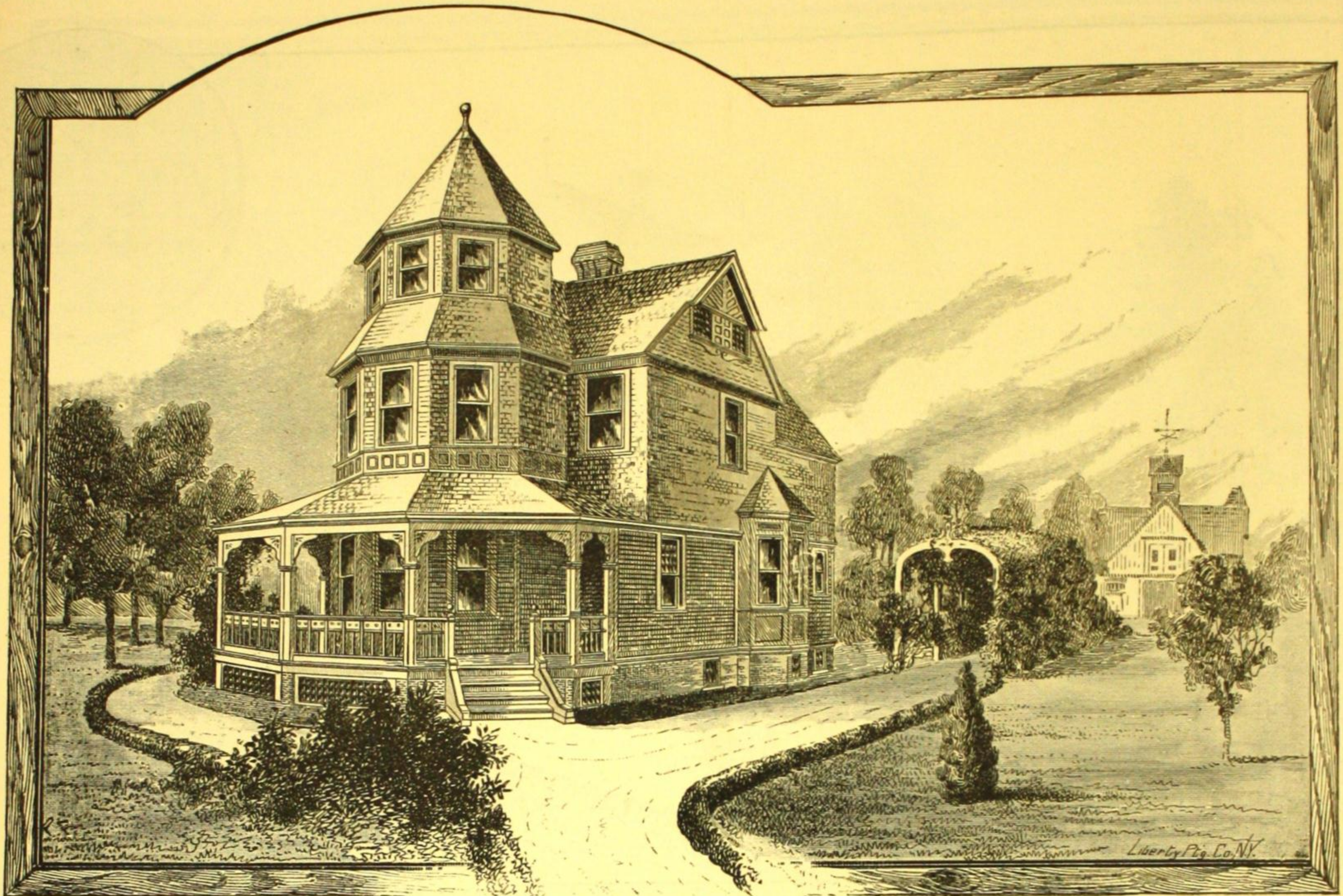
It is unwise to dismiss the consideration of a plan because it was originally designed for a distant part of the country. One section can learn from another.



FIRST FLOOR. NO. 343



SECOND FLOOR. NO. 343

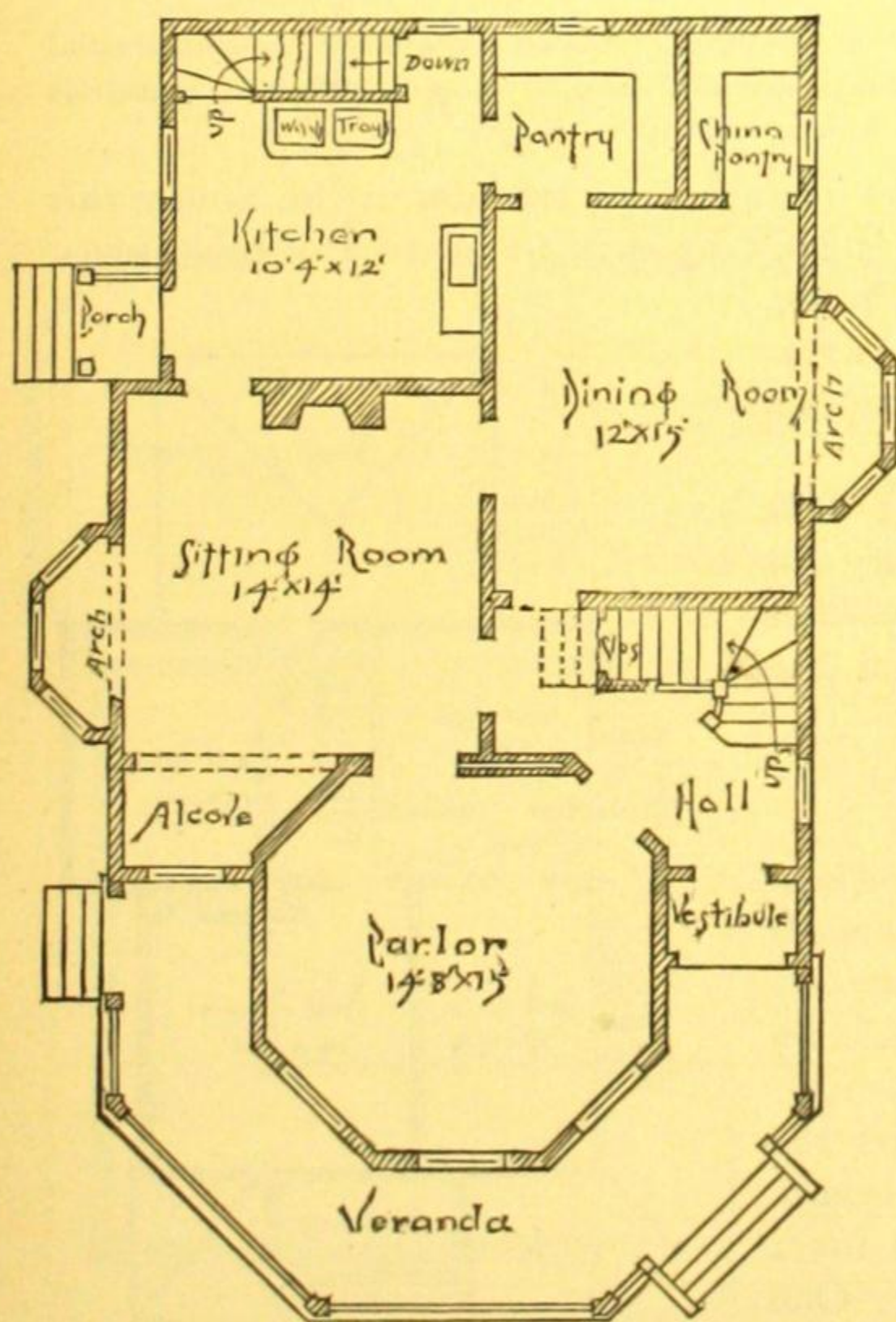


DESIGN No. 344. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 344

SIZE OF STRUCTURE: Front, 27 ft., 6 in. Side, 44 ft., 6 in.; depth over all, 50 ft., 6 in.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 344

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 3 in.; Second Story, 8 ft., 9 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panelling; Roof, shingles.

COST: \$3,000, complete, except mantels, heater and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified.

The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The front veranda is 6 ft. wide.

Parlor and sitting-room are connected by a sliding door.

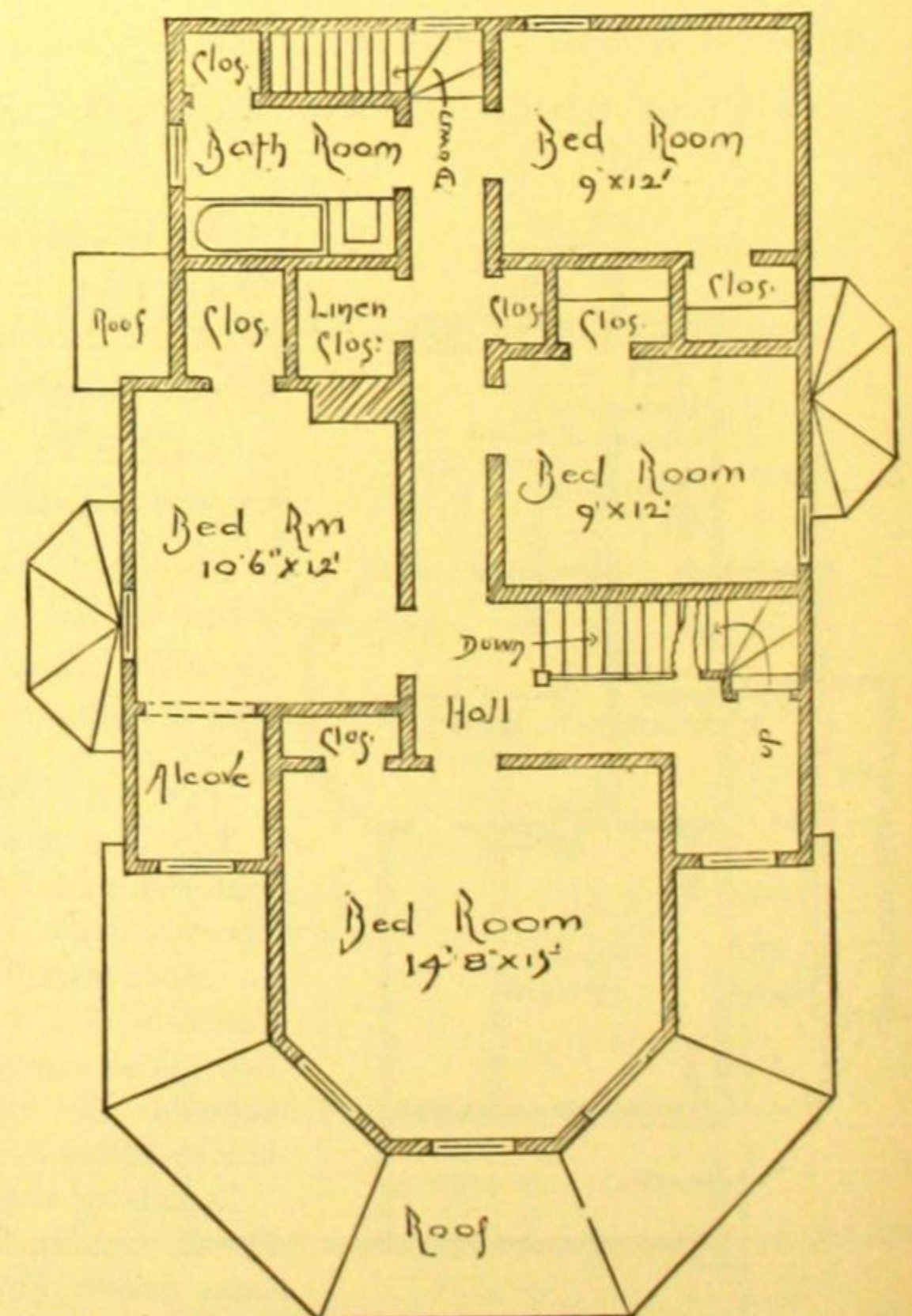
Very large pantry and china closet. Stationary wash-tubs in the kitchen.

Fire-place in the sitting-room. All other rooms heated by a furnace.

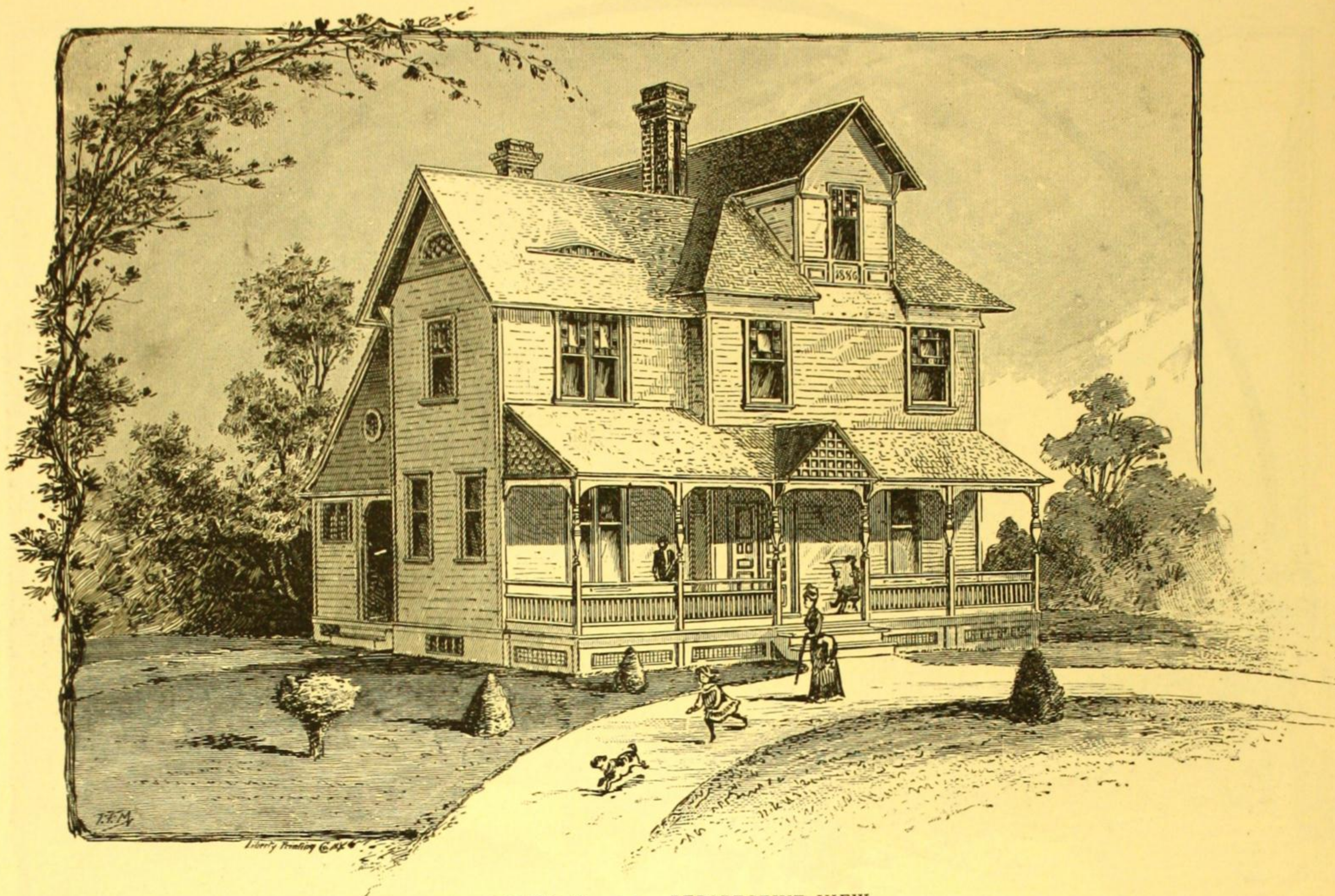
An abundance of large closets in the second story.

Two good rooms can be finished in the attic if desired, still leaving ample storage space.

Cellar extends under the whole house, with outside and inside entrance.



SECOND FLOOR. NO. 344



DESIGN No. 345. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 345

SIZE OF STRUCTURE: Front 33 ft., 6 in. Side, 36 ft., including first veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

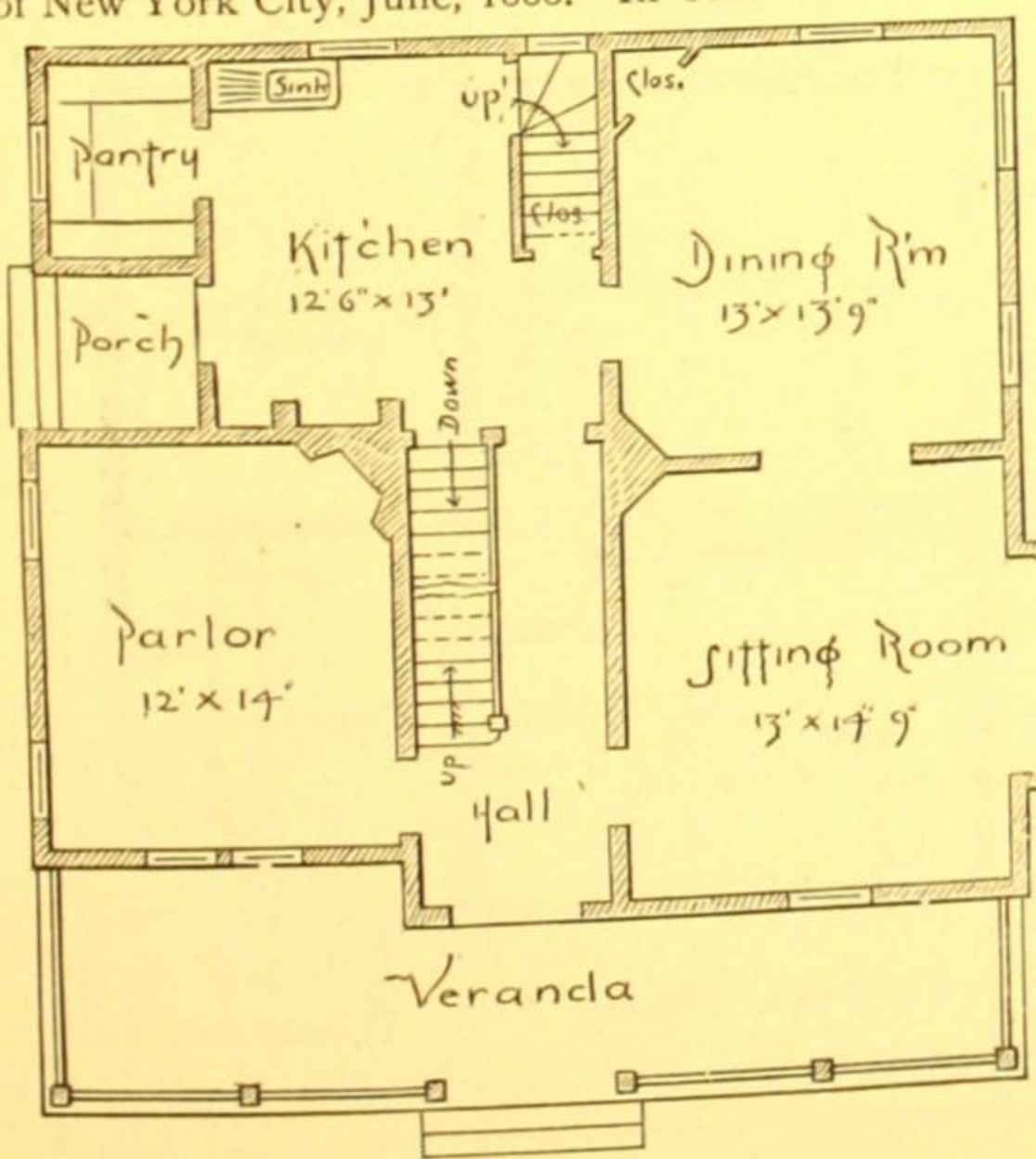
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$2,500, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



FIRST FLOOR. NO. 345

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

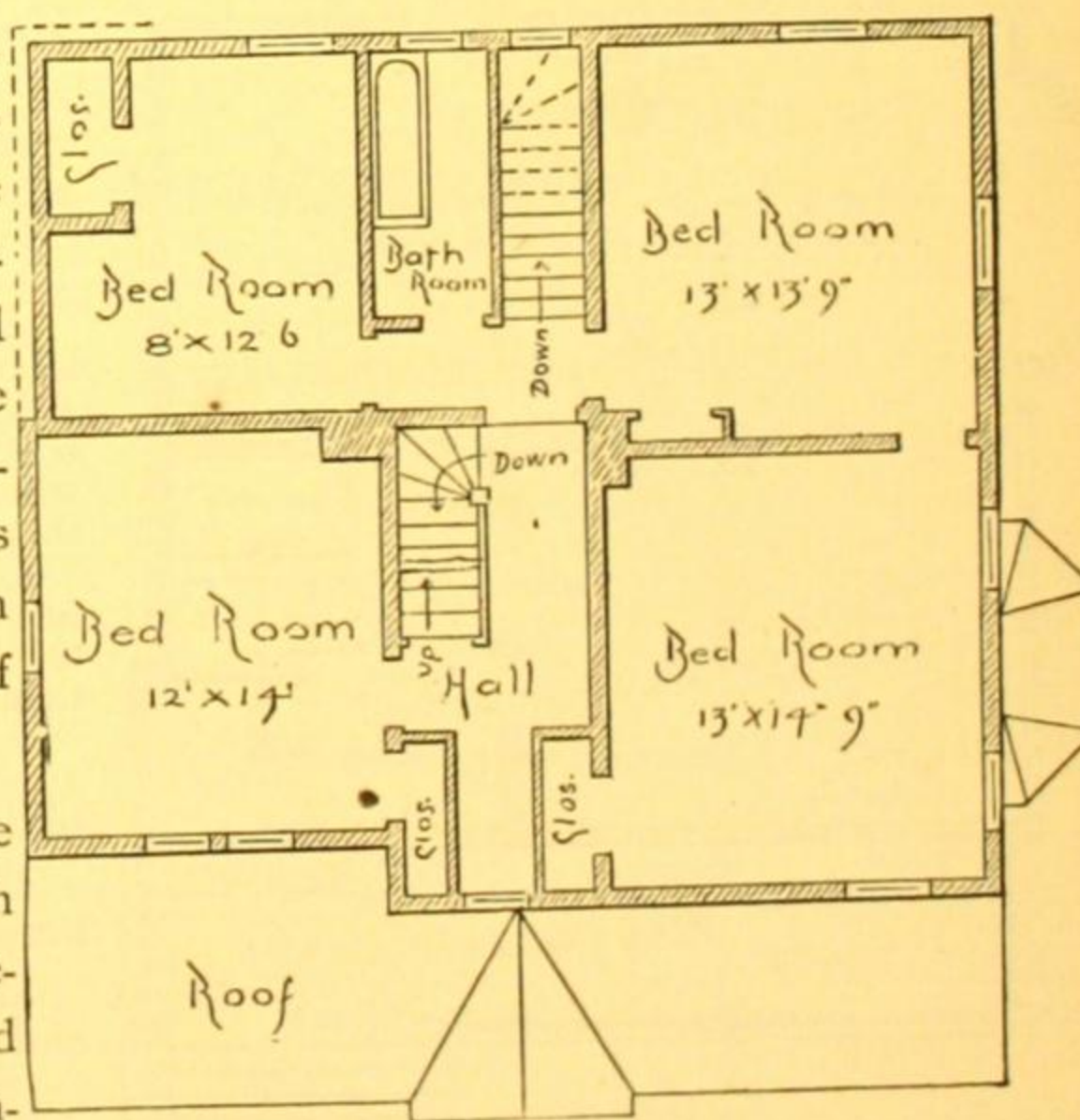
This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The central hall is 6 ft., 6 in. wide. There is a fire-place in the parlor. In the sitting-room and in the dining-room there are flues for stove connection, and small, neat hard-wood mantel shelves.

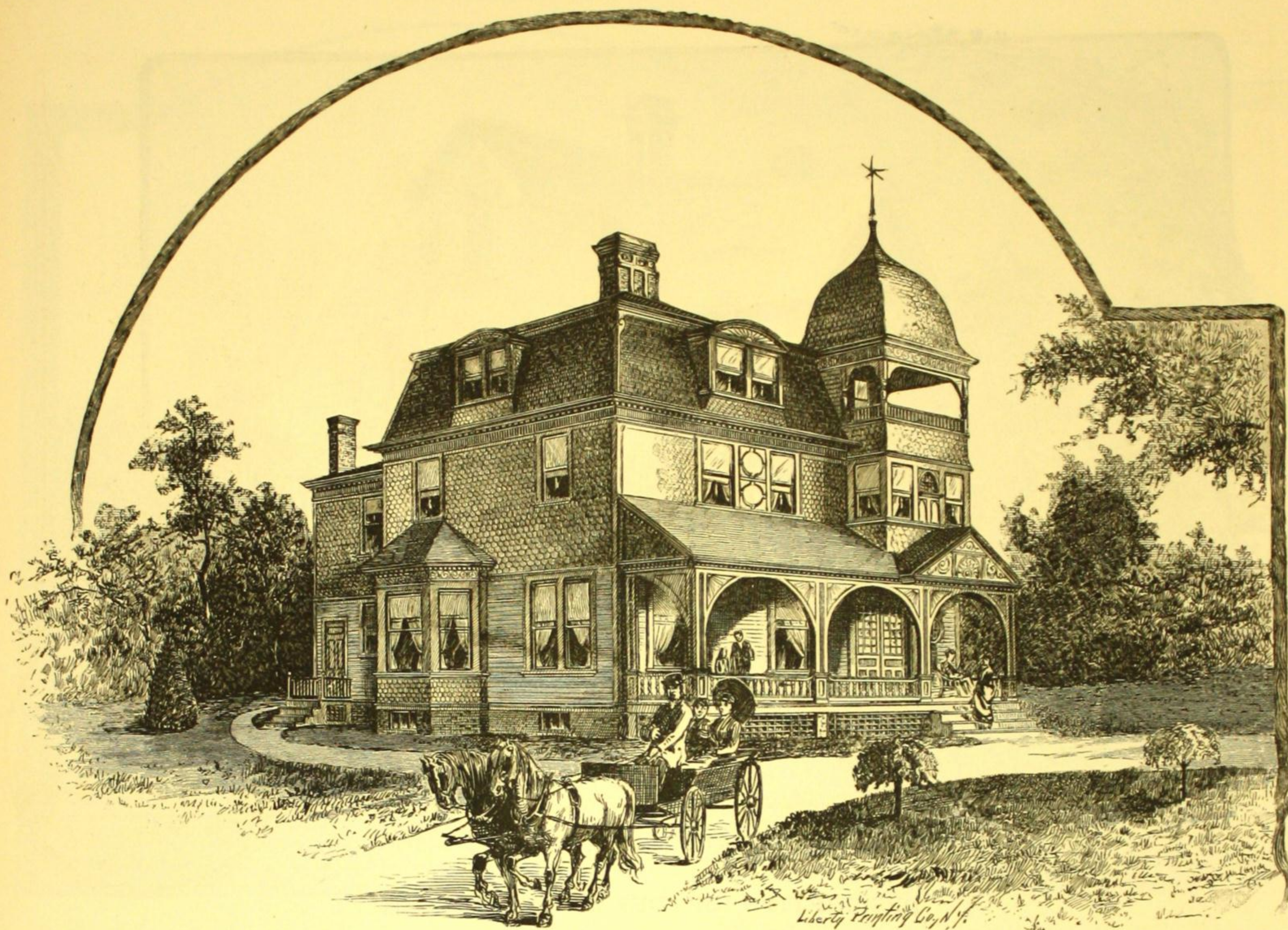
A bath-tub is provided in the second story, but no water-closet. Hot and cold water are carried to the tub and to the kitchen sink, a galvanized iron boiler furnishing the hot water.

Four very good bed-rooms in second story. Two good rooms can be finished in the attic if desired, still leaving storage room. The finishing of attic rooms is not included in our estimate of cost.

Cellar under the whole house, with walls laid in cement mortar, and cellar bottom concreted.

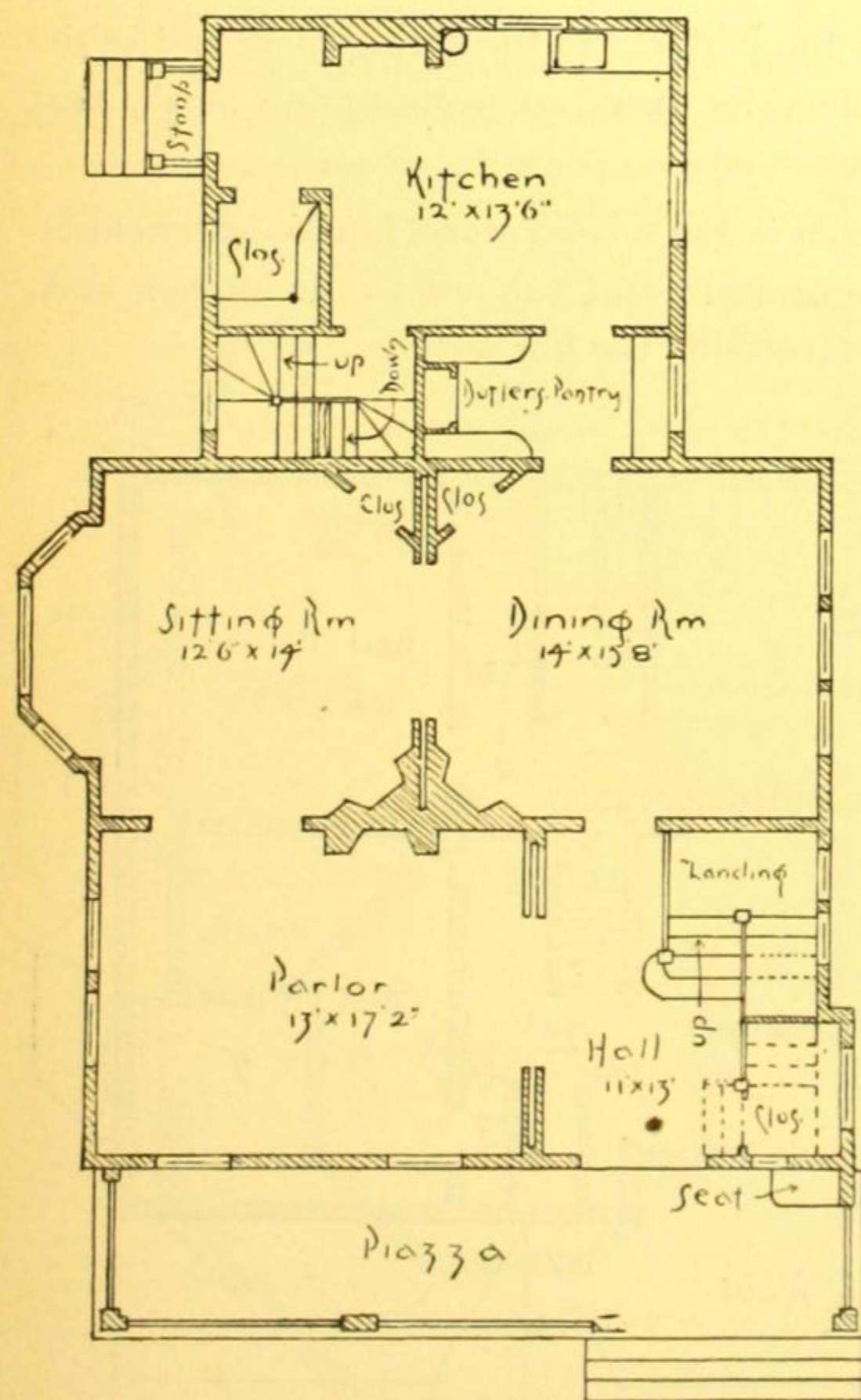


SECOND FLOOR. NO. 345



DESIGN No. 346. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 346



FIRST FLOOR. NO. 346

SIZE OF STRUCTURE: Front, 31 ft. Side, 46 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, slate.

COST: \$4,500, complete, except mantels, kitchen range and heater.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

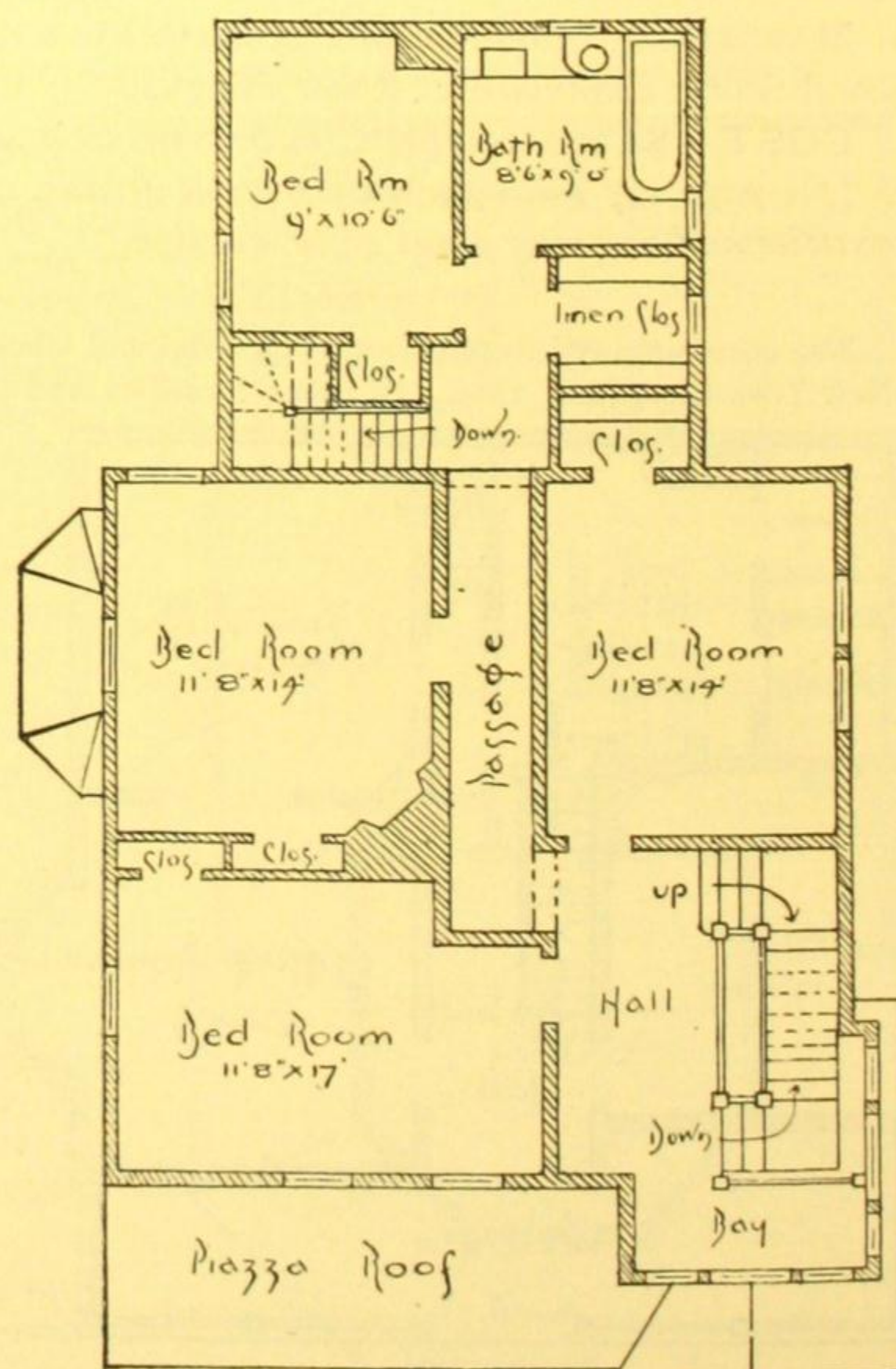
SPECIAL FEATURES.—Square hall, with platform staircase.

Sliding doors between hall and parlor and between sitting-room and dining-room.

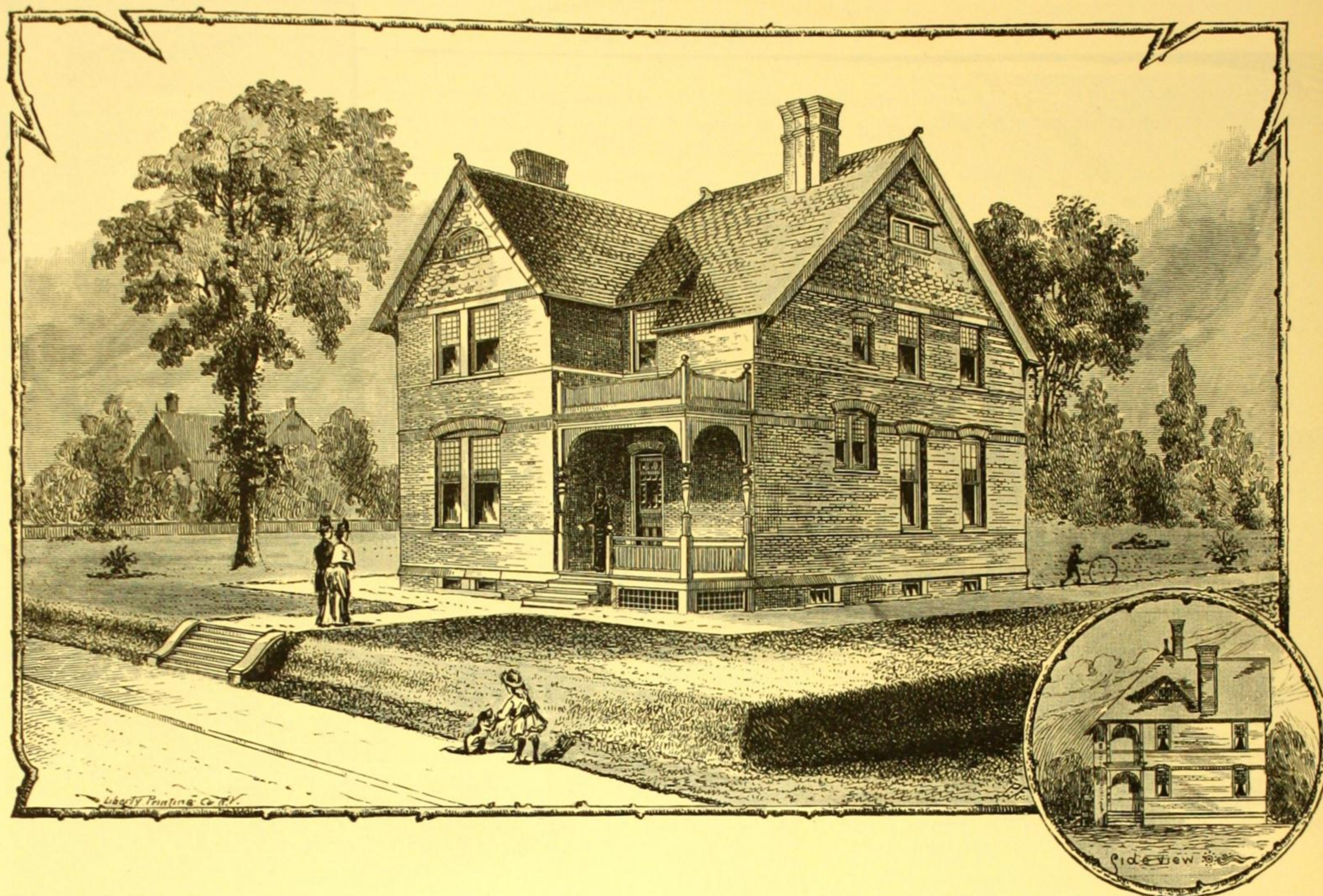
Four bed-rooms, a bath-room, ample hall and large closets in the second story.

Three good bed-rooms in the third story.

Cellar under the whole house.



SECOND FLOOR. NO. 346



DESIGN No. 347. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 347

SIZE OF STRUCTURE: Front, 33 ft. Side, 35 ft., 6 in.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Gables, shingles; Roof, slate.

COST: \$4,000, complete, except mantels, furnace and kitchen range.

to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A brick house, comfortable, but unpretentious. Good large rooms and a generous hall.

The staircase starts from the back end of the hall, and winds toward the front, having a square platform landing two-thirds of the way up. The newel, rail and balusters of the staircase are of hard wood.

The parlor and dining-room have open fire-places large enough to admit of log fires. These rooms are connected by double folding doors, but it would be better to hang a curtain and do away with the doors. The dining-room has a door opening to the rear porch.

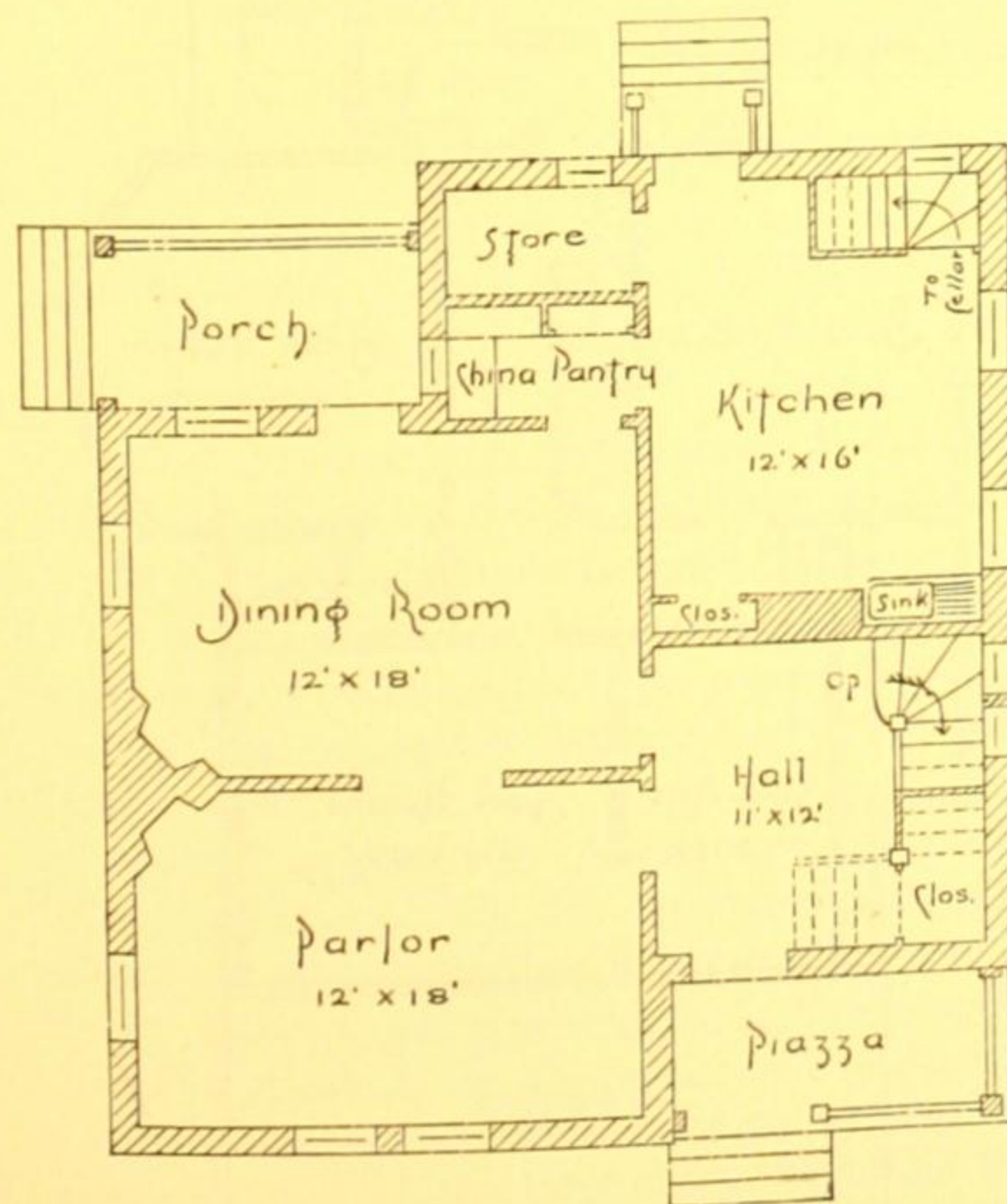
The china-closet between the dining-room and kitchen has lockers for china and drawers for table linen.

Three large bed-rooms, a bath-room and large closets are obtained in the second story.

The attic is floored but not finished. Two rooms can be made there, if desired.

Cellar under the hall and kitchen. Stone walls under the whole house.

Selected stock brick are used for facing, and painted or oiled.



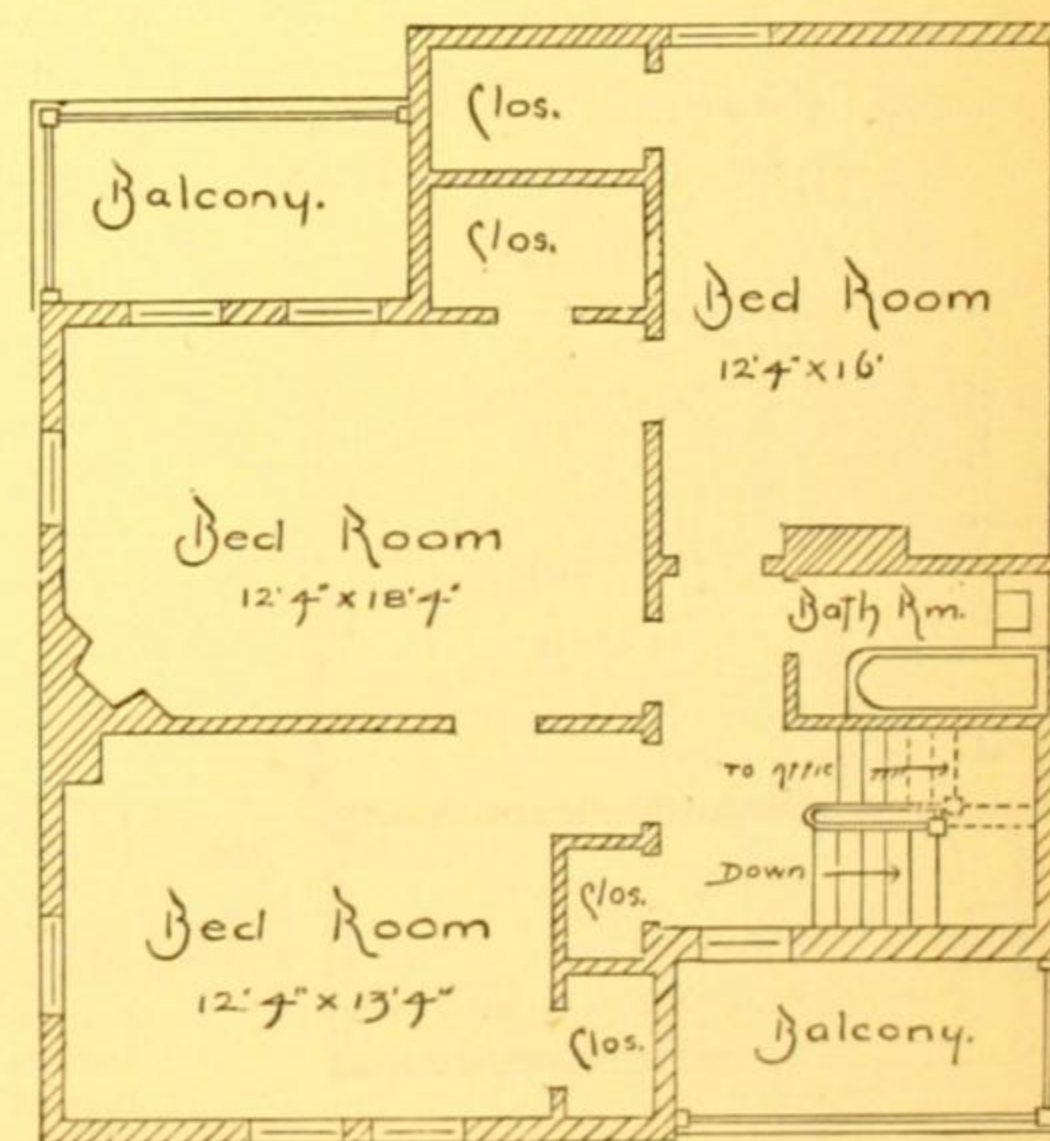
FIRST FLOOR. NO. 347

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

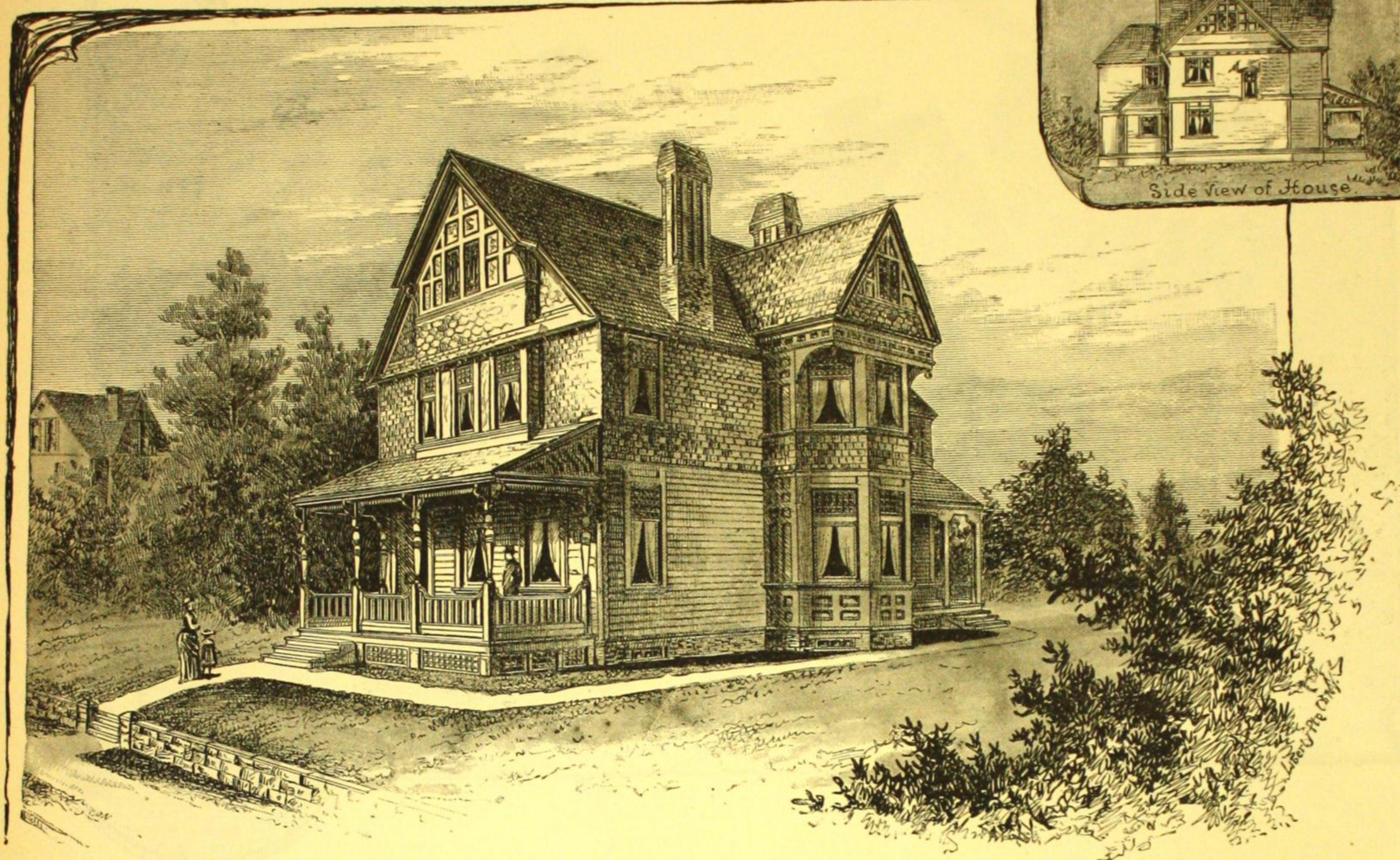
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also,



SECOND FLOOR. NO. 347



DESIGN No. 348. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 348

SIZE OF STRUCTURE: Front, 23 ft., 6 in.; width through dining-room and library, 32 ft. Side, 42 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 8 in.; Second Story, 8 ft., 10 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, panelled and shingled; Roof, shingles.

COST: \$3,000, complete, except mantels, heater and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Sliding doors between parlor and library, and between library and dining-room. The opening between the hall and the parlor is intended for double folding doors or a portiere.

The front veranda is eight feet wide.

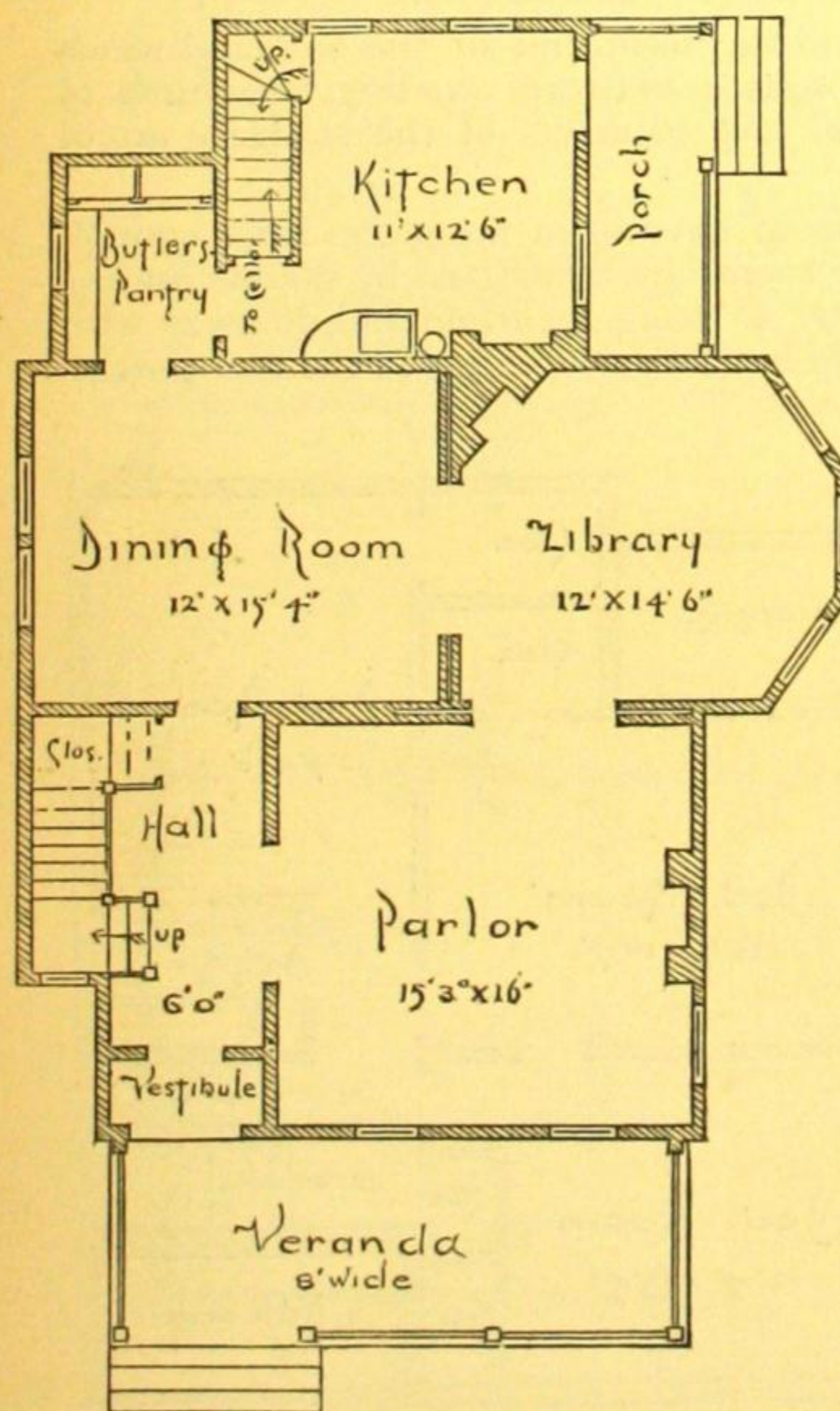
The smaller front bed-room can be made an alcove for the larger room if desired.

Our estimate does not include finishing the attic but two good rooms can be finished there if required and still leave plenty of space for storage purposes.

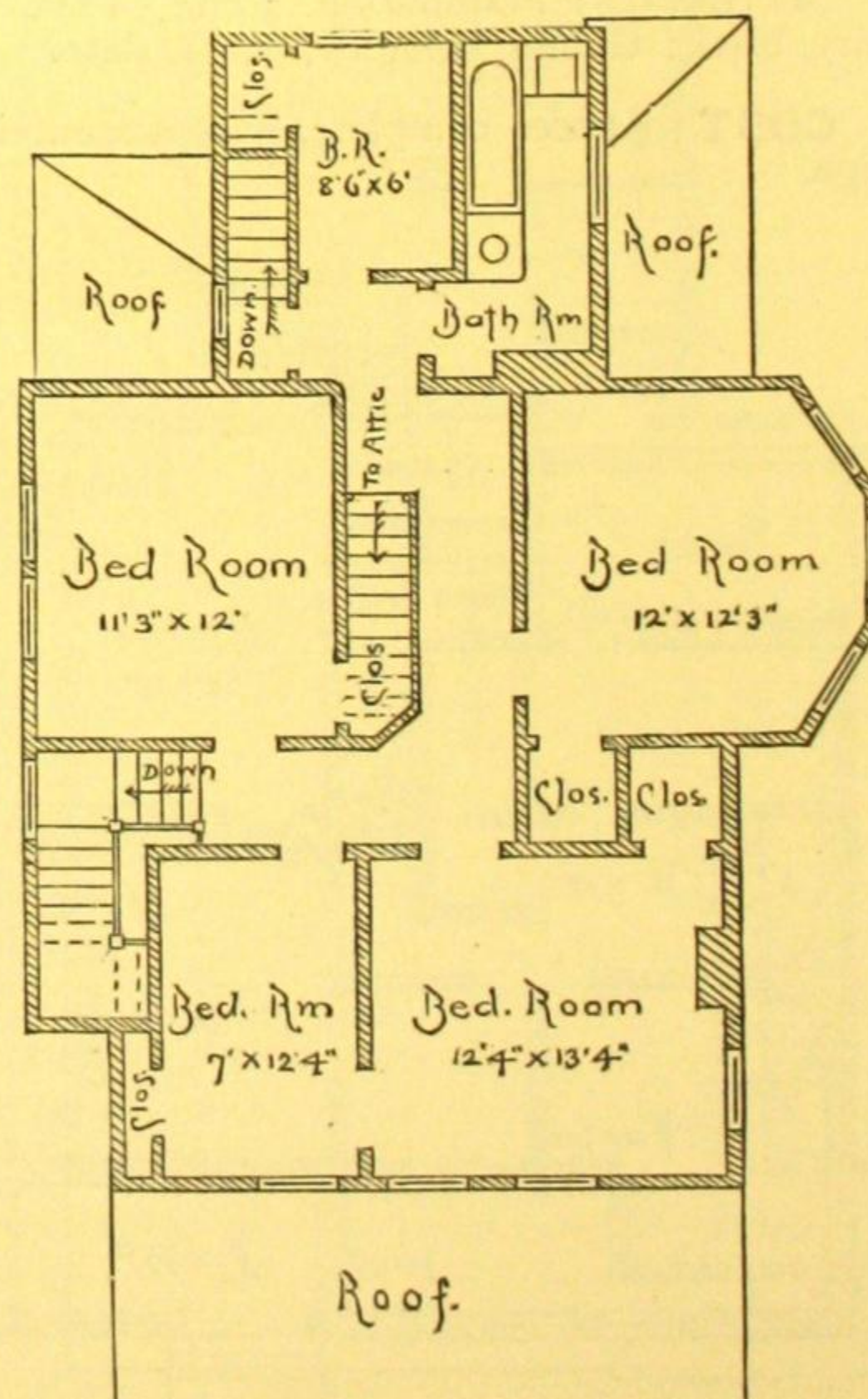
The house is trimmed in soft wood throughout, finished without paint.

Staircase is hard wood of unique design.

Cellar under kitchen, dining and sitting-rooms. Walls under the whole house.



FIRST FLOOR. NO. 348



SECOND FLOOR. NO. 348

THE CISTERN

The cistern should be located within easy reach of the laundry and kitchen and *outside* of the house. When located inside of the house it is difficult to ventilate it; if not well ventilated, and if not often and thoroughly cleaned, it is a positive source of danger to health.

A cistern built in a circular form (see Fig. 1), is the cheapest, as a much lighter wall will keep the earth from caving in, than would a wall built in any other form.

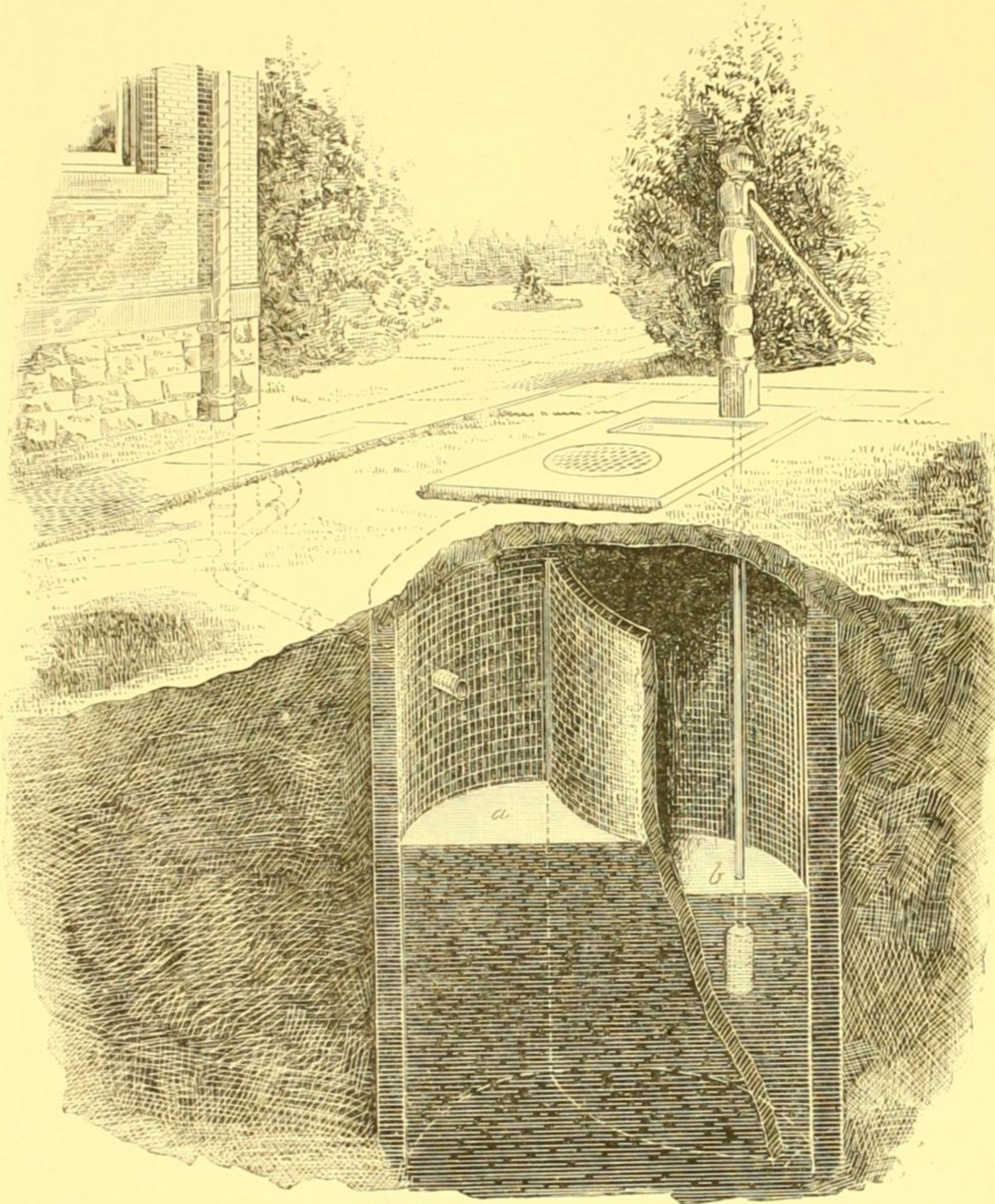


Fig. 1.

The wall should be built of hard brick, laid in cement mortar, and thoroughly coated on the inside with Portland cement. This coating should be run to a smooth surface, in order that it may be easily cleaned.

The next step is to build a curved wall of porous brick across the cistern, dividing the cistern vertically into two compartments.

A curved wall should be built to insure strength.

Turning the water into the larger chamber (*a* Fig. 1), it presses against the curved wall, and percolates through to the smaller chamber (*b* Fig. 1), leaving the greater part of its impurities in the larger chamber and in the wall.

Other impurities (if there be any) should be retained by means of a charcoal filter attached to the pump supply pipe, so that when the water comes to the surface it should be pure.

A dome shaped cover and man hole should be provided so that both chambers can be easily reached and often cleaned. The man hole cover should be perforated to secure ventilation. A fine wire screen secured to the under side of the man hole cover will prevent bugs, dirt, etc., from falling in.

The objection to this plan is that, in time, the porous partition wall may become fouled, requiring its removal and rebuilding with new brick.

Another good plan is to build the cistern in a circular and dome covered form, as described above, and at one side build a separate filtering receiver as shown in Fig. 2.

The water is received in the reservoir *a*, and is relieved of its impurities by passing underneath a dividing partition and through layers of gravel and charcoal, rising in the compartment *b* to the level of the outlet leading directly to the cistern proper (*c*).

The objection to this plan is that a heavy and rapid rain fall is apt to force the water so rapidly through the filtering layers that impurities may be carried into the cistern.

By combining the best features of the two plans described above the best cistern is secured, in our opinion. To do this make the partition in Fig. 1 of hard burned brick; lay the same in Portland cement, and coat each side of the partition with cement the same as walls, so that water can not percolate through the bricks from "*a*" to "*b*." At the floor of the cistern a row of holes about 4 inches square and 16 inches apart, should be left to allow the water to pass through. In the bottom of each chamber place a layer of gravel about 12 inches deep, on this a layer of charcoal 6 inches deep, and on this again a layer of sand about 6 inches deep. This gives the water a double filtration before it reaches the pump, which should have a charcoal filter attached to the base of the supply pipe.

This arrangement of the layers makes it an easy task to clean the cistern; by removing the layer of the sand in the chamber "*a*," the matter most likely to decompose and breed disease, can be taken up with the sand, and a fresh layer put in. When the charcoal and gravel become foul, they may be easily replaced in a like manner. The one man hole as shown in Fig. 1 answers for the two chambers.

At the bottom of the leader from the roof there should be two pipes, one leading to the cistern and the other to the sewer or the ground. A damper arrangement is placed at the junction of these pipes for the purpose of turning the first part of a rainfall and with it all the dust, leaves, bird excrement, etc., into the sewer or on to the ground. This attachment can be procured, ready made, and is supplied by roofers.

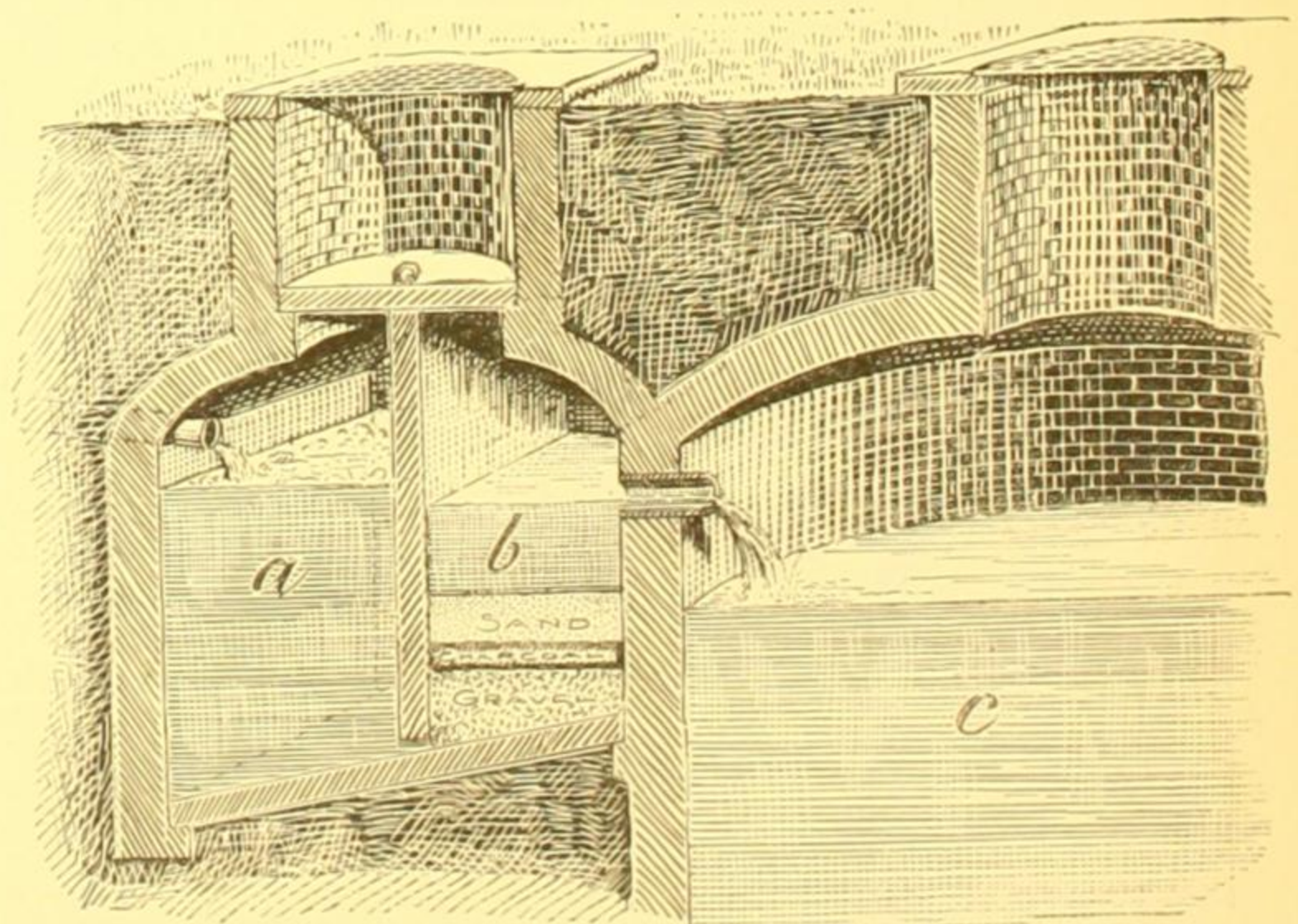
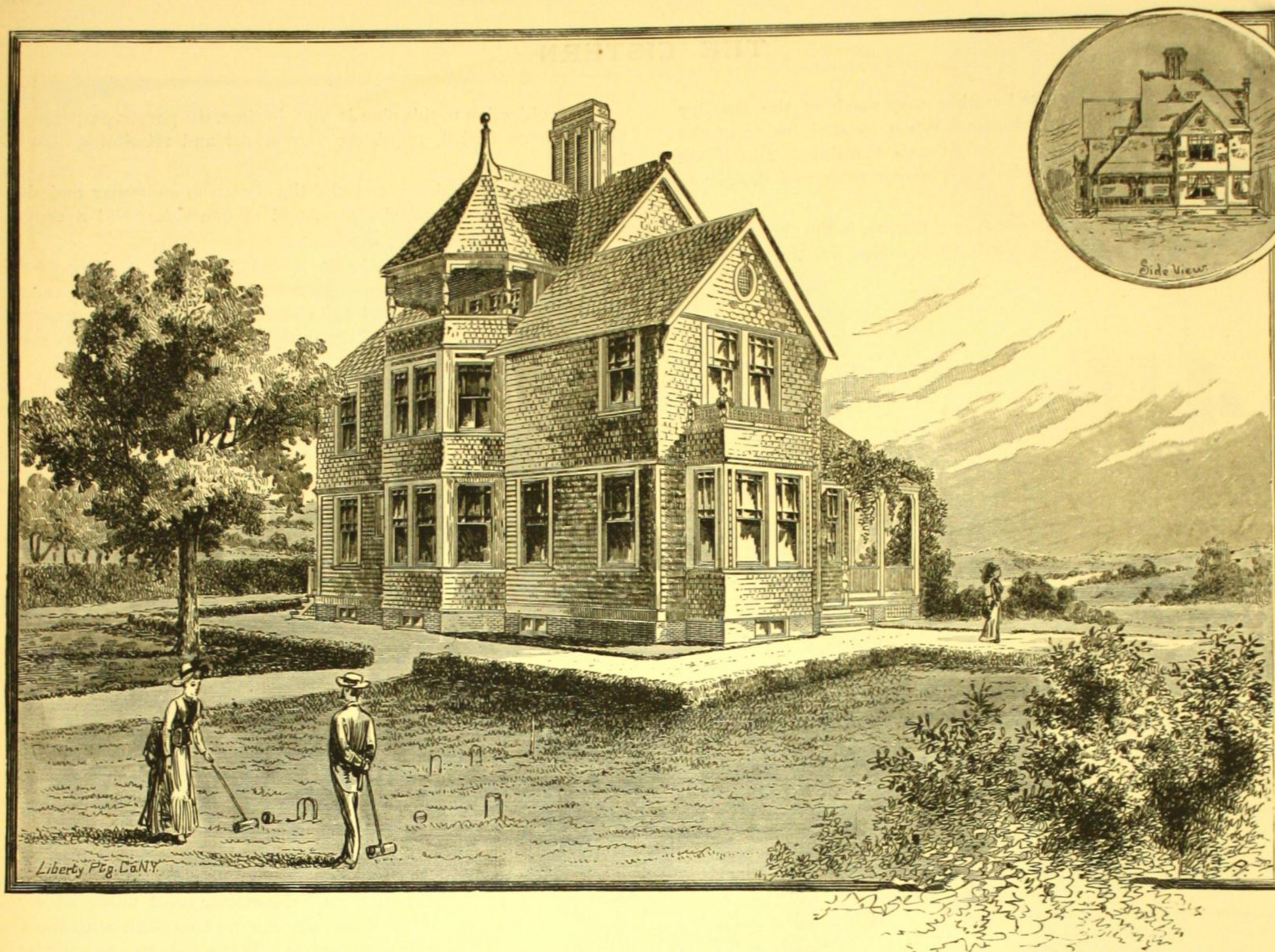


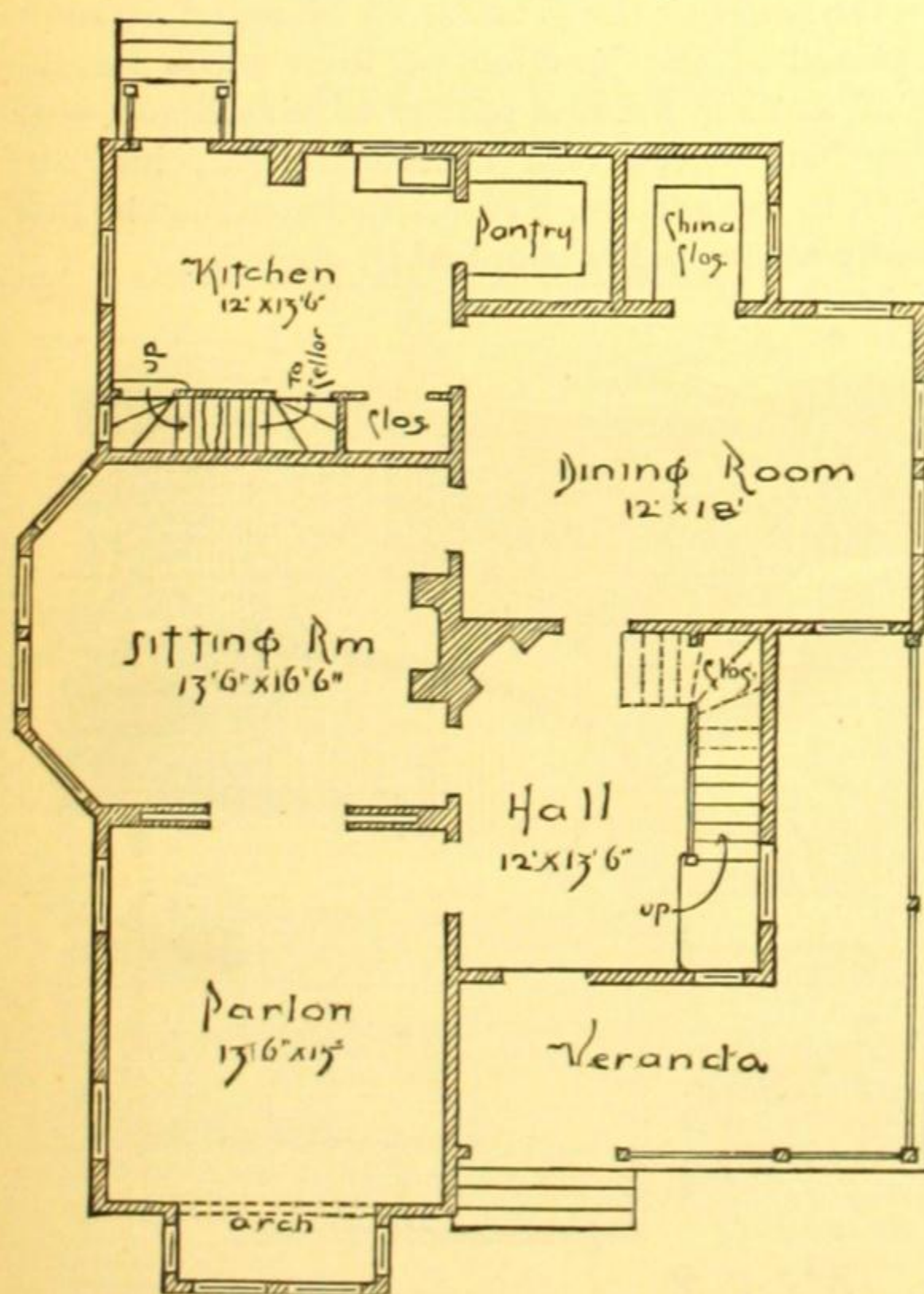
Fig. 2.



DESIGN No. 349. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 349

SIZE OF STRUCTURE: Front, 33 ft., including veranda. Side, 46 ft.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 349

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,500, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

The cost is figured from prices of material and labor in the neighborhood of

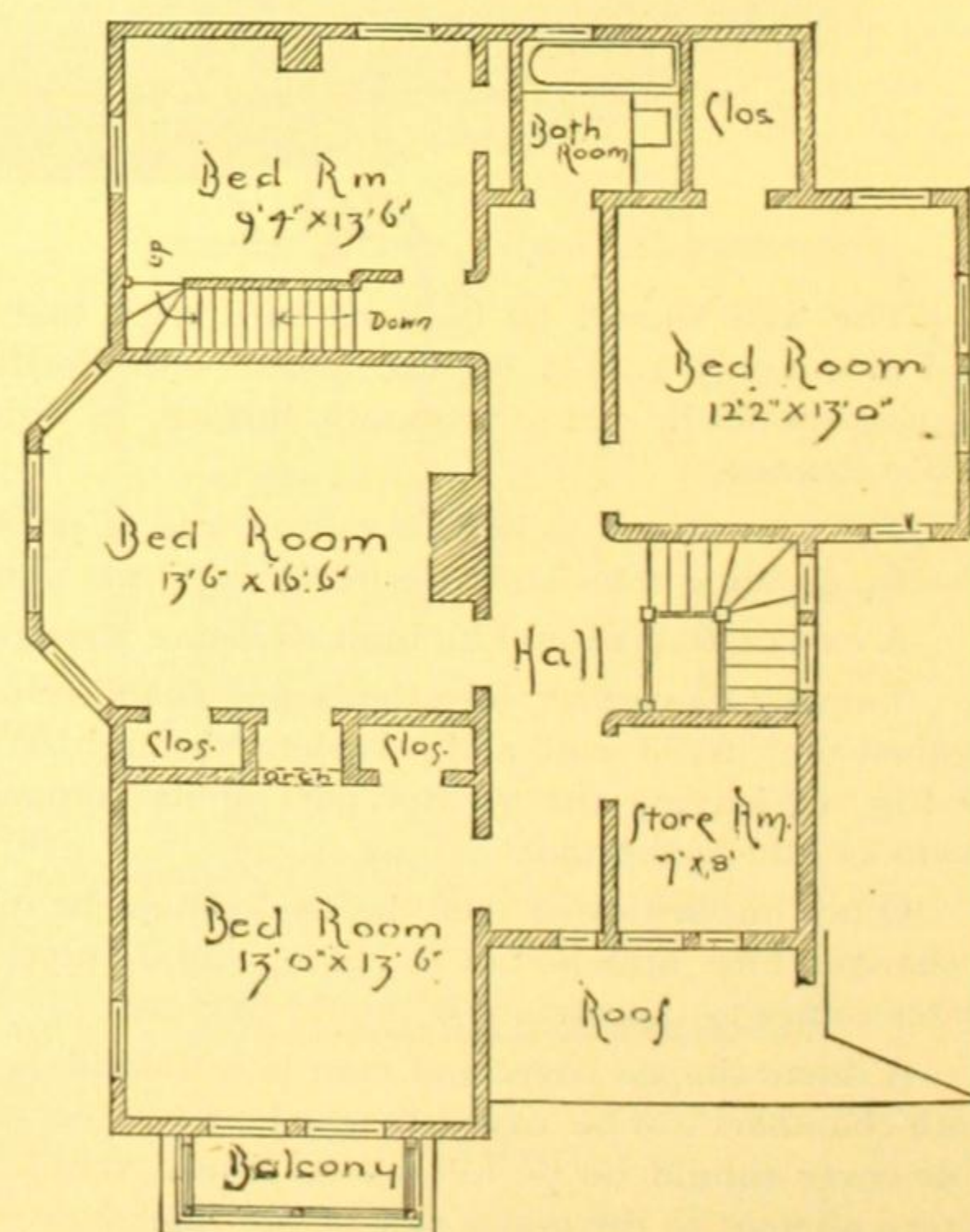
New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—Cellar under kitchen, sitting-room and parlor, with brick walls under the whole house.

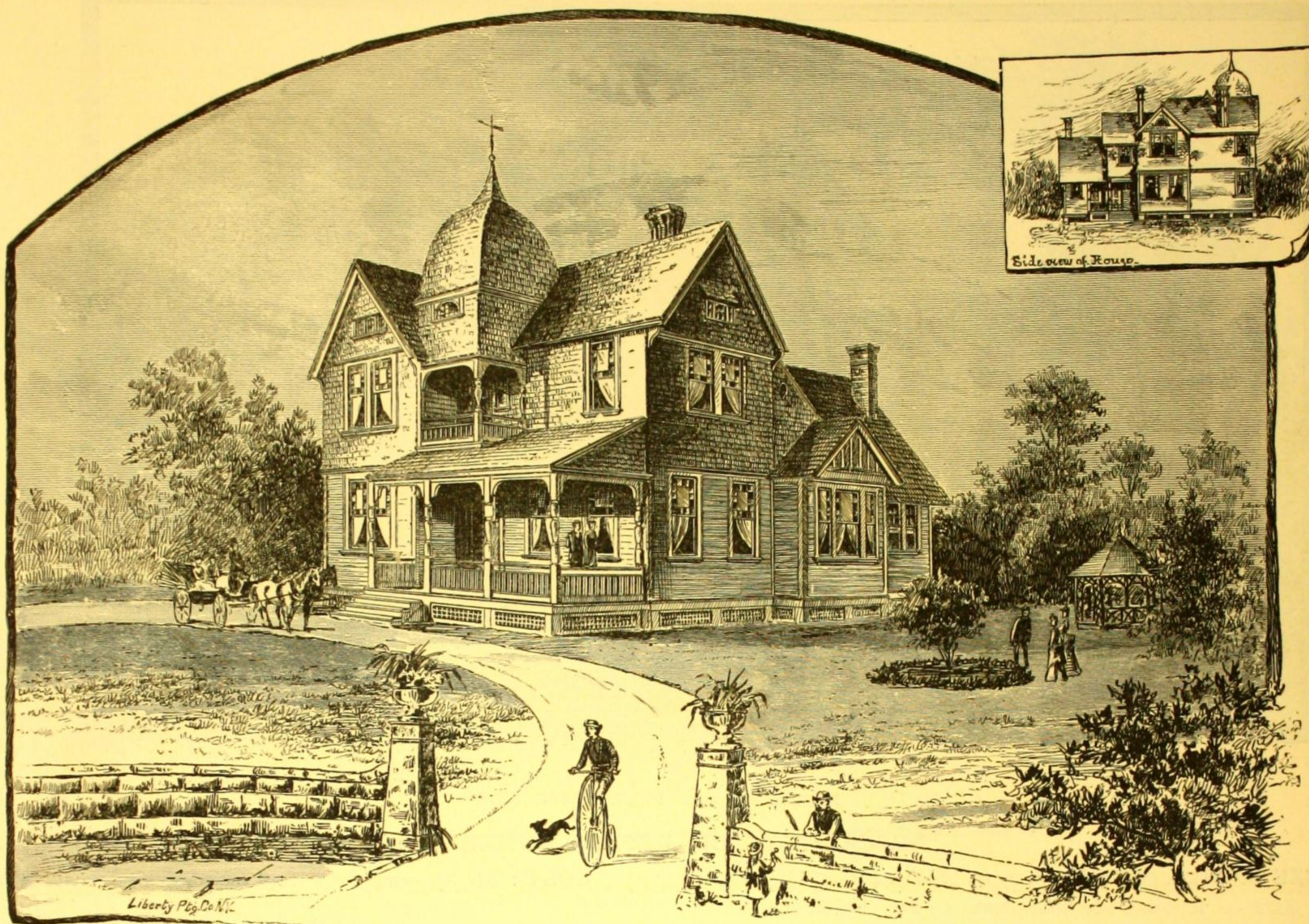
Sliding doors between parlor and sitting-room.

Large hall with fire-place, and a handsome stairway.

In the attic one bed-room is finished over the sitting-room, with windows opening on to the covered balcony; as shown by the perspective view the balcony or "look-out" is formed by carrying up the sitting-room bay.



SECOND FLOOR. NO. 349



DESIGN No. 350. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 350

SIZE OF STRUCTURE: Front, 38 ft., 6 in. Side, 52 ft., 4 in., over all.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Designed for erection in the South, this house has large, airy rooms and high ceilings.

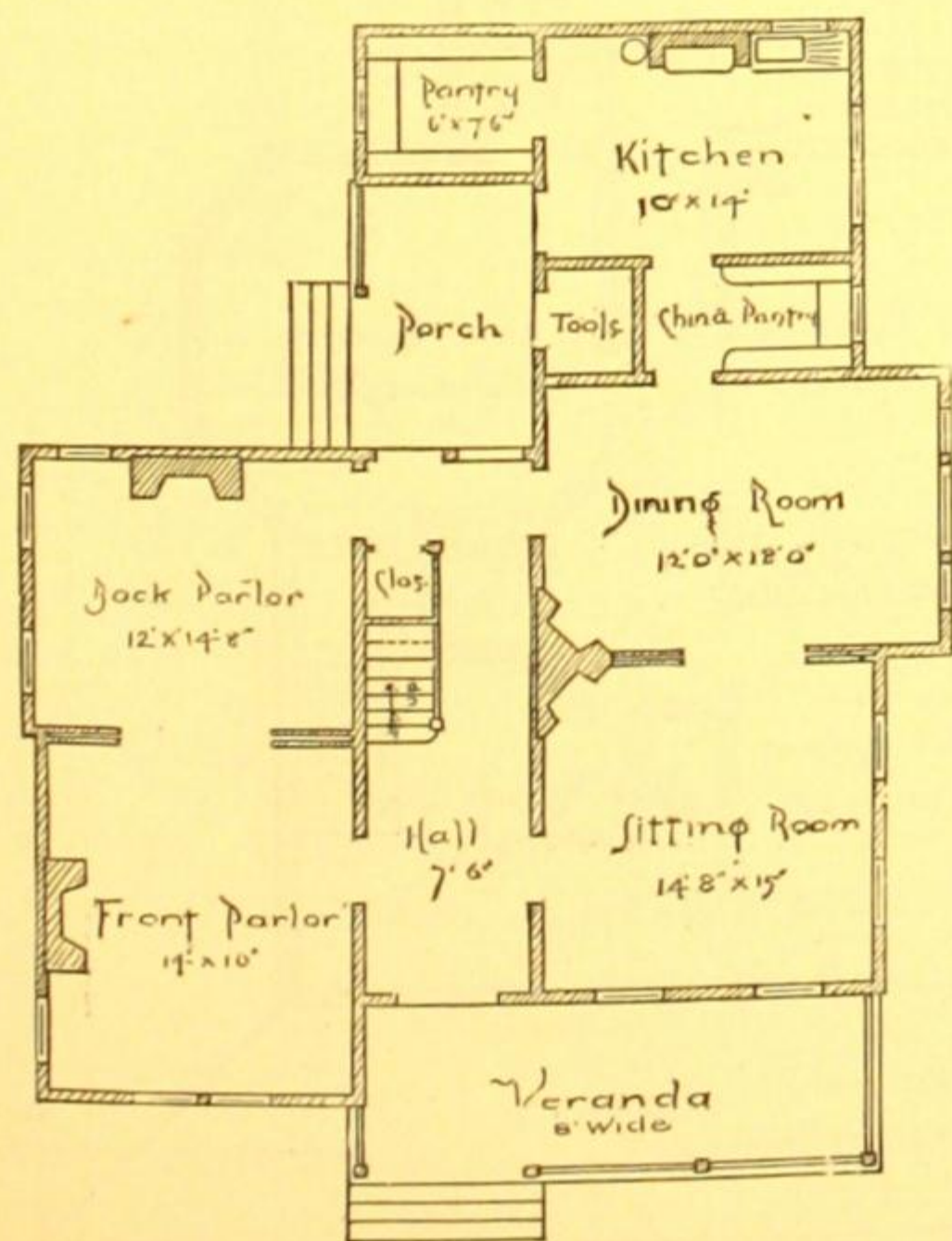
It has the hall in the centre, running through from front to rear, allowing a free and unobstructed circulation of air. The great popularity of the central hall in warm climates is evidence of its value.

Fire-places are provided in all the principal rooms. Large windows, and plenty of them.

The principal rooms of first story are connected by double sliding doors.

Three good bed-rooms and a bath-room in second story. The back-parlor can be used as a bed-room.

A cellar can be put under the whole house, with brick foundation walls, for about \$300 additional to the above estimate of cost.



FIRST FLOOR. NO. 350

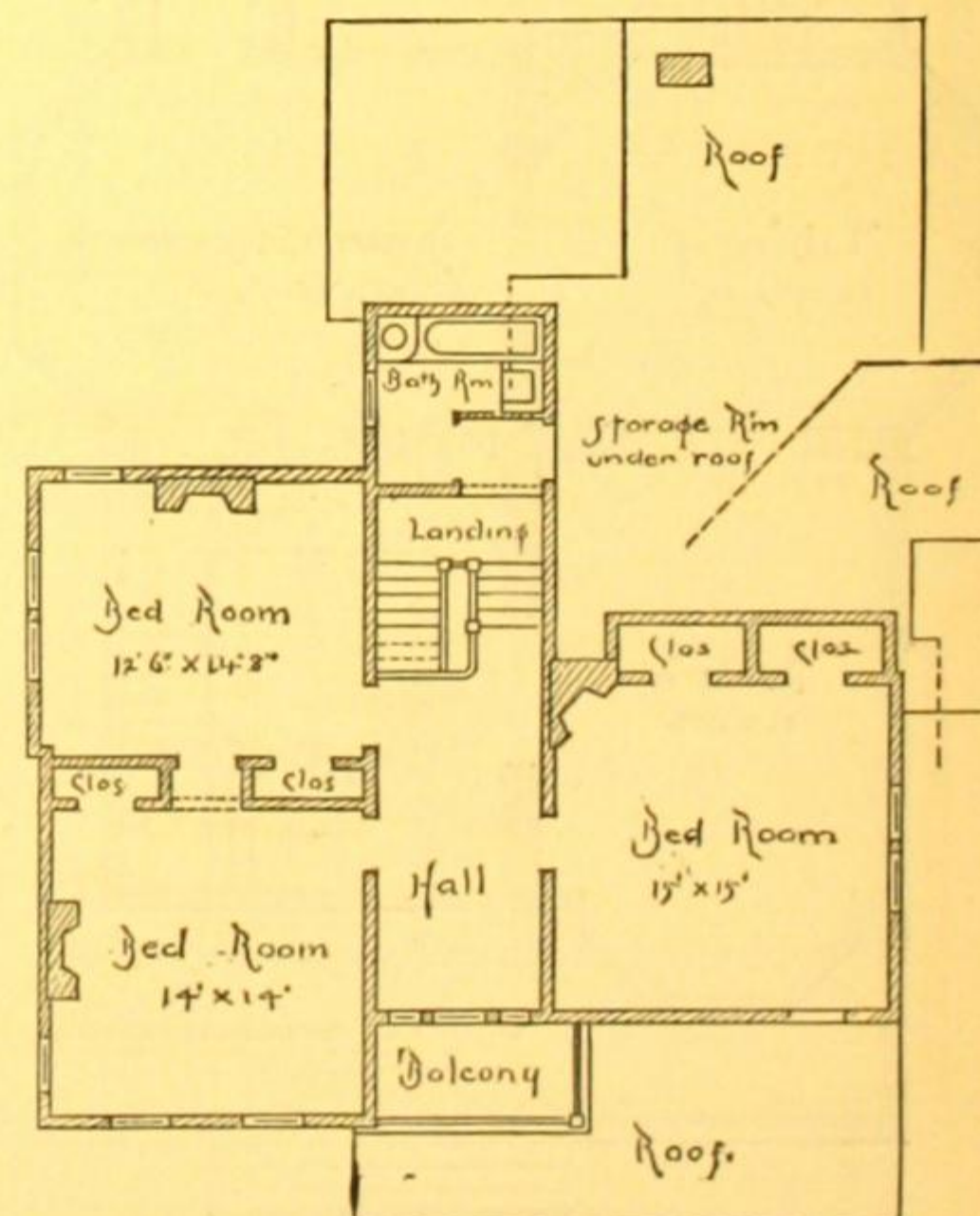
COST: \$3,800, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

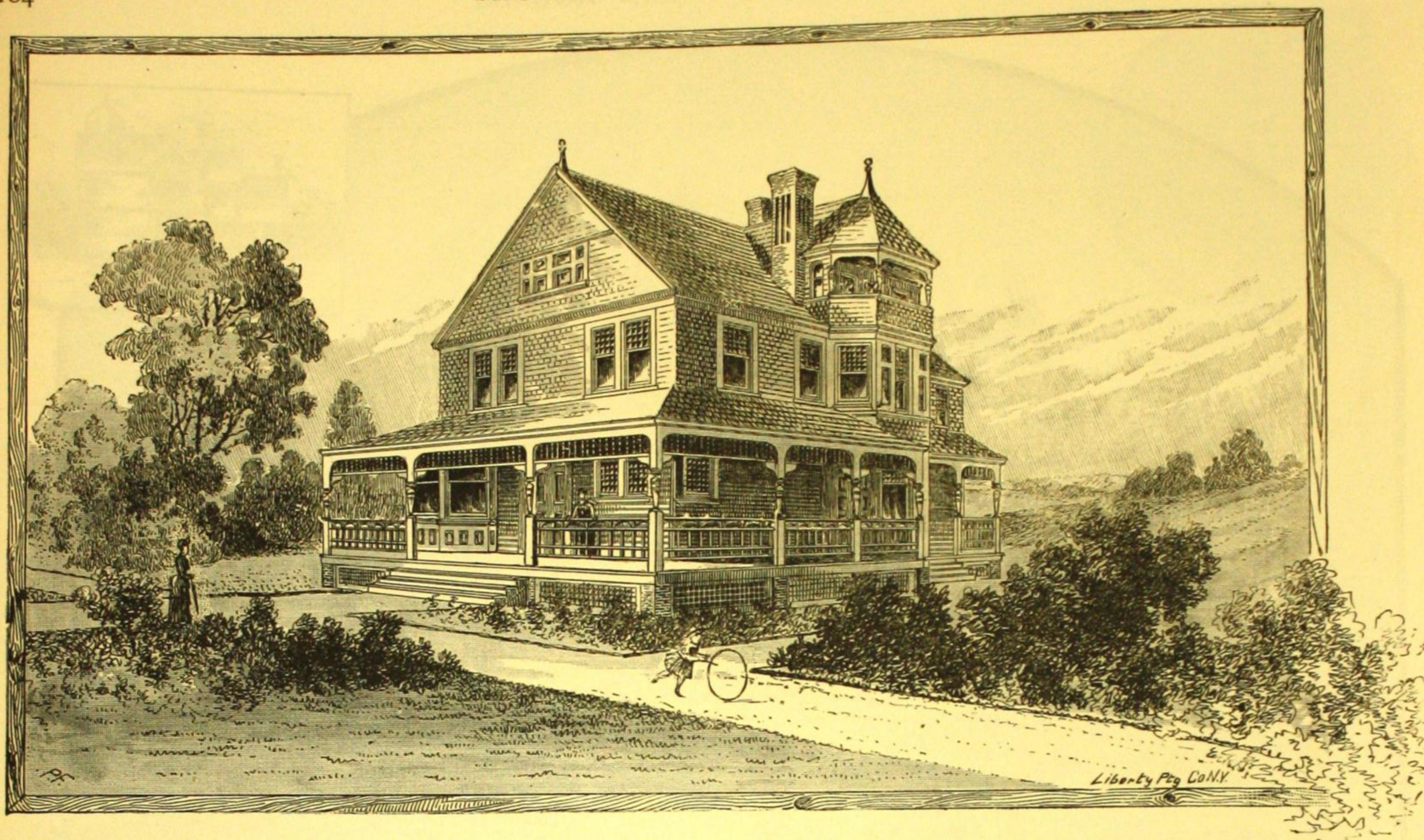
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully



SECOND FLOOR. NO. 350



DESIGN No. 351. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 351

SIZE OF STRUCTURE: Front, 27 ft. Side, 44 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$4,000, complete, except mantels, kitchen range and heater.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the

cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Large hall with fire-place, and a handsome staircase.

The principal rooms connect by sliding doors. The parlor is heated by furnace.

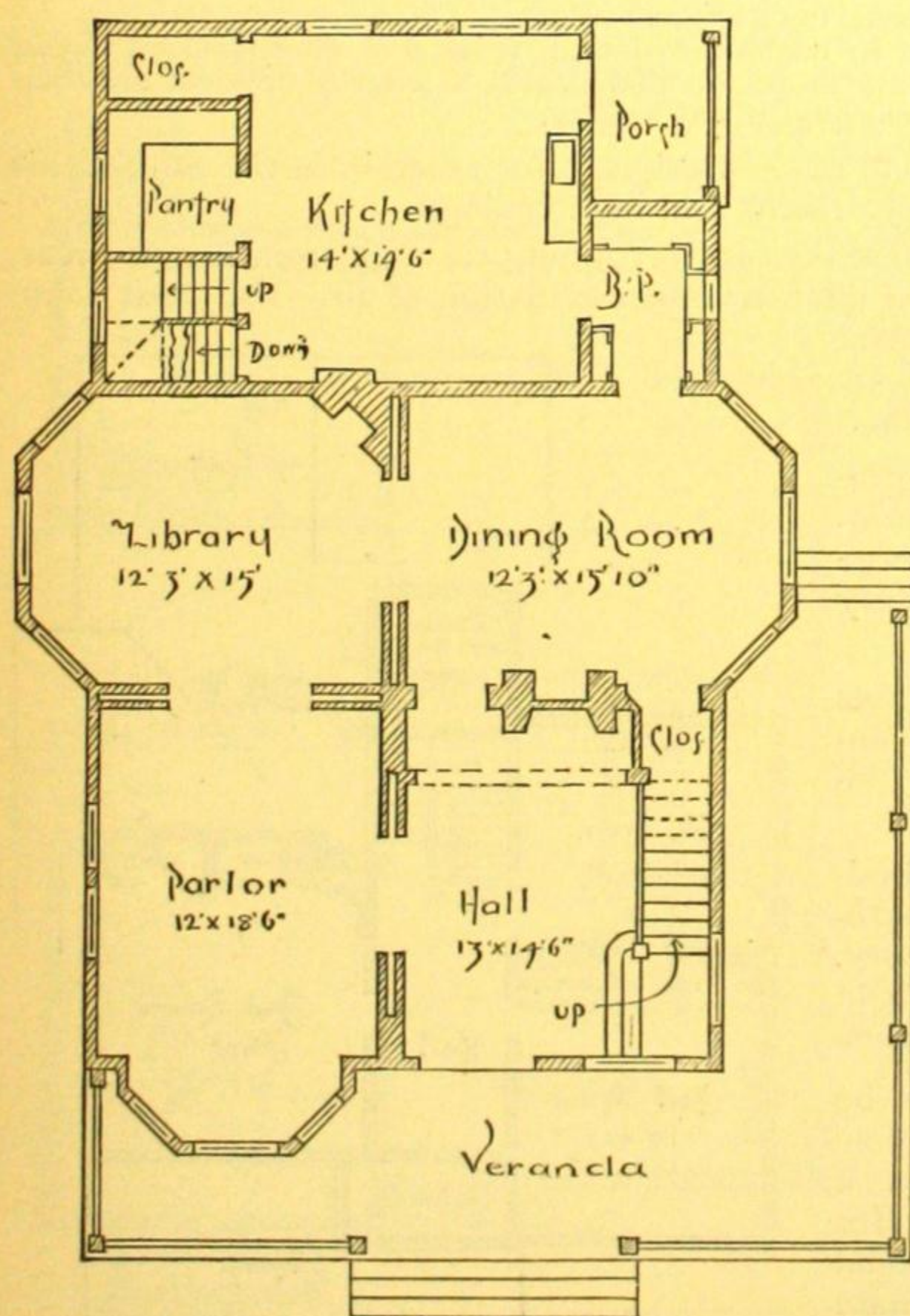
The veranda is 7 ft., 6 in. wide.

Large store pantry, butler's pantry, and closet for kitchen. Back stairway to second story.

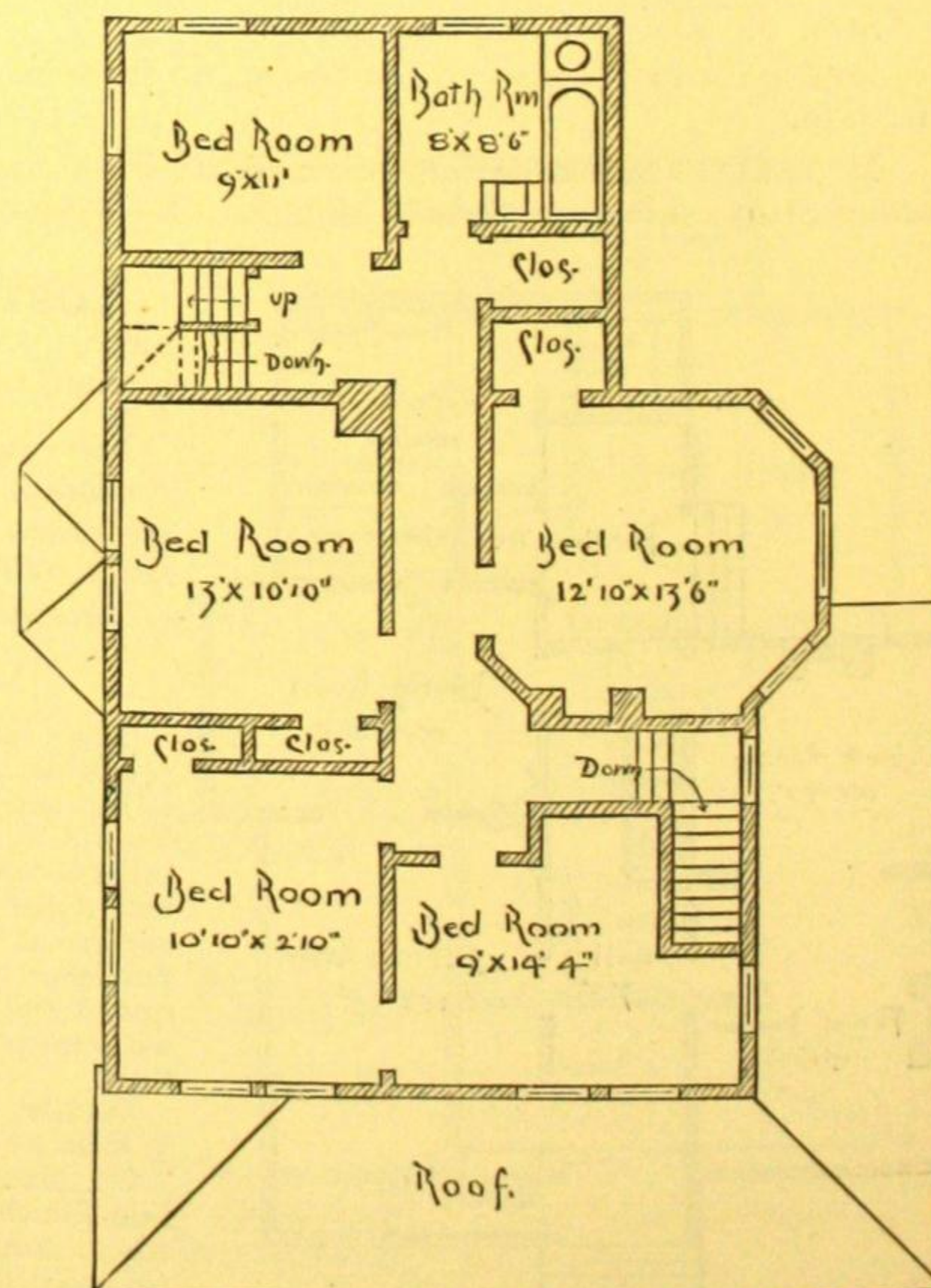
Fine bed-rooms and a bath-room in the second story, and space for three bed-rooms in the attic.

Cellar under the kitchen only.

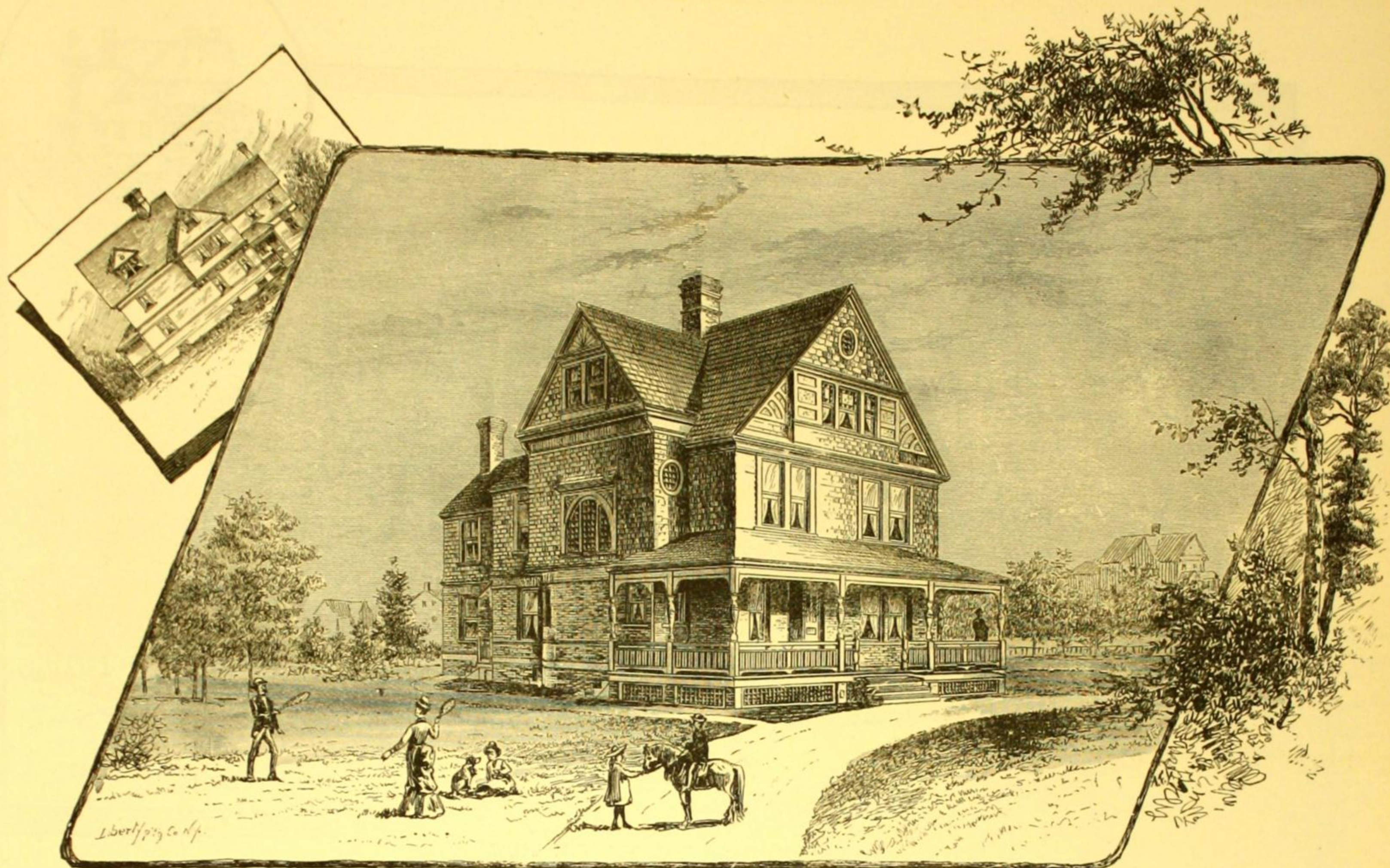
The figures given on the plan for the lengths of the parlor, library and dining-room, include the bay windows.



FIRST FLOOR. NO. 351

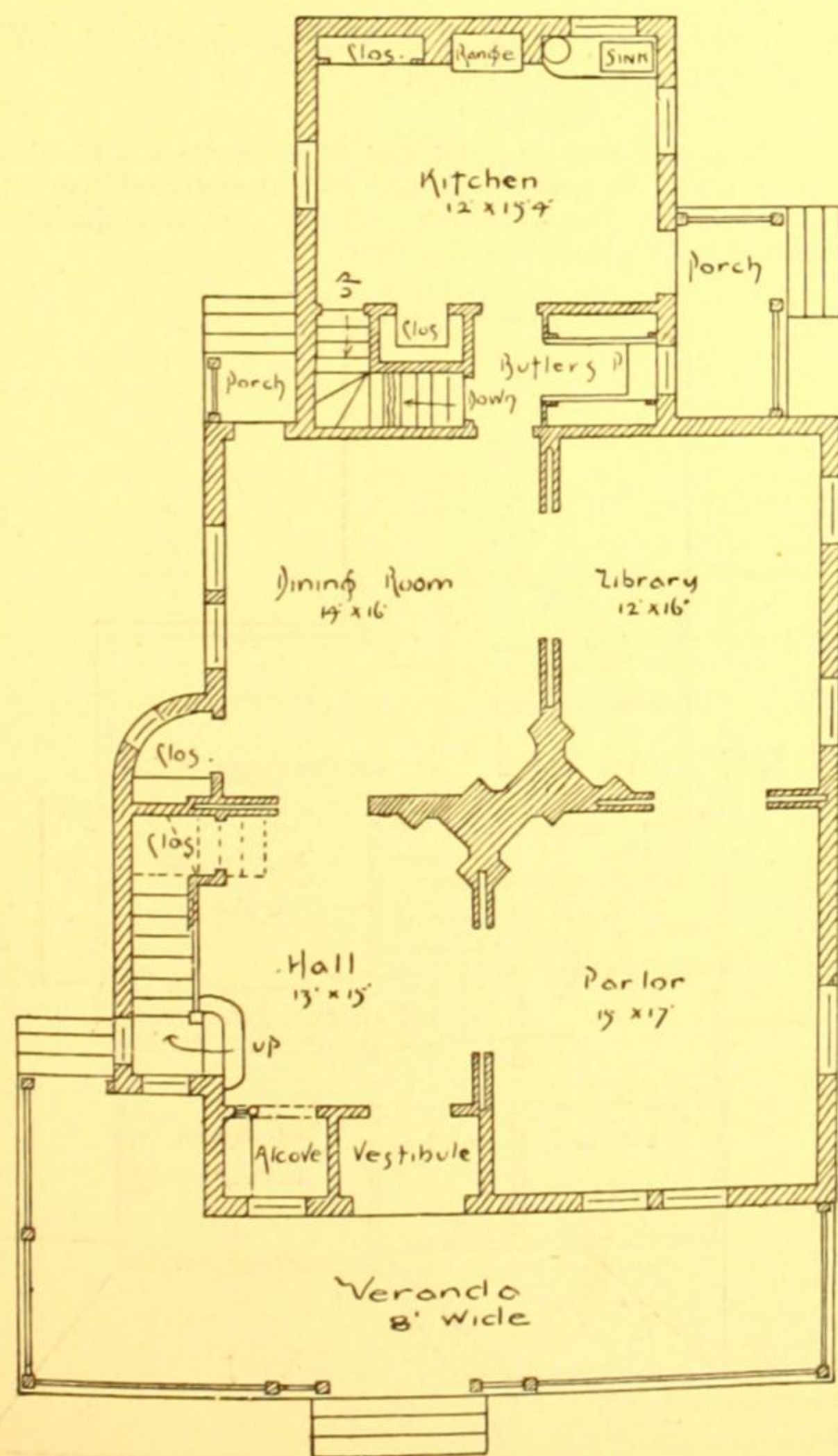


SECOND FLOOR. NO. 351



DESIGN No. 352. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 352



FIRST FLOOR. NO. 352

SIZE OF STRUCTURE: Front, 28 ft.; including veranda, 36 ft. Side, 53 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in. Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, faced with select stock brick; Second Story, shingles; Gables, shingles and panels; Roof, slate.

COST: \$5,000, complete, except mantels, kitchen range and heater.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Large fine hall entered from a vestibule; an alcove with seat and window.

Platform staircase set in a recess.

Fire-place in hall as well as in parlor, dining-room and library.

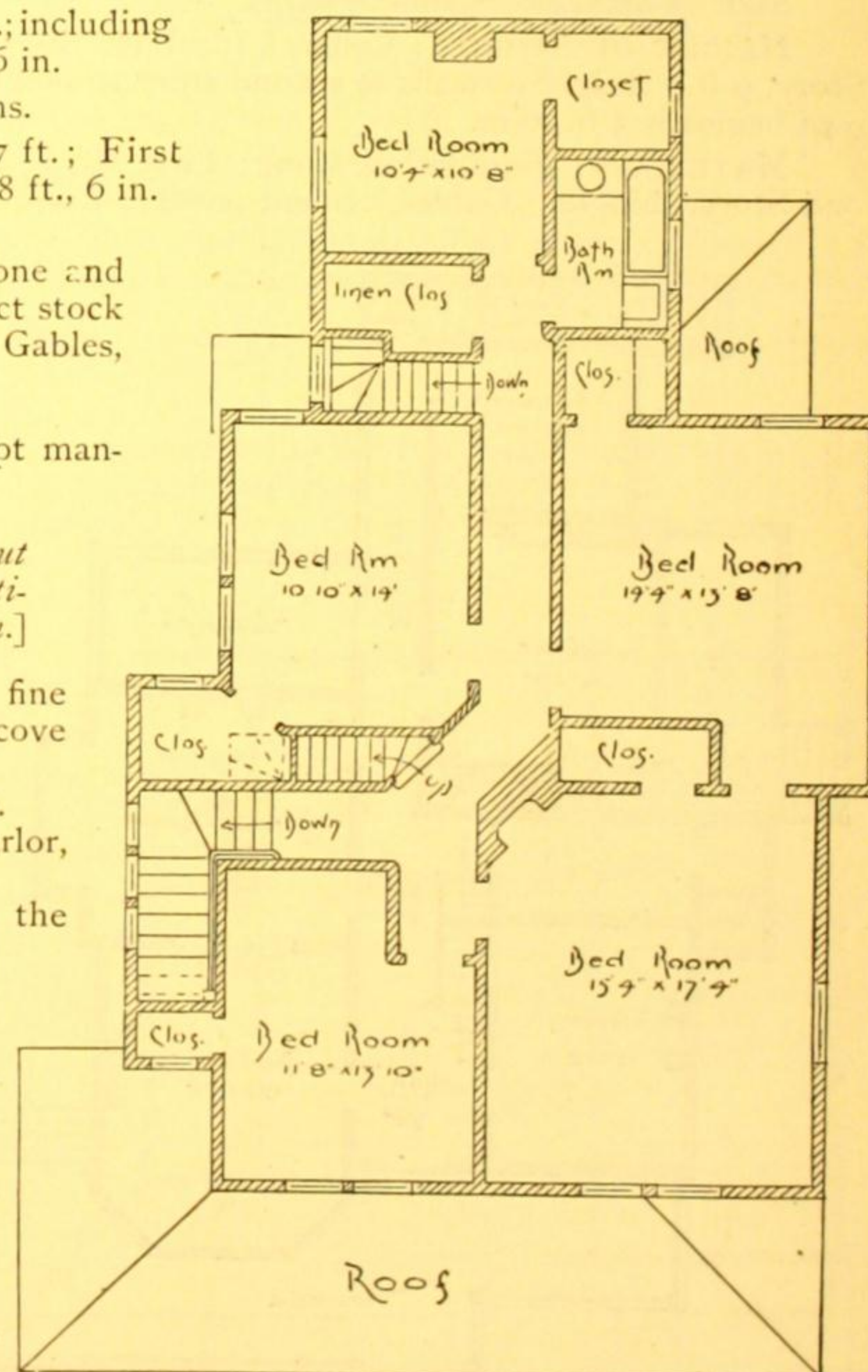
Large butler's pantry between the dining-room and kitchen.

Sliding doors connect all the principal rooms and hall of the first story.

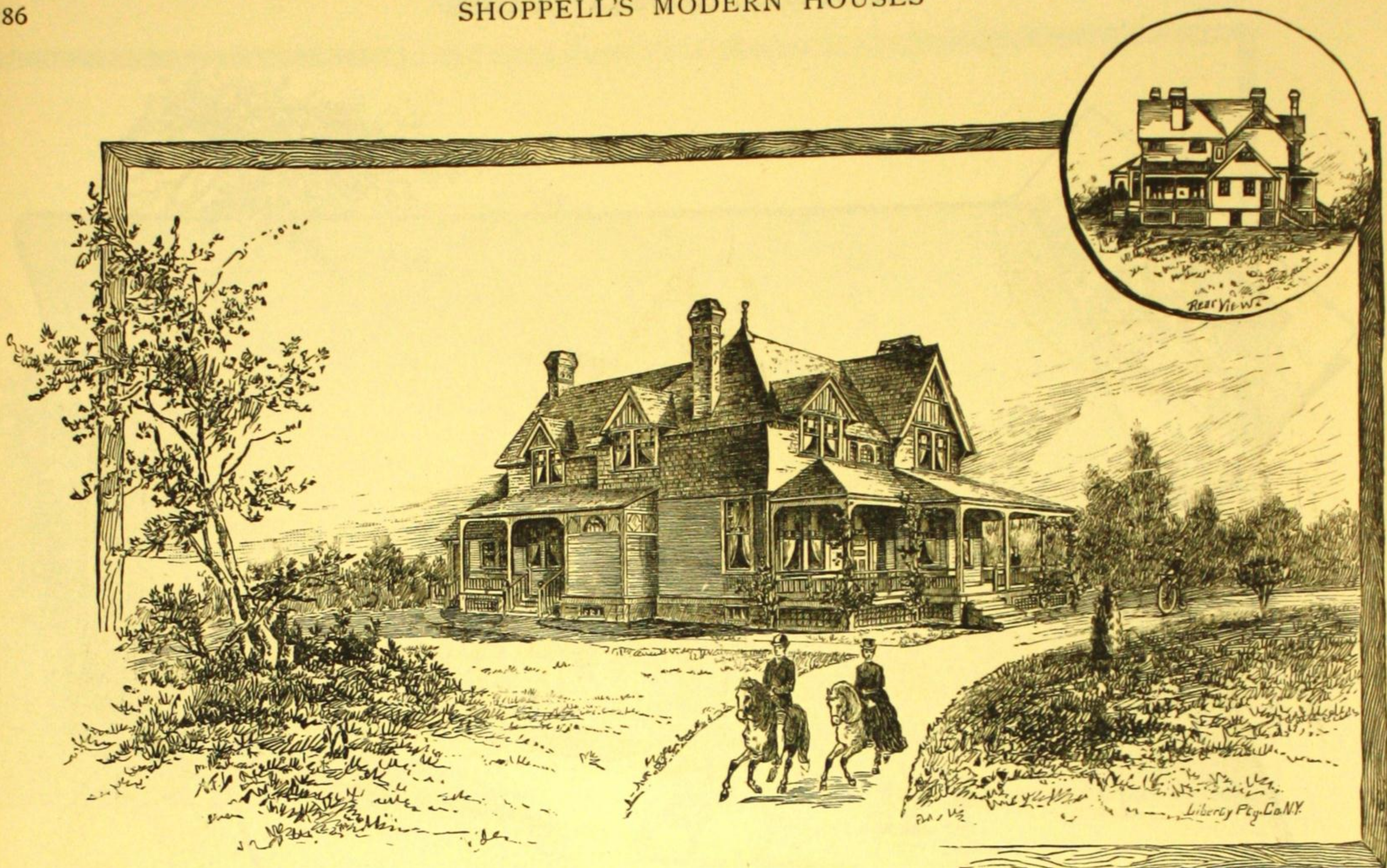
Back staircase to second story.

Five bed-rooms in the second story, and three in the attic, the front one being large, 14 x 19 feet.

Cellar under the whole house, the rear part arranged for a laundry, with outside entrance to the yard.



SECOND FLOOR. NO. 352



DESIGN No. 353. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 353

SIZE OF STRUCTURE: Front, 37 ft. Side, 68 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 10 ft.; Second Story, 9 ft.; Height of walls in second story to point where slope of roof begins is 5 ft., 6 in.

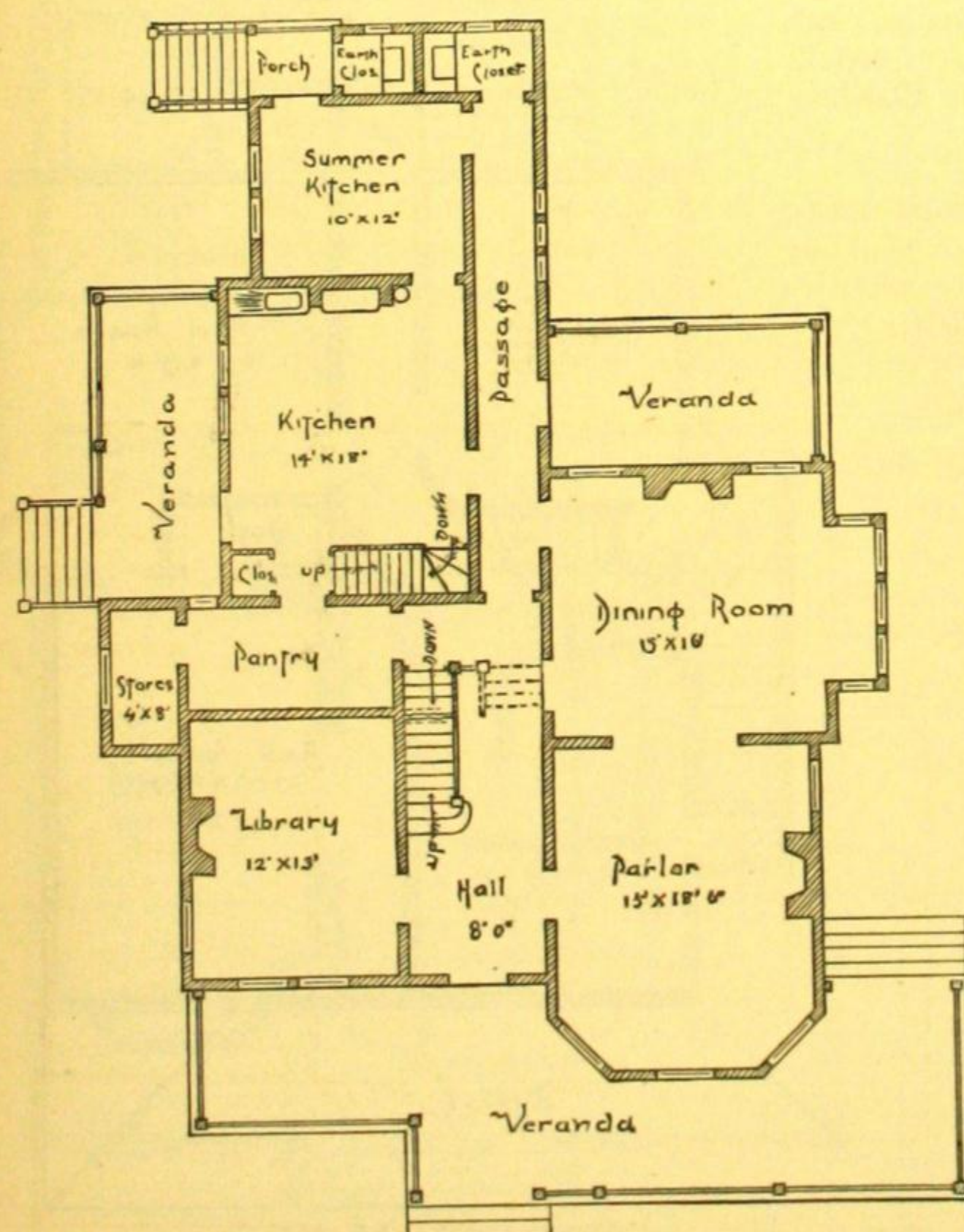
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, cement panels; Roof, shingles.

COST: \$4,600, complete, except mantels, kitchen range and furnace.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



FIRST FLOOR. NO. 353

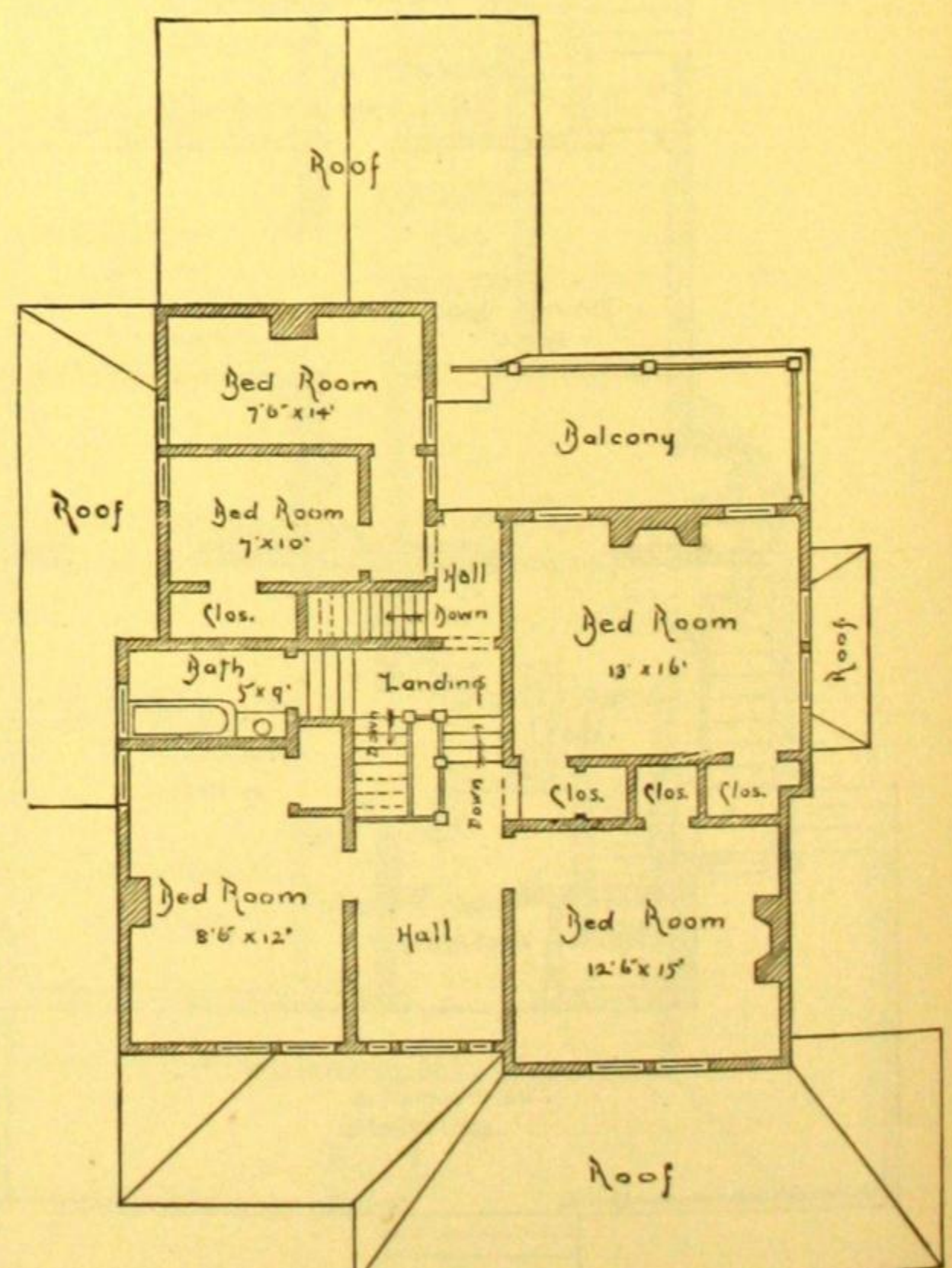
SPECIAL FEATURES.—Designed for erection in Canada, this house is well provided with means of heating; besides the powerful furnace, each of the principal rooms has a large open fire-place.

Large pantries and closets throughout. There is no plumbing in the house except that which is necessary for the kitchen. The earth closets in the rear part of first story, reached by the passage from the front hall, take the place of water-closets, with some advantages from a sanitary point of view.

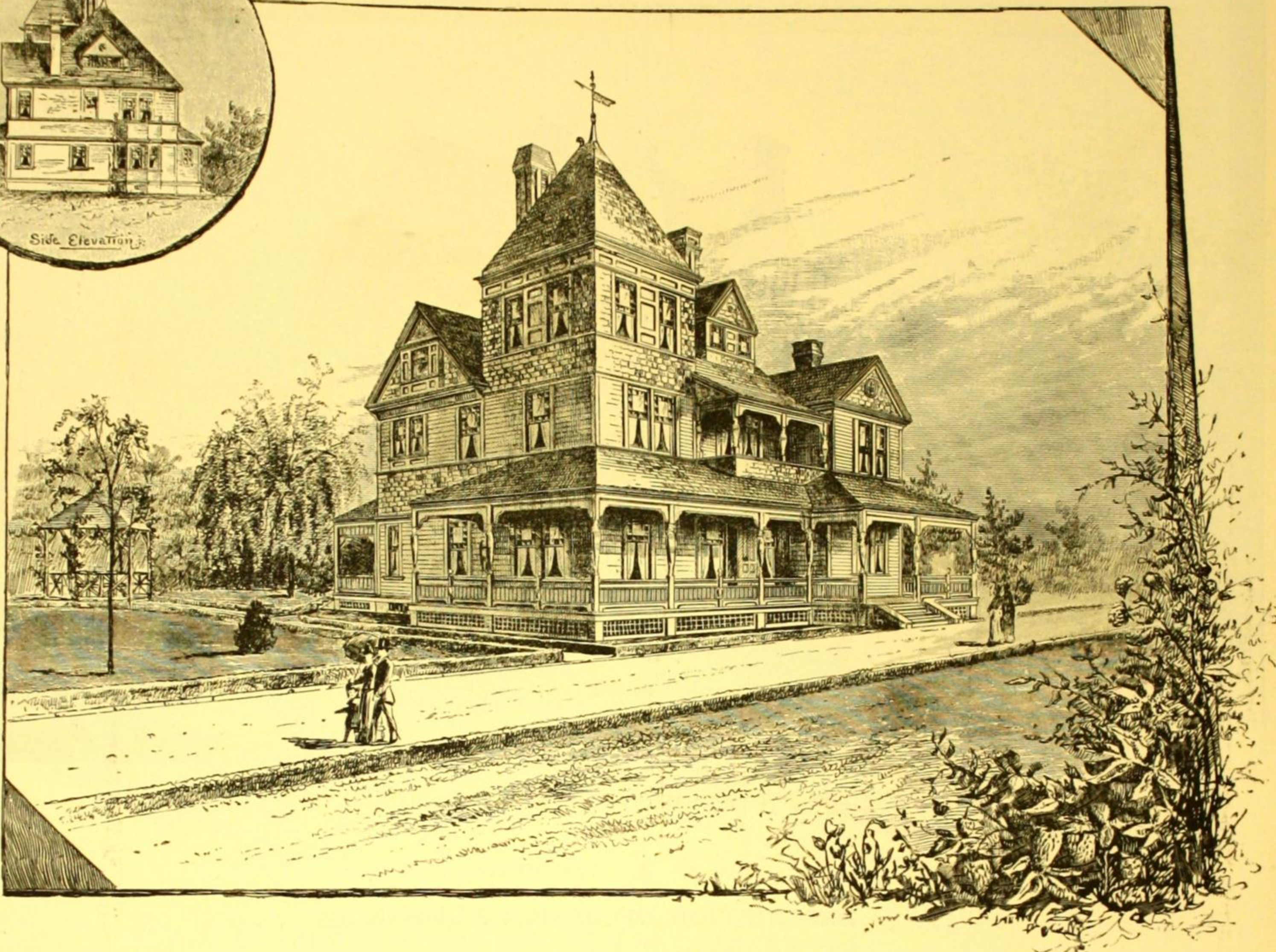
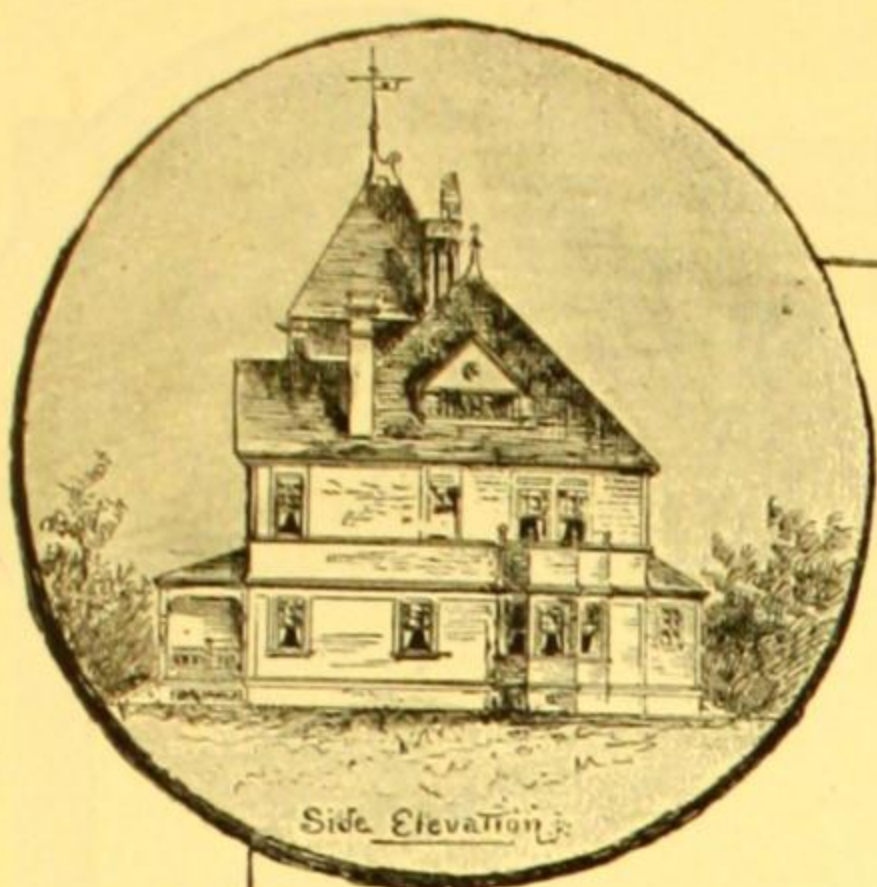
Being so well provided with verandas, this would make an excellent house for a warm climate; the same provisions which make a warm house go far towards insuring a cool house during warm weather, or in a hot climate.

If built in the South the cellar should be omitted, reducing the cost materially.

From experience we have found that on account of the reduced cost of materials and labor in many of the Southern states, the cost of building is one-third less than our estimates.



SECOND FLOOR. NO. 353



DESIGN No. 354. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 354

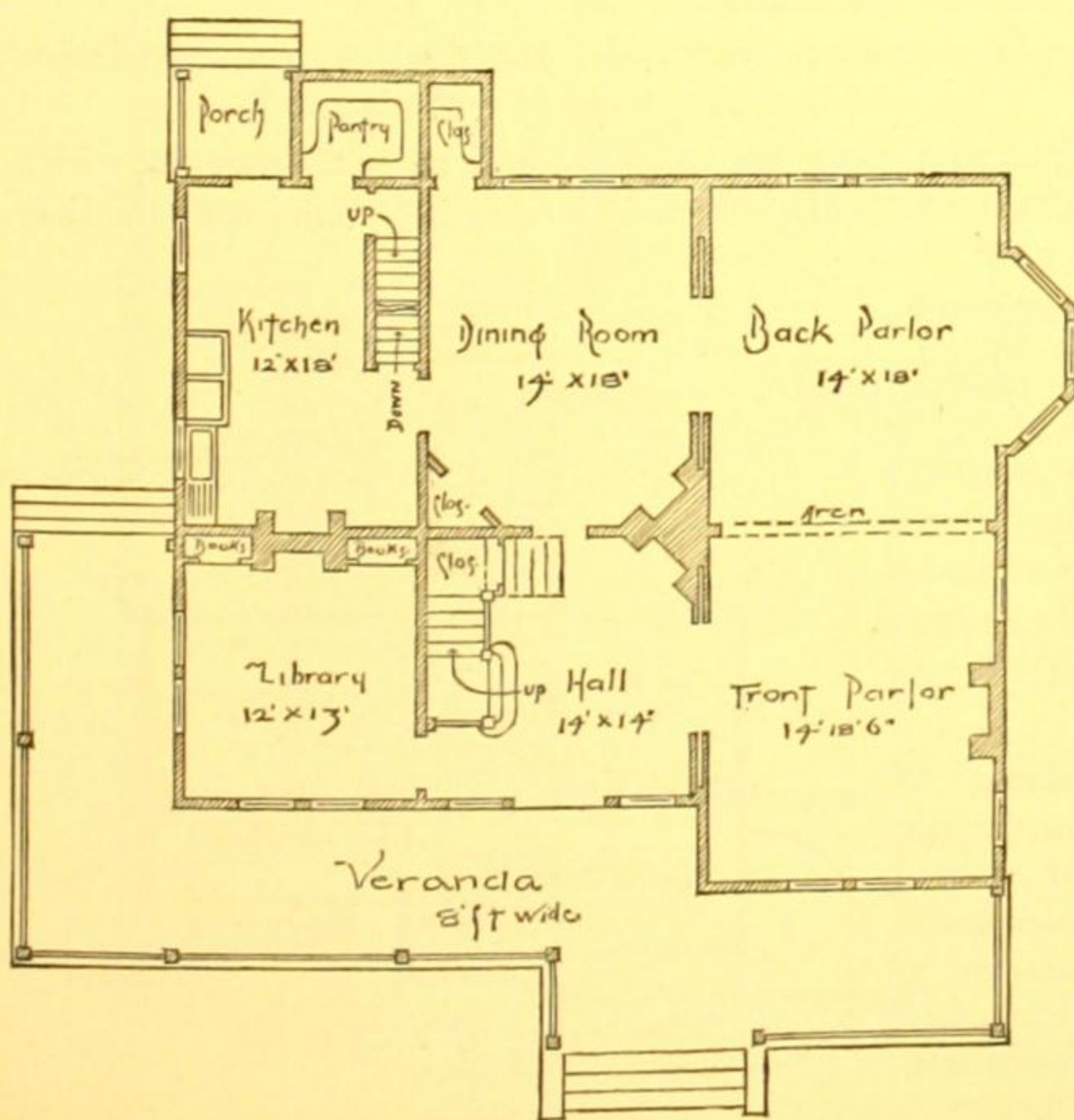
SIZE OF STRUCTURE: Front, 43 ft., 4 in. Side, 38 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables and Tower, shingled; Roof, shingles.

COST: \$6,000, complete, except mantels, kitchen range, and heater.



FIRST FLOOR. NO. 354

Although not a large house the accommodations are generous, owing to the compact arrangement of rooms.

Square hall in the centre with fire-place and an attractive stairway.

Dining-room back of the hall with which the large double parlor communicates by sliding doors.

All the principal rooms of first story have open fire-places for grates or log fires.

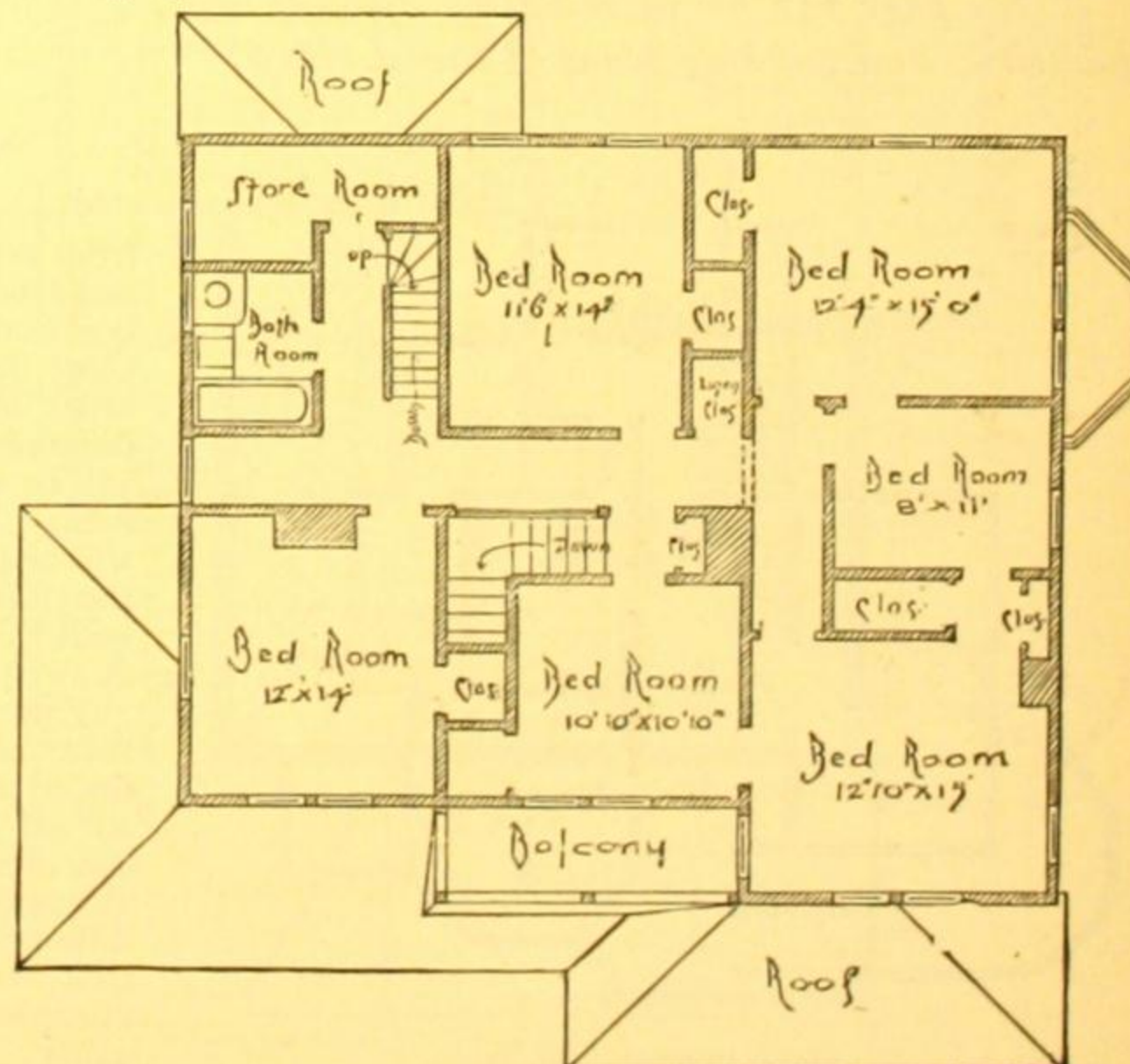
The second story contains six bed-rooms, a bath-room and a trunk room.

Two rooms are finished in the attic, the one in the tower being 12 x 14 ft., and the other 10 x 12 ft.

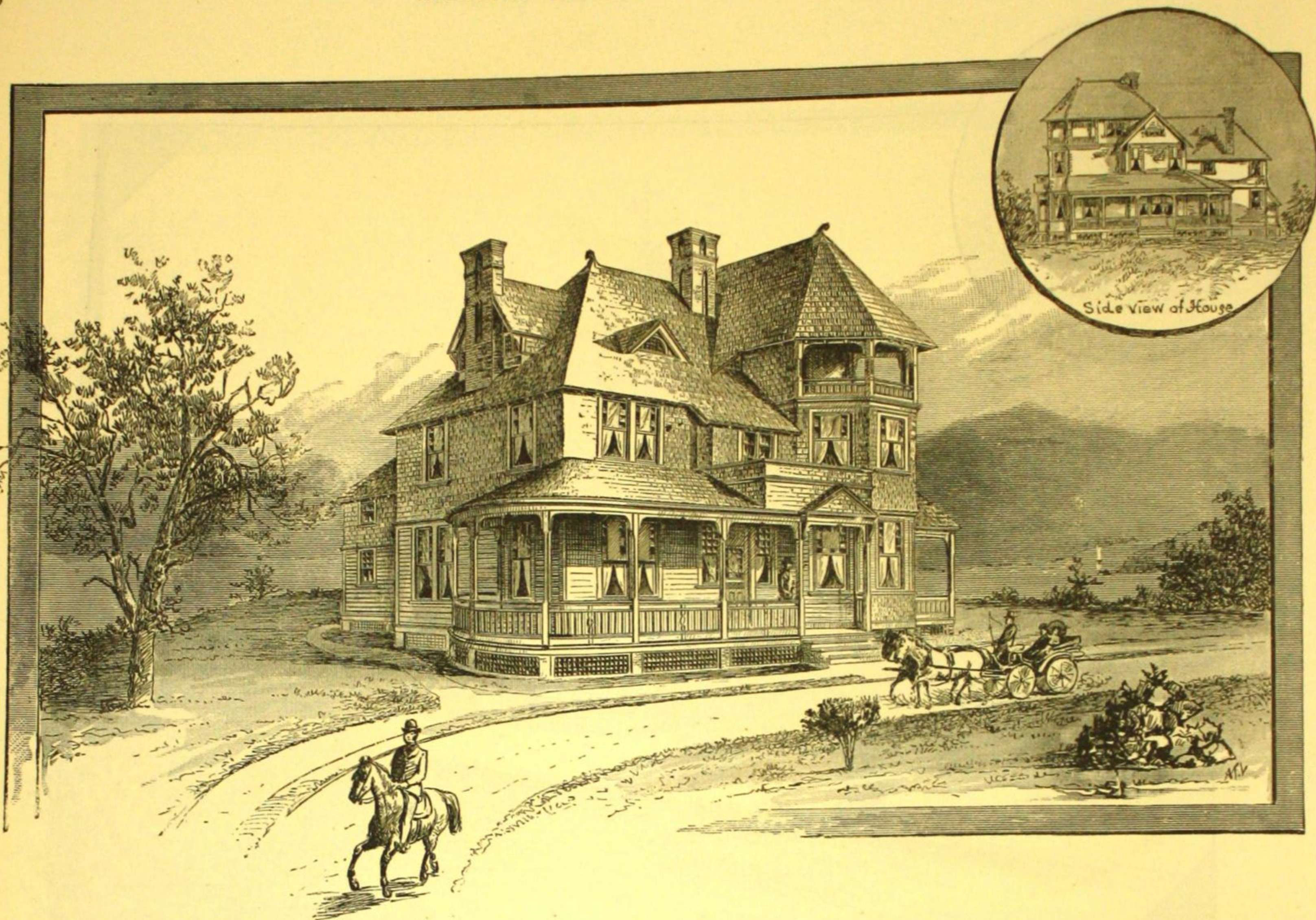
Cellar under the kitchen and dining-room. Stone walls underneath the whole house.

The veranda is eight feet wide.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]



SECOND FLOOR. NO. 354



DESIGN No. 355. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 355

SIZE OF STRUCTURE: Front, 43 ft., 4 in.; extreme width over all 66 ft. Side, 54 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$5,000, complete, except mantels and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This was designed for and is well adapted to a Southern climate.

Wide verandas, large rooms, stories of good height, and large open fire-places are features which the Southerner demands, because he knows the comforts and advantages of them.

The hall of this house is a noble one, 11 ft. wide and 26 ft. long, with a large open fire-place, and a handsome stairway.

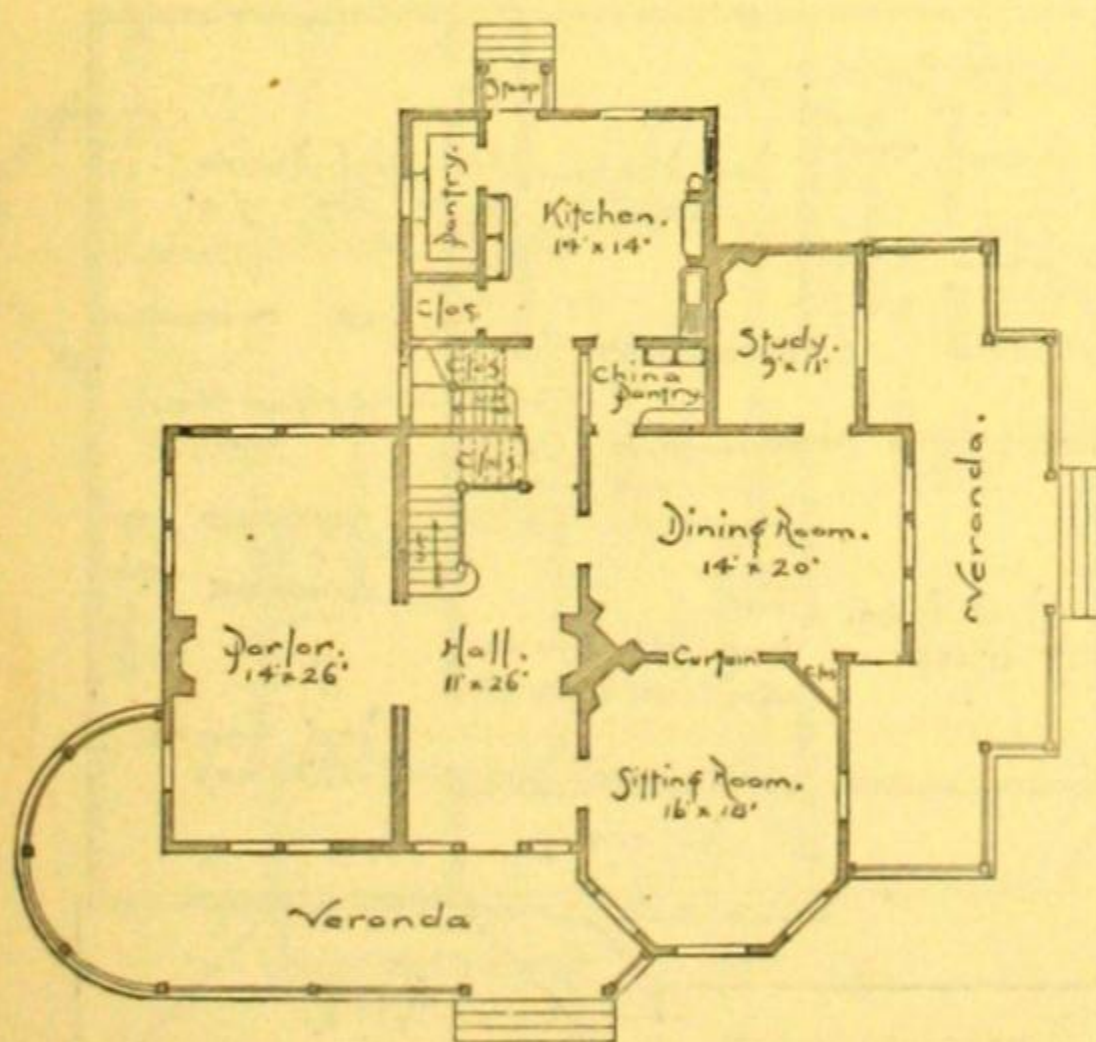
The verandas are 9 ft. wide.

Large openings connect the rooms, insuring a free circulation of air.

The study or den gives the professional man a place in which to seclude himself for work, or makes a sewing-room for the lady of the house.

The second story provides four large and two smaller bedrooms, and a sewing room. In the attic there are two bedrooms, besides any amount of storage room.

By building a cellar under the house with brick or stone walls, this would make a good house for a Northern climate. This would cost about \$500 additional.

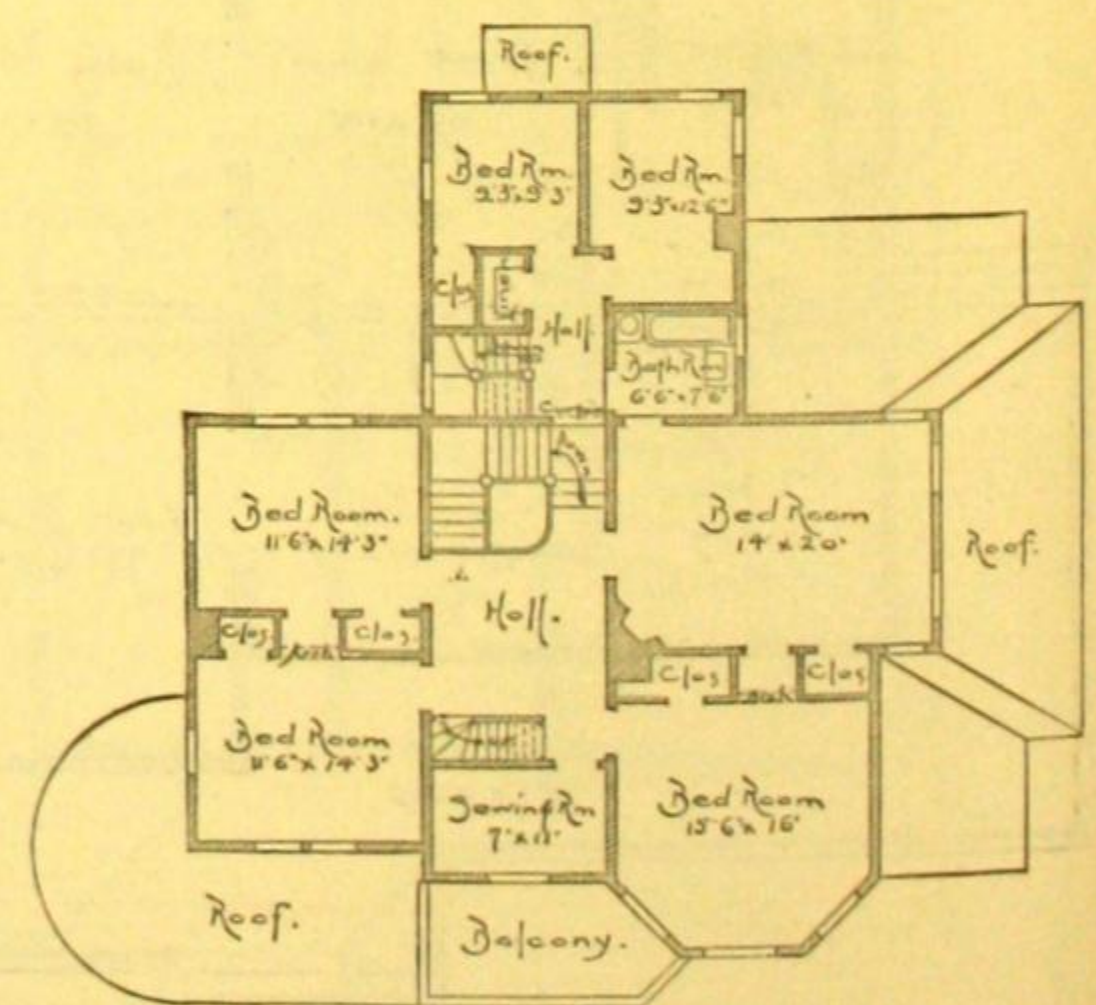


FIRST FLOOR. NO. 355

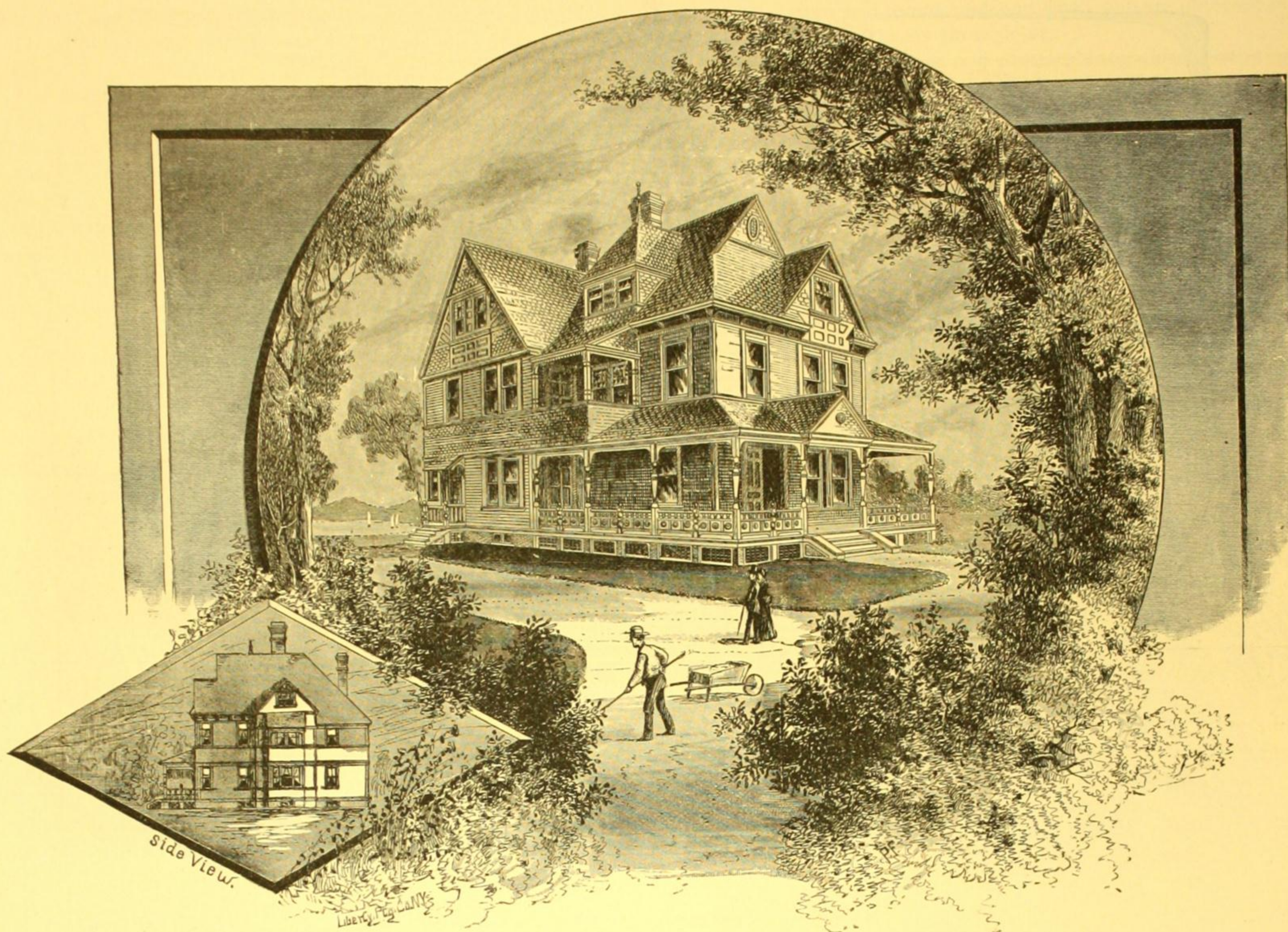
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

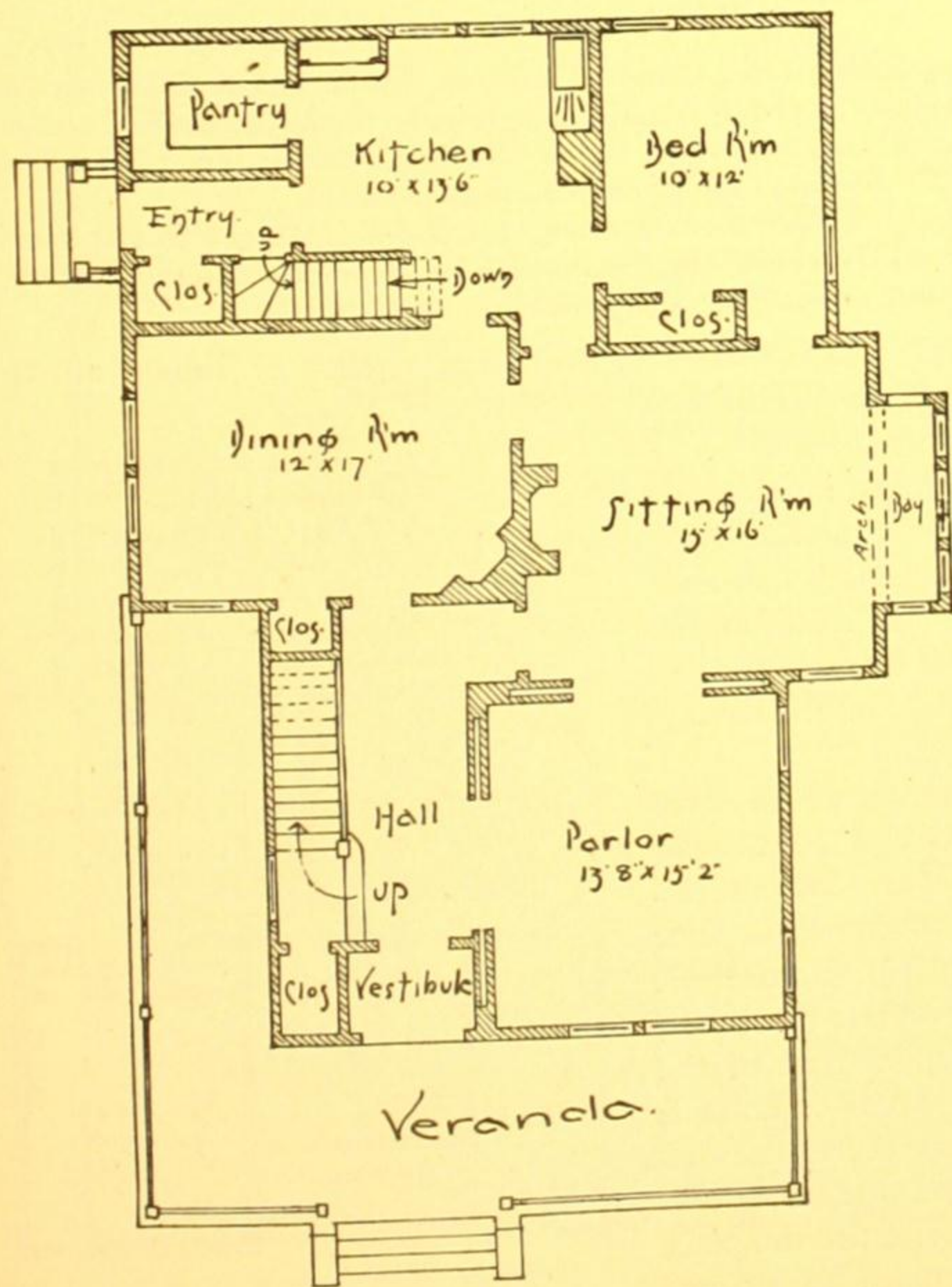
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 355



DESIGN No. 356. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 356



FIRST FLOOR. NO. 356

SIZE OF STRUCTURE;
Front, 30 ft., including veranda. Side, 54 ft., 6 in., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES:
Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 8 ft.

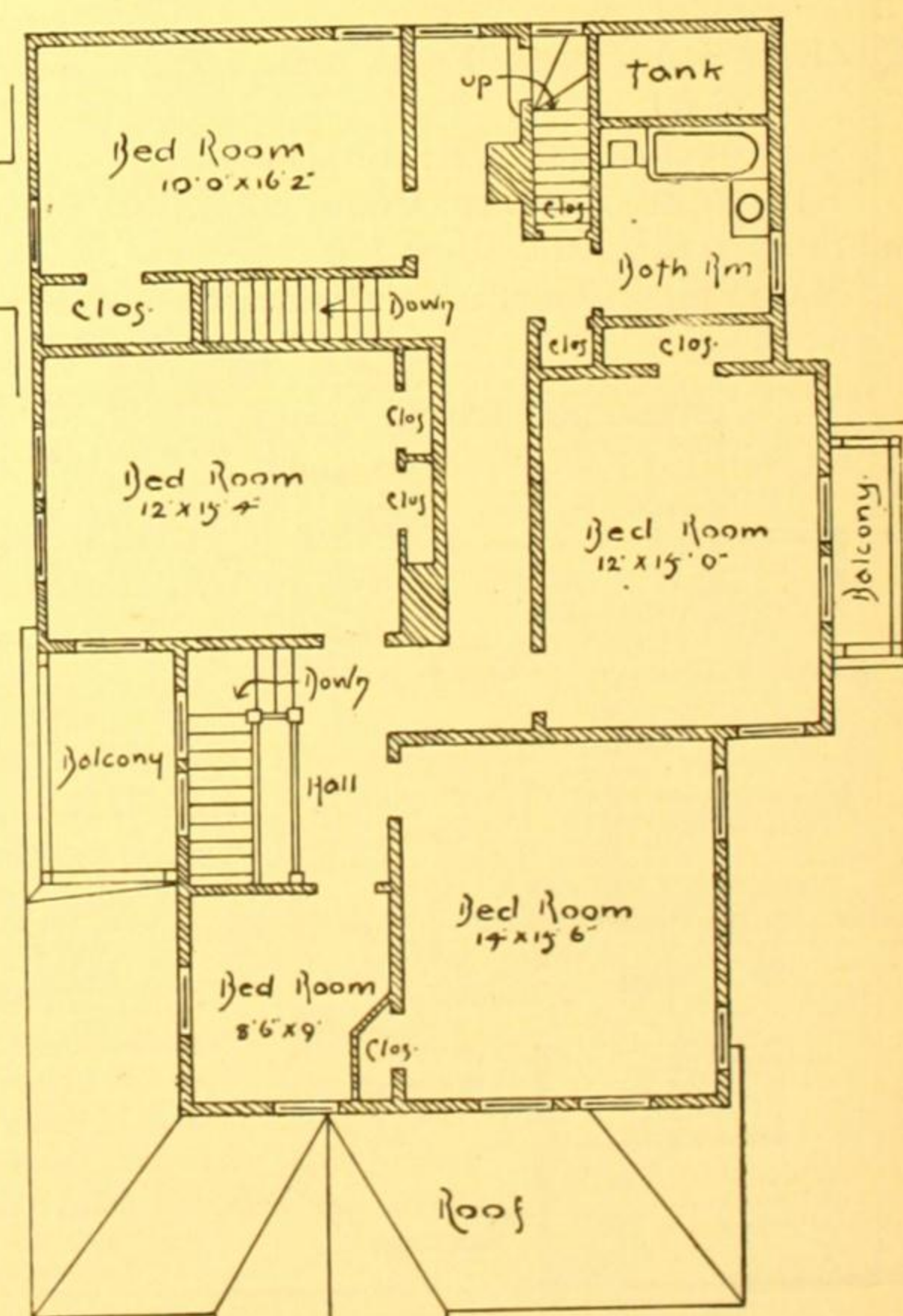
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards and shingles; Roof, shingles.

COST: \$4,500, complete, except mantels, kitchen range and heating apparatus.

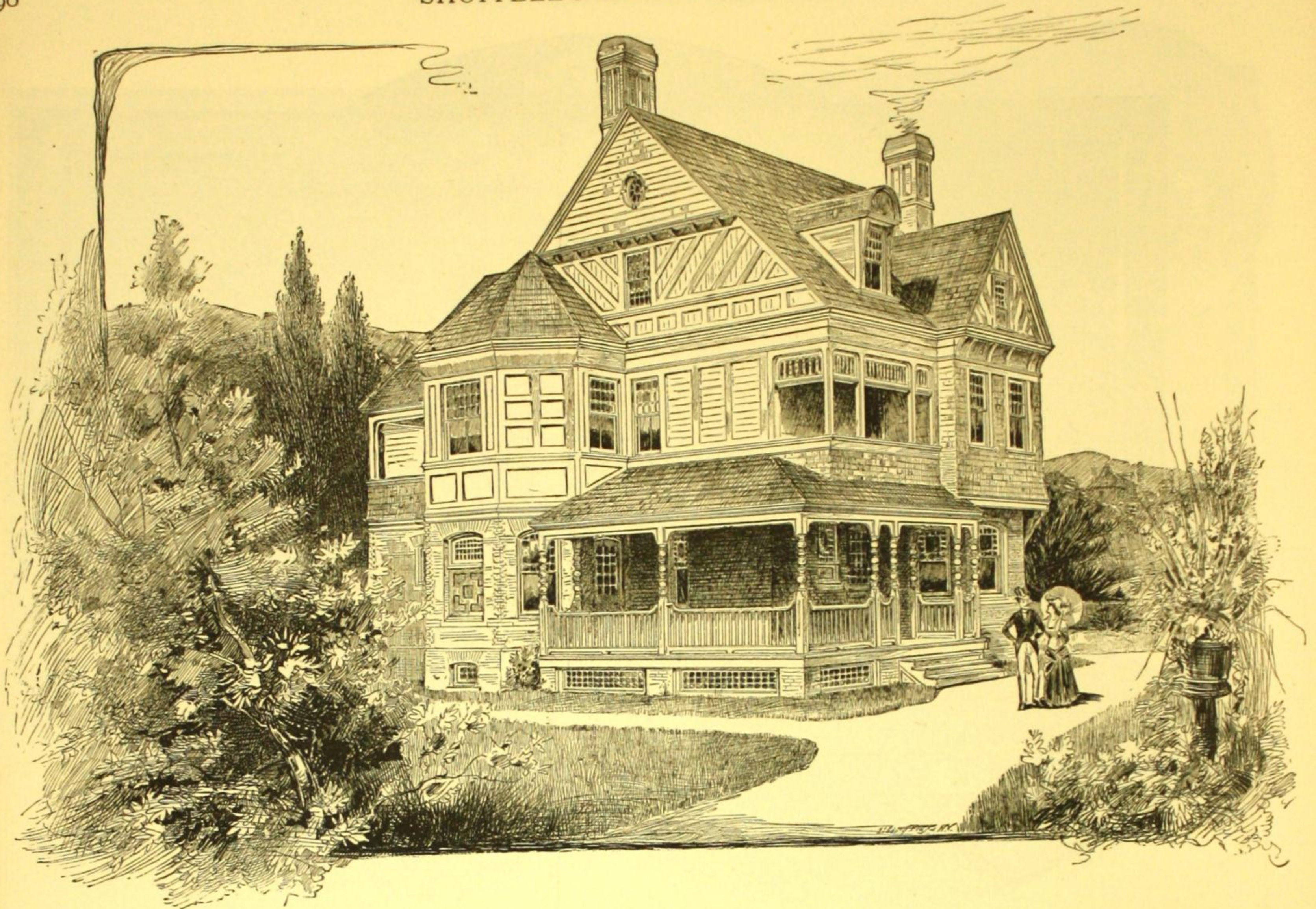
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Sliding doors between hall and parlor, and between parlor and sitting-room.

The bed-room on first floor is often wanted where there are elderly people in the family, or where there is an invalid.



SECOND FLOOR. NO. 356



DESIGN No. 357. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 357

SIZE OF STRUCTURE: Front, 36 ft., 6 in., including veranda. Side, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft. 6 in.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, selected stock brick; Second Story, shingles and panelling; Roof, slate.

COST: \$5,500, complete, except mantels, kitchen range and heater.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Win-

dows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

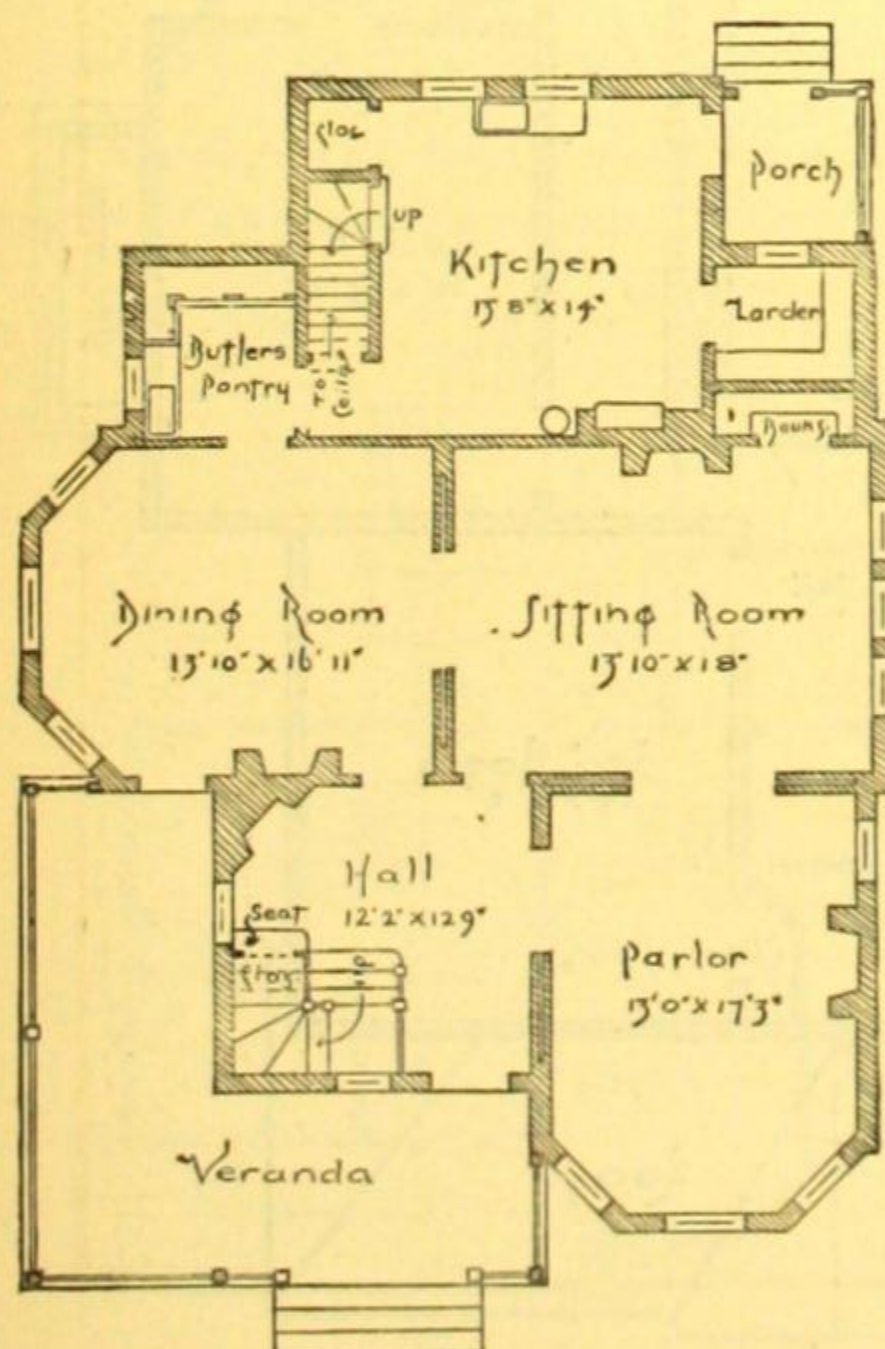
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—In the arrangement of rooms all the space is utilized to the best advantage.

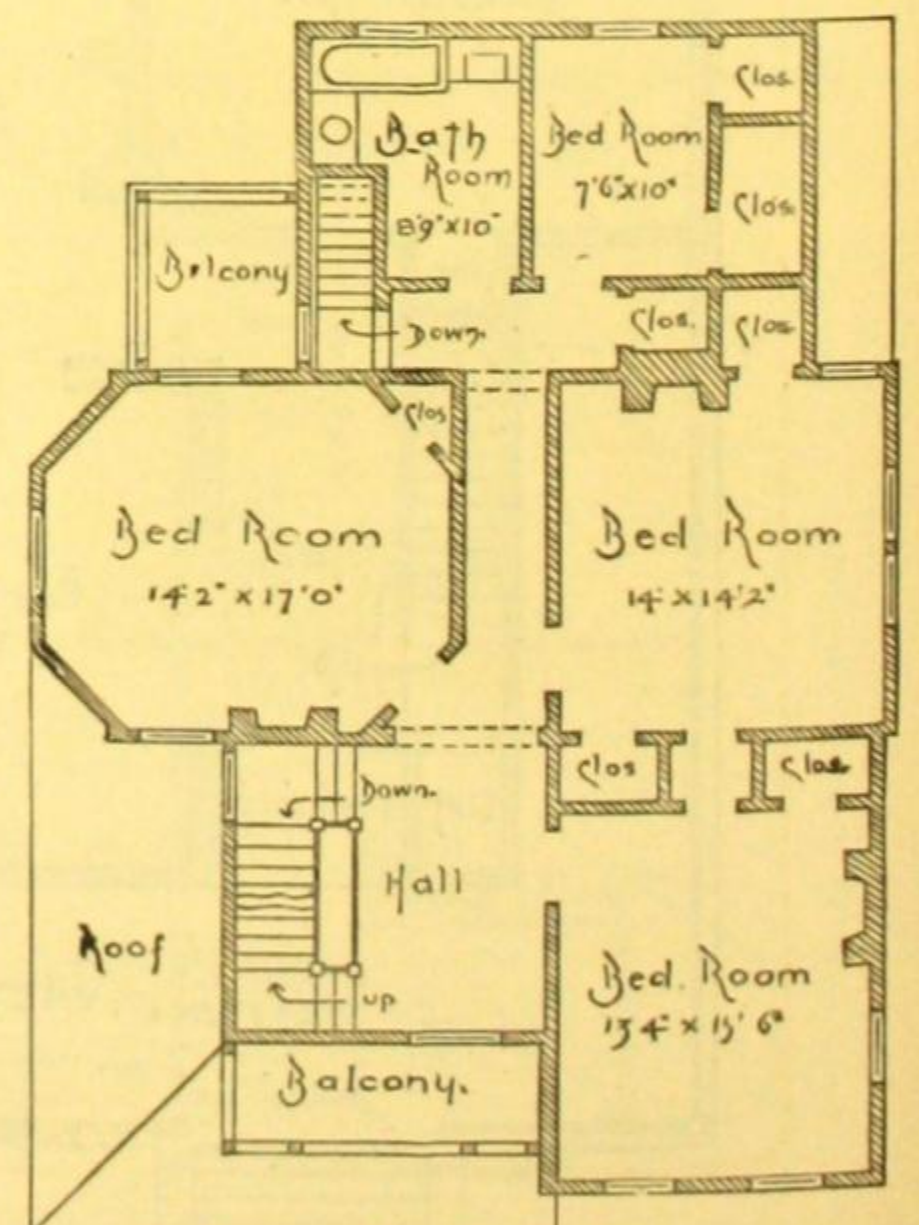
Large sliding doors connect all the rooms of first story.

The veranda is 8 feet wide both at the front and on the side where it returns to meet the projection of the dining-room.

The staircase, which is of handsome design, starts near the centre of the hall and ascends toward the front four steps to a platform, where it turns in the reverse direction; under the upper part of the staircase a recess or nook is formed where there is an angle fire-place, a window and a seat opposite the fire-place—just the place to sit and



FIRST FLOOR. NO. 357



SECOND FLOOR. NO. 357

enjoy a book and be altogether snug and comfortable on a winter's day.

The dining-room, sitting-room and parlor each have an open fire-place.

The butler's pantry, between the kitchen and dining-room, is 6x8 ft., and is properly fitted up with cupboards, drawers and a sink where the fine china can be washed.

The kitchen has a "larder" or store-closet besides a closet for brooms, etc.

Back stairs to the second story start from the kitchen, and underneath these the stair to the cellar descends.

The back porch is covered by the main roof of the house. In the second story the hall is large and the front window opens on to the balcony over the veranda, which will be seen in the perspective view. The view shows the balcony open, but large glazed sashes are provided which slide up and out of sight behind the spindle work of the upper part, so that when cold weather arrives the sashes can be lowered and made tight and then a conservatory is formed to which a heater pipe is carried.

Three large bed-rooms and one small one are obtained in the second story; large closets throughout.

The bath-room is large and contains water-closet, bath-tub and wash-basin. The plumbing is of the best description.

The roof of the butler's pantry forms another balcony for the second story and is covered by the main roof of the house.

The front entrance door and the door to the veranda from the dining-room are "Dutch doors," so called; they are divided horizontally about four feet above the floor, and the lower and upper part open independently of each other, or they can be secured together so that they will open together. The upper parts of these doors are glazed with small squares of plate glass.

Cellar under the whole house, the walls laid in cement mortar. The part under the kitchen is partitioned off for a laundry, and provided with a board floor. The whole of the cellar bottom is concreted.

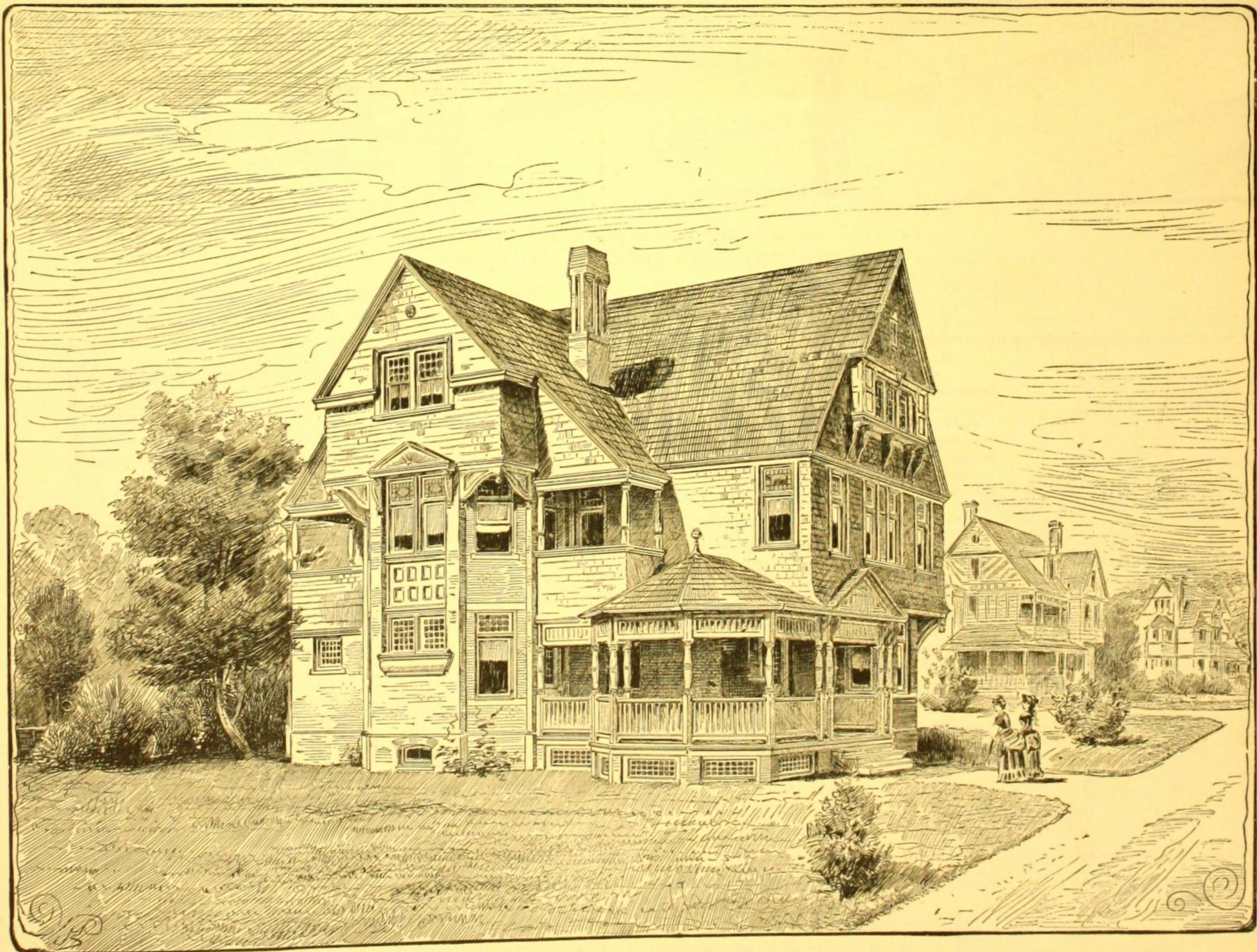
Below will be found a design showing another exterior for the same plans.

DESCRIPTION OF DESIGN NUMBER 358

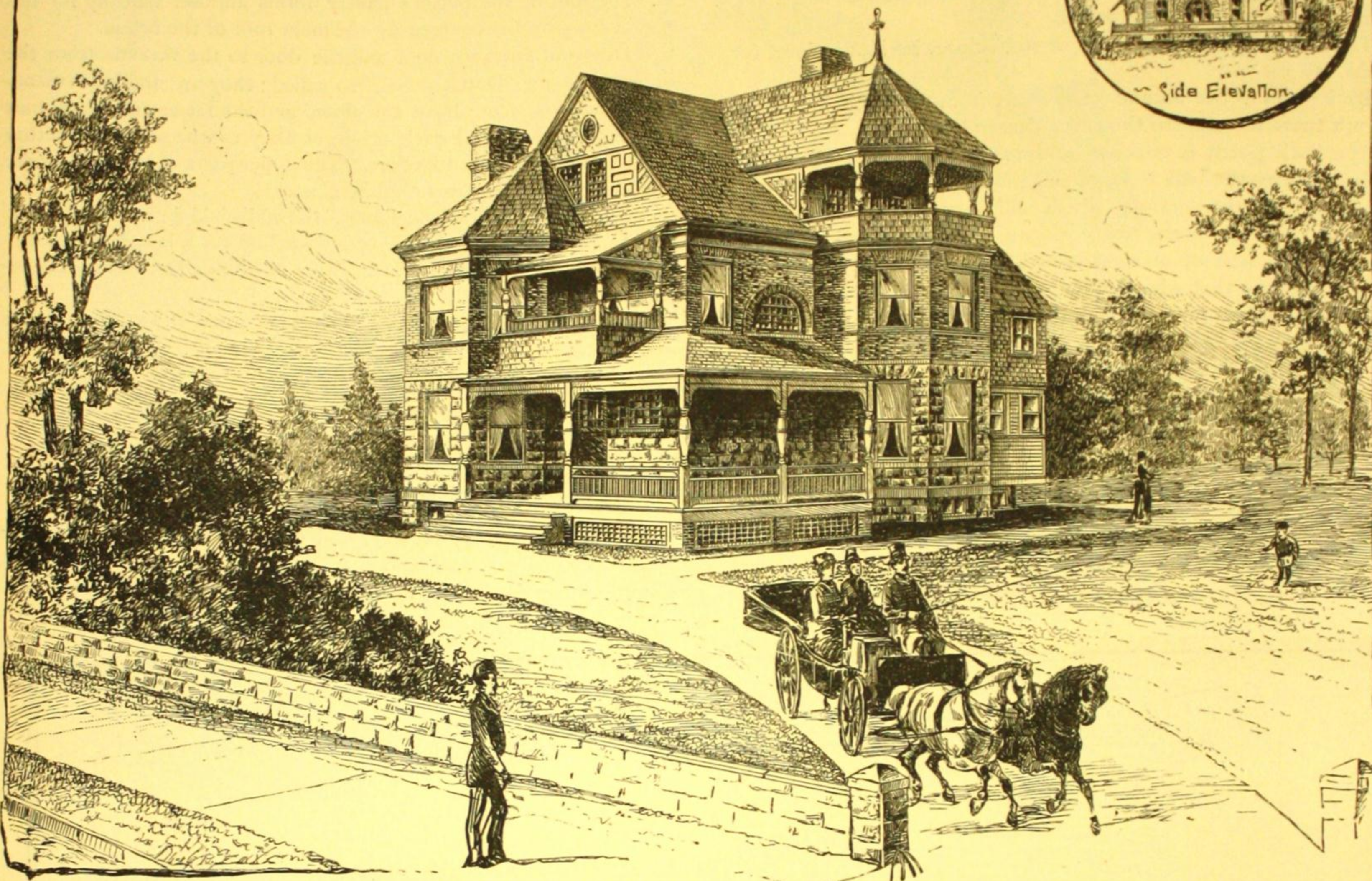
COST: \$5,800, except mantels, kitchen range and heater.

The floor plans are exactly the same in size and arrangement as those of the preceding design, except that on the first floor, the

veranda has an octagonal bay, and on the second floor the front balcony is made a bed-room 9 ft. x 13 ft., and an open balcony is put on the side, over the veranda.



DESIGN No. 358. PERSPECTIVE VIEW



DESIGN No. 359. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER. 359

SIZE OF STRUCTURE: Front, 35 ft., including veranda. Side, 48 ft., 6 in., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 9 ft.

MATERIALS: Foundation, stone; First Story, rock face stone work; Second Story, select stock brick; Gables, shingles and panelling; Roof, slate.

COST: \$5,500, complete, except mantels, kitchen range and heating apparatus.

Sliding doors connect the principal rooms and the hall.

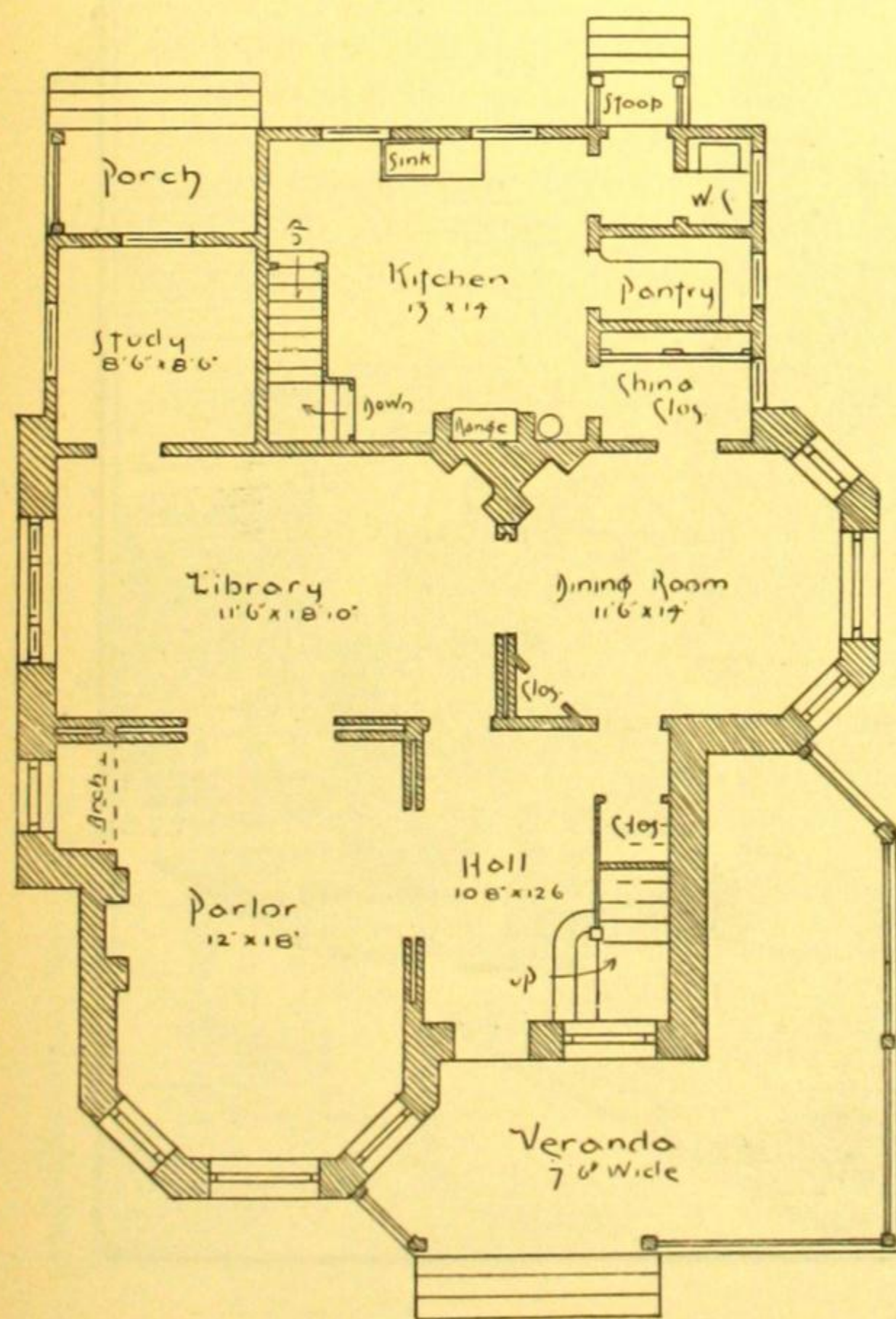
The window in the study, opening on to the porch, is carried to the floor.

Fire-places in the parlor, library, dining-room and front bed-room.

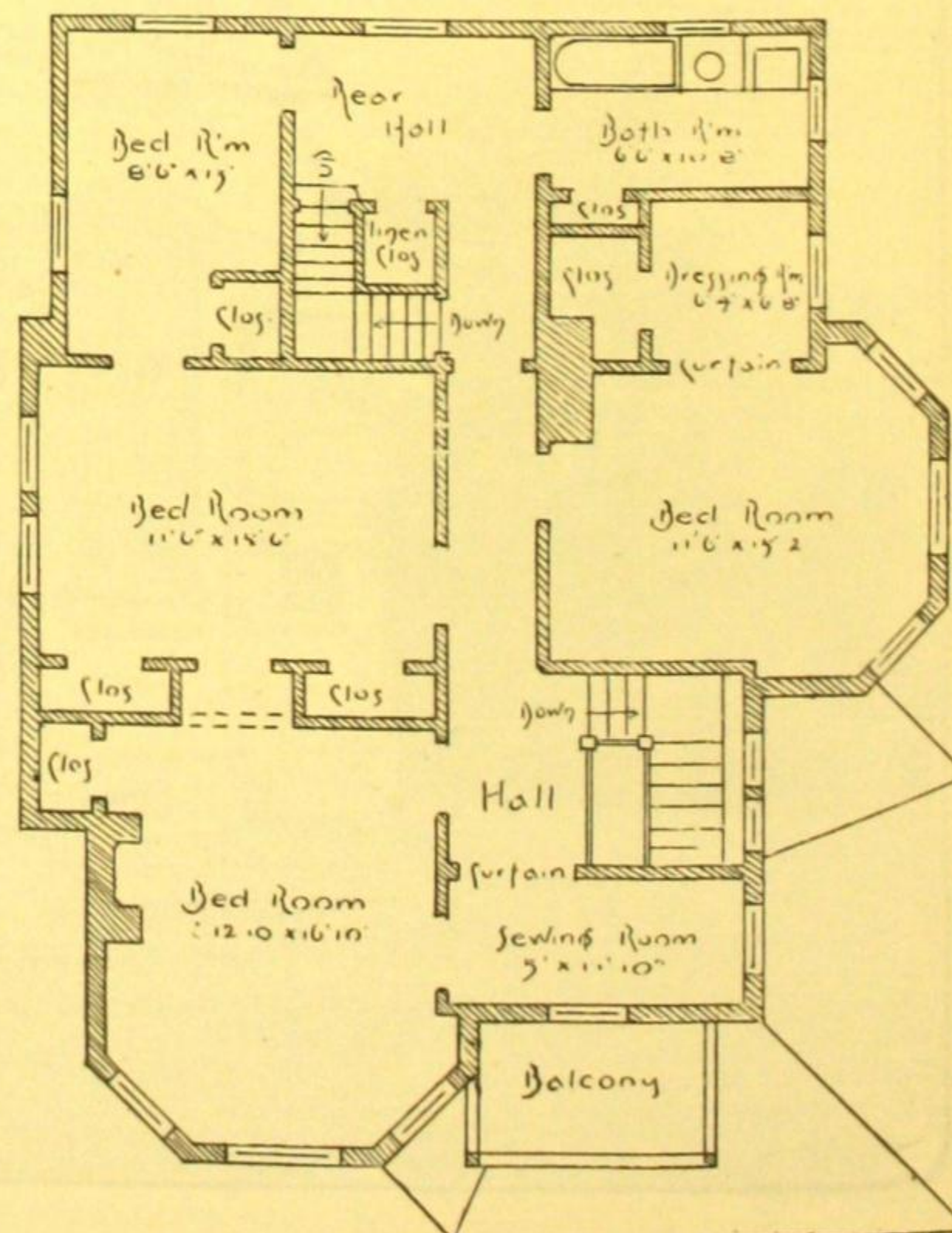
Three rooms finished in the attic.

Cellar under the whole house, with laundry in the rear.

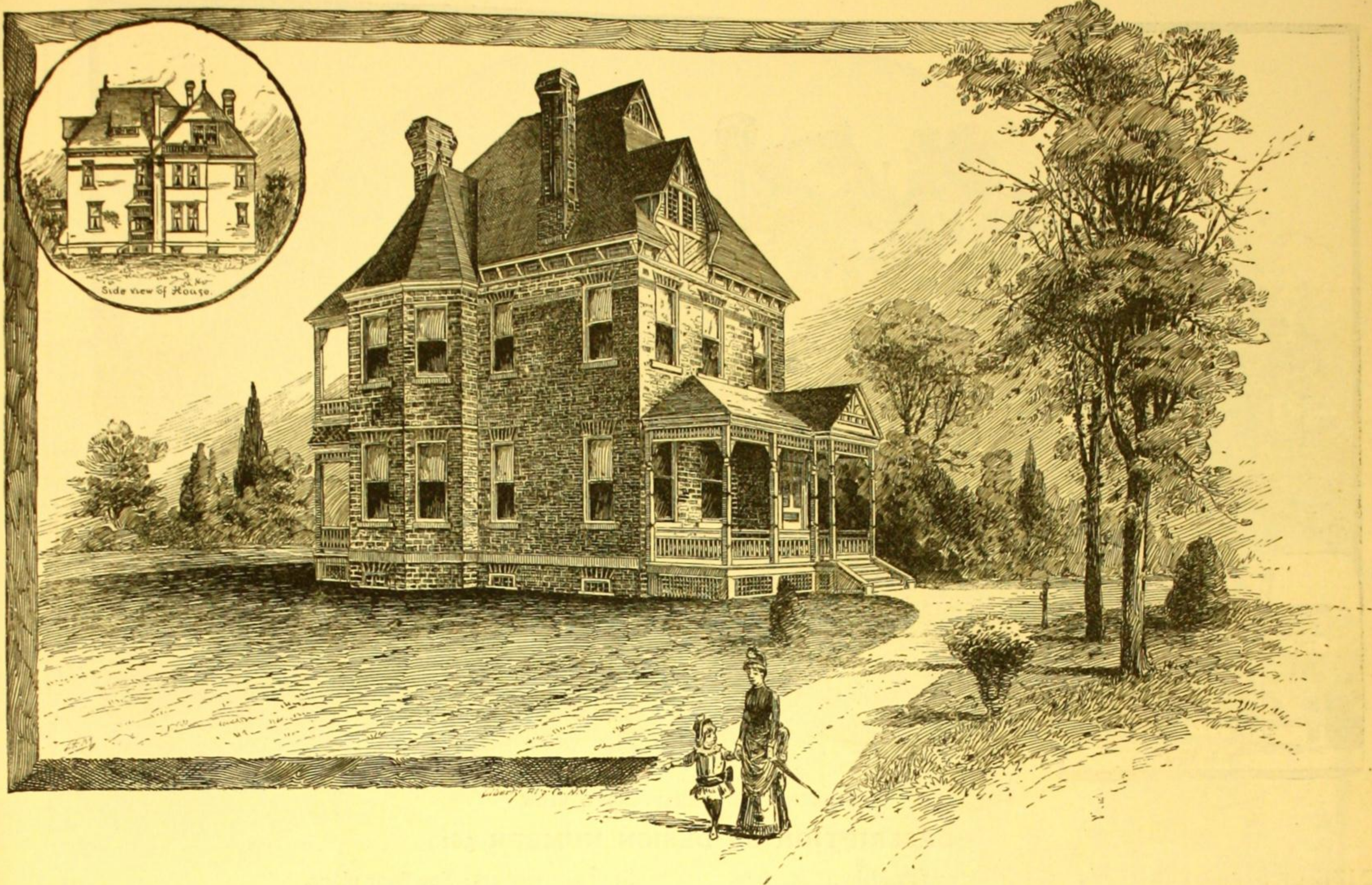
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 359.



SECOND FLOOR. NO. 359.



DESIGN No. 360. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 360

SIZE OF STRUCTURE: Front, 26 ft., 6 in.; extreme width, 43 ft. Side, 54 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 11 ft., 10 in.; Second Story, 10 ft., 10 in.

MATERIALS: Foundation, stone and brick; First Story, frame, veneered with brick; Second Story, frame, veneered with brick; Roof, slate.

COST: \$7,000, complete, except mantels, kitchen range and furnace.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—In construction the ordinary wood frame is used but it is covered with a 4-inch brick wall or shell, made secure to the frame by many small iron strap anchors built into the brickwork and attached to the frame.

In the cold climate of Canada, this method of building is much practiced and is found to make a warm house. The same conditions which make a warm house for Canada will make a cool house for Georgia or Mississippi. While the brickwork makes a tight and warm coat for the house, the air spaces between the brickwork and plastering of the wall's prevent dampness.

This particular house was designed for erection in North Carolina, and has large rooms, high stories, and open fire-places.

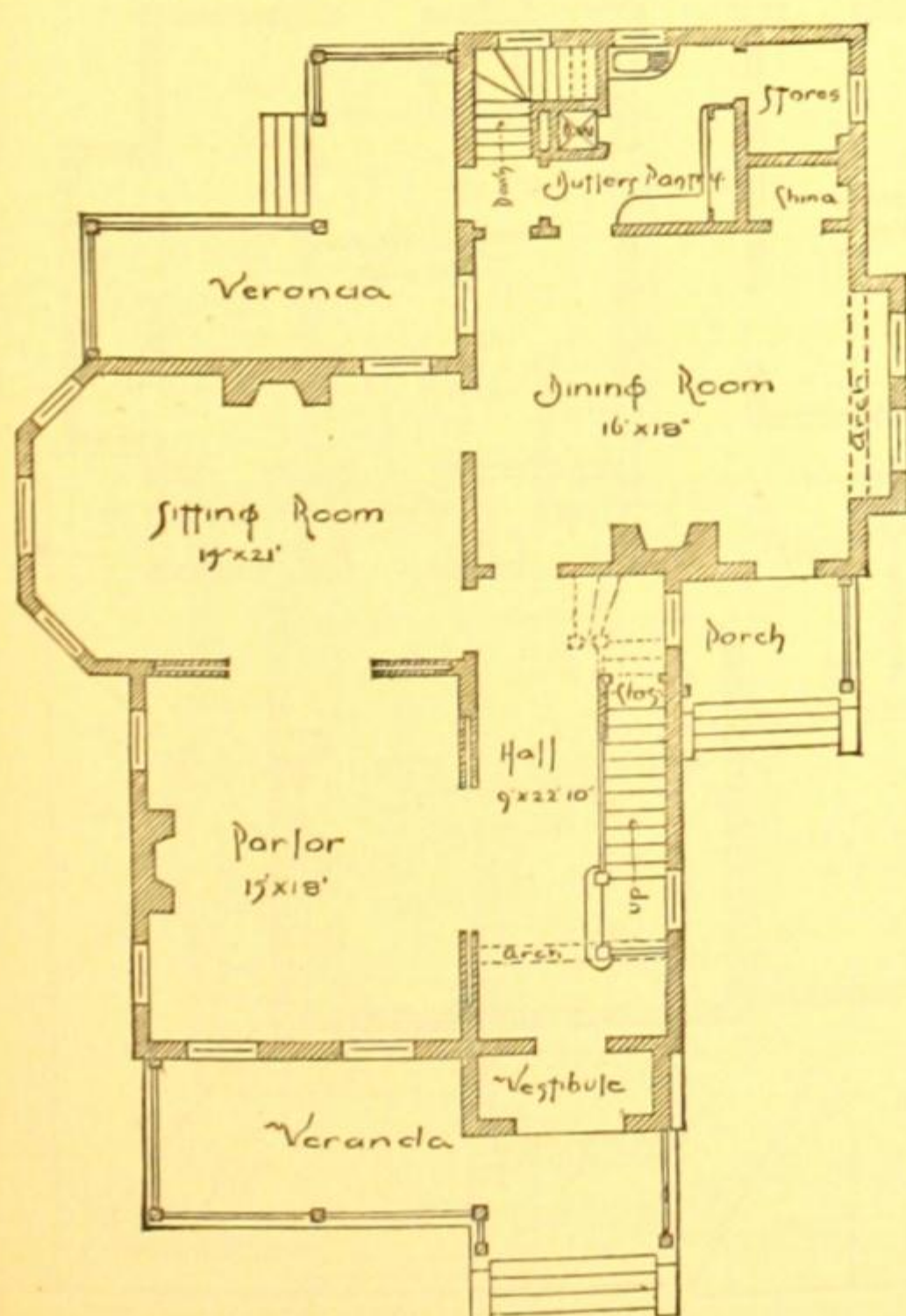
The kitchen is in the basement; a dumb-waiter serves between the kitchen and the butler's pantry.

Four bed-rooms besides large dressing-rooms and closets, and a bath-room, in second story.

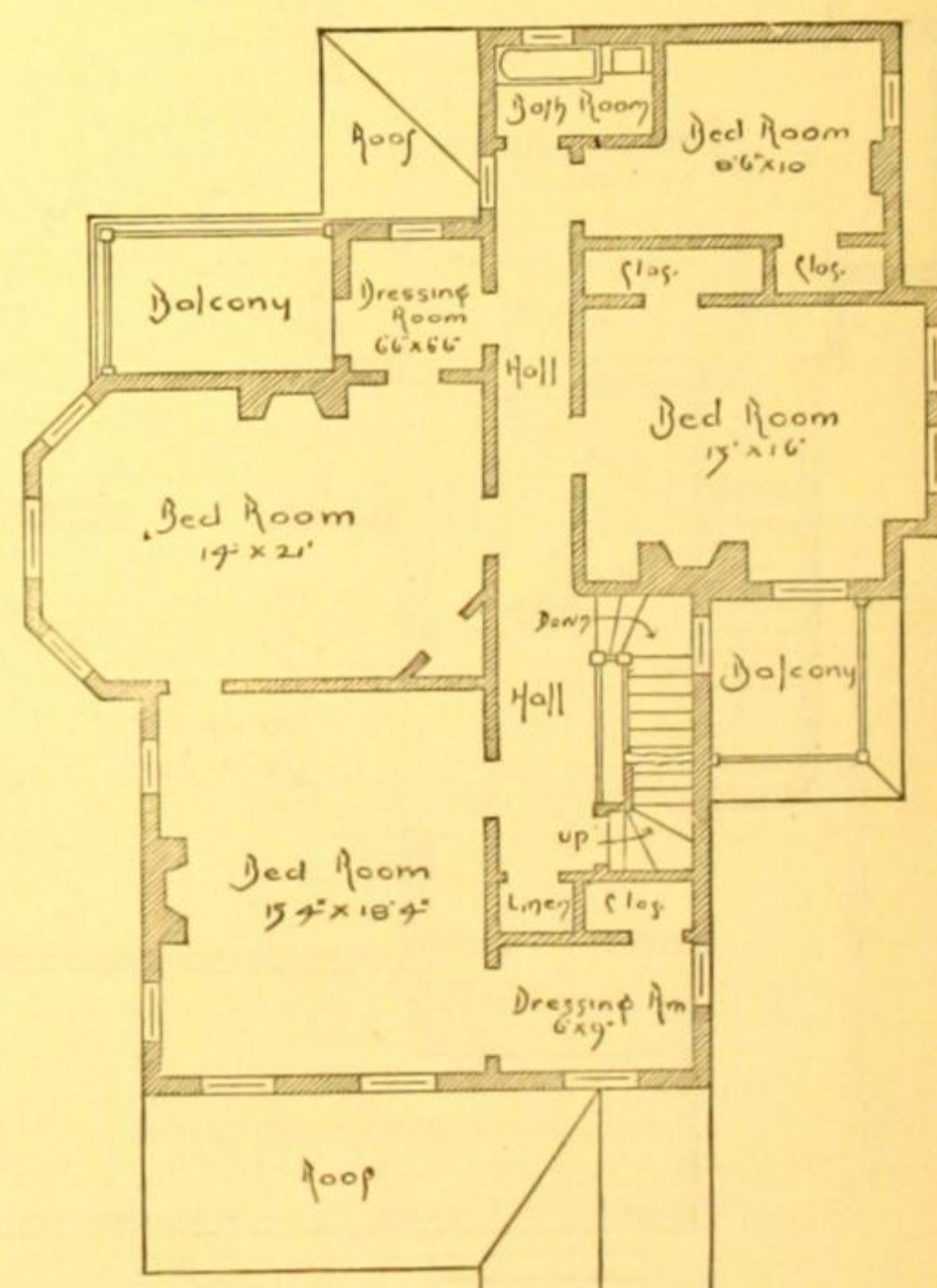
Rooms can be finished in the attic, if desired.

Cellar under the whole house and furnace for heating.

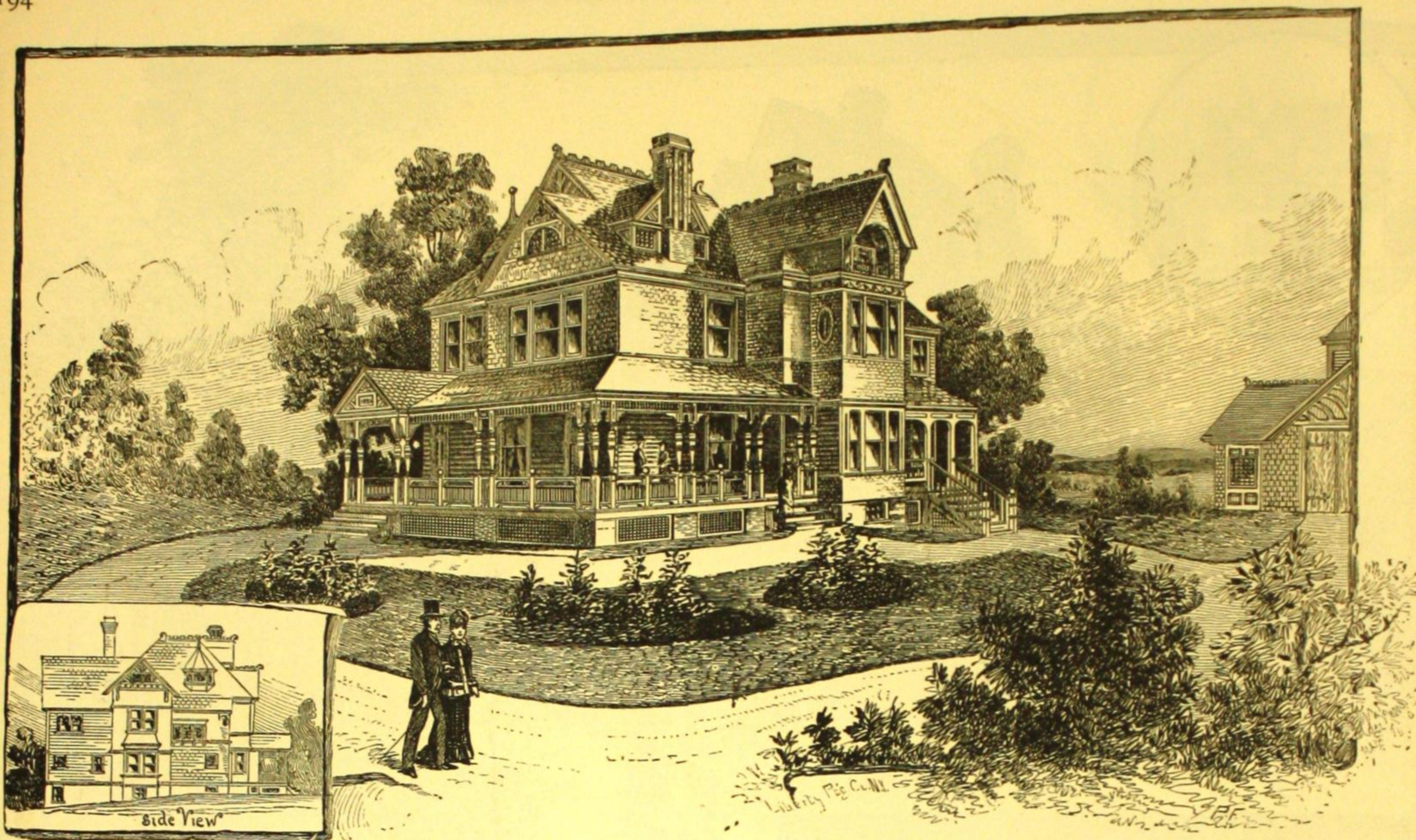
This house can be built for much less than our estimate in many parts of the country.



FIRST FLOOR. NO. 360



SECOND FLOOR. NO. 360



DESIGN No. 361. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 361

SIZE OF STRUCTURE: Front, 26 ft.; extreme width, 41 ft., 6 in.
Side, 61 ft., 6 in., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.;

Second Story, 9 ft., 6 in.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$6,500, complete, except stained glass, mantels, range, and furnace.

SPECIAL FEATURES. — The veranda is 9 ft. wide on the front, and 7 ft. on the side.

Sliding doors connect all the principal rooms and hall with each other.

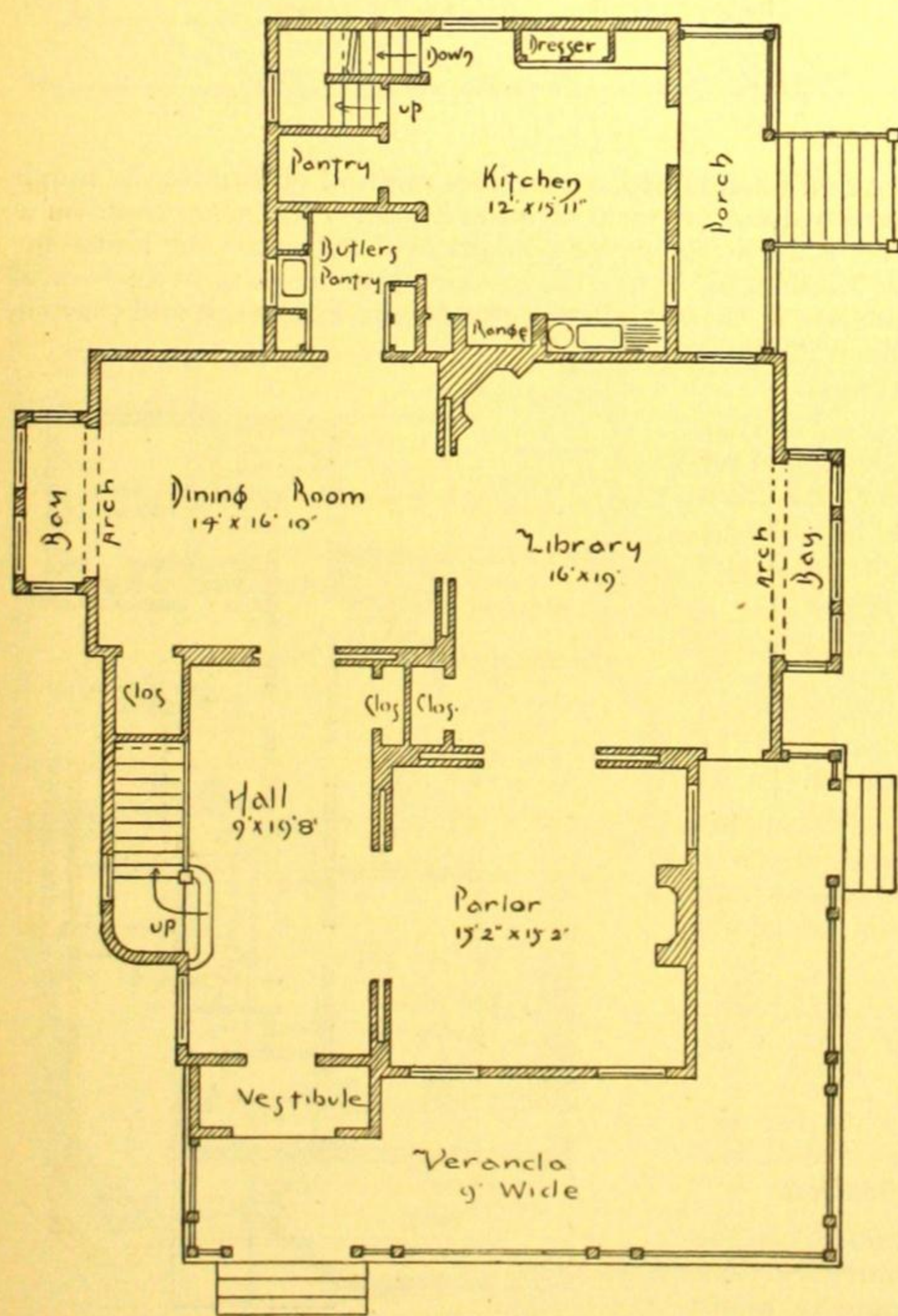
The library bay-window is 10 ft. wide, the opening being arched.

Wide staircase of hard wood.

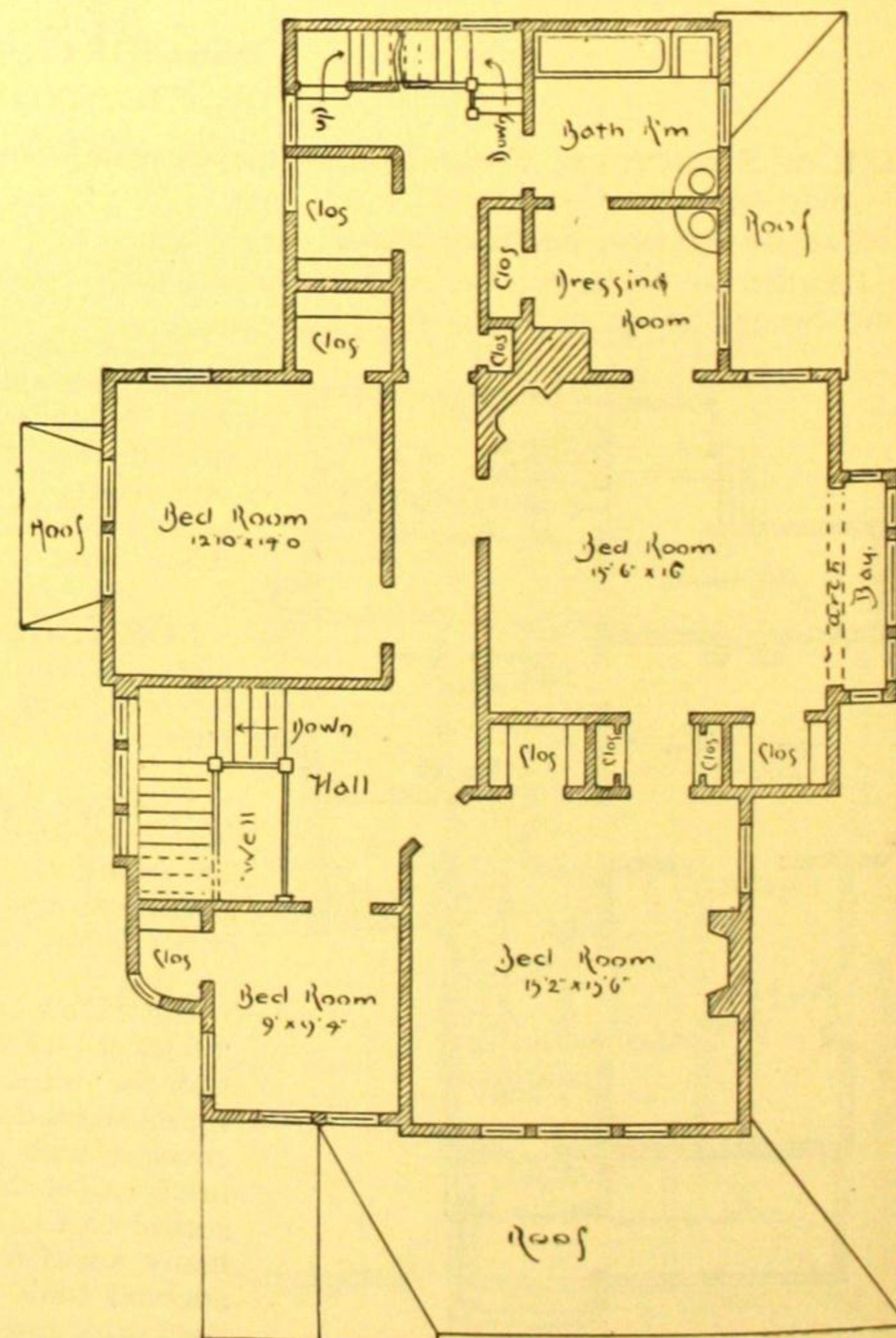
The staircase windows are glazed with stained glass.

The second story gives four bed-rooms; the dressing room is large enough to use as a bed-room if necessary.

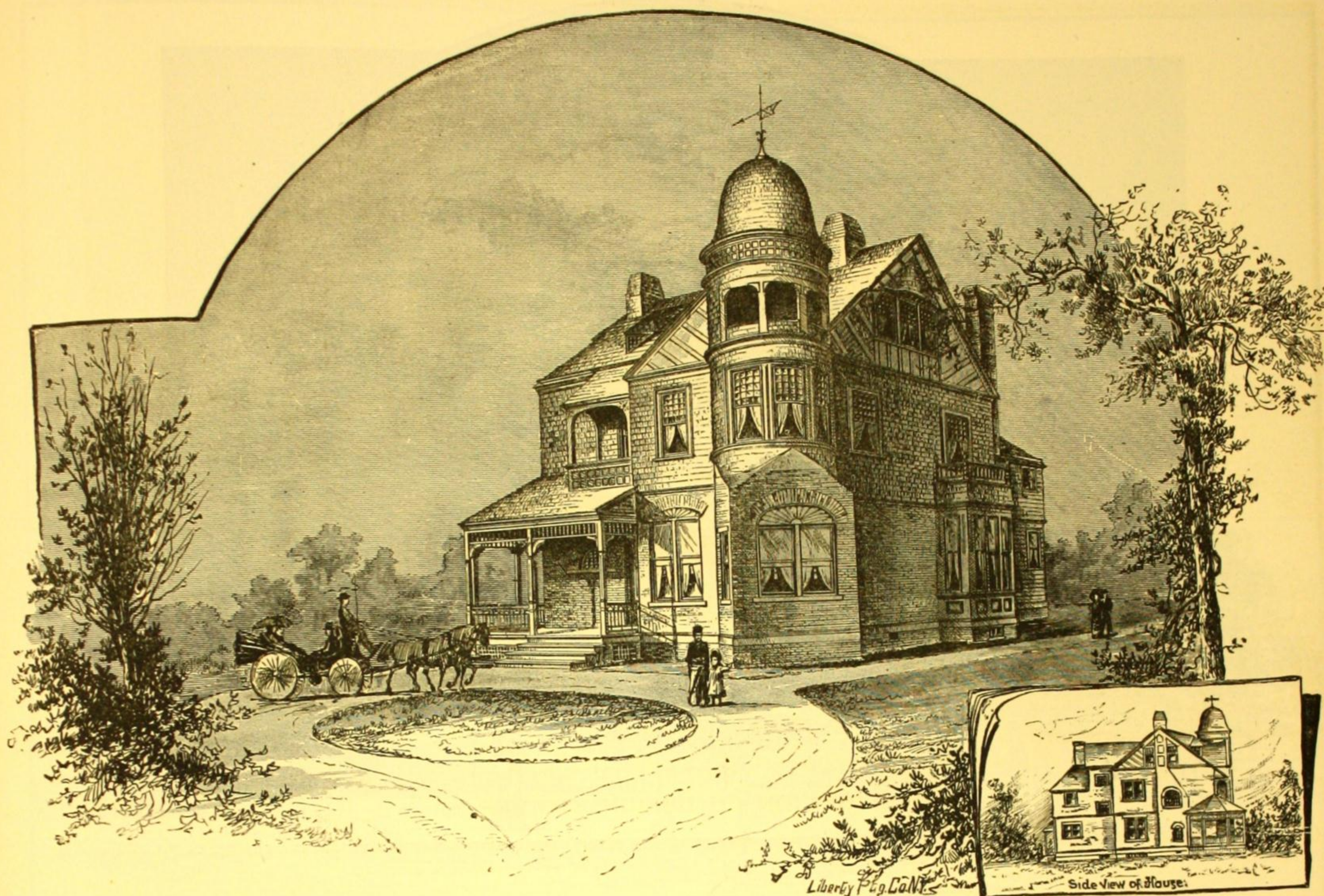
Cellar under the whole house.



FIRST FLOOR, NO. 361



SECOND FLOOR, NO. 361



DESIGN No. 362. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 362

SIZE OF STRUCTURE: Front, 28 ft. Side, 51 ft.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, brick; Second Story, shingles; Gables, panelled; Roof, shingles.

COST: \$5,000, complete, except mantels, heater and kitchen range.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables,

Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A unique design for a brick and frame house.

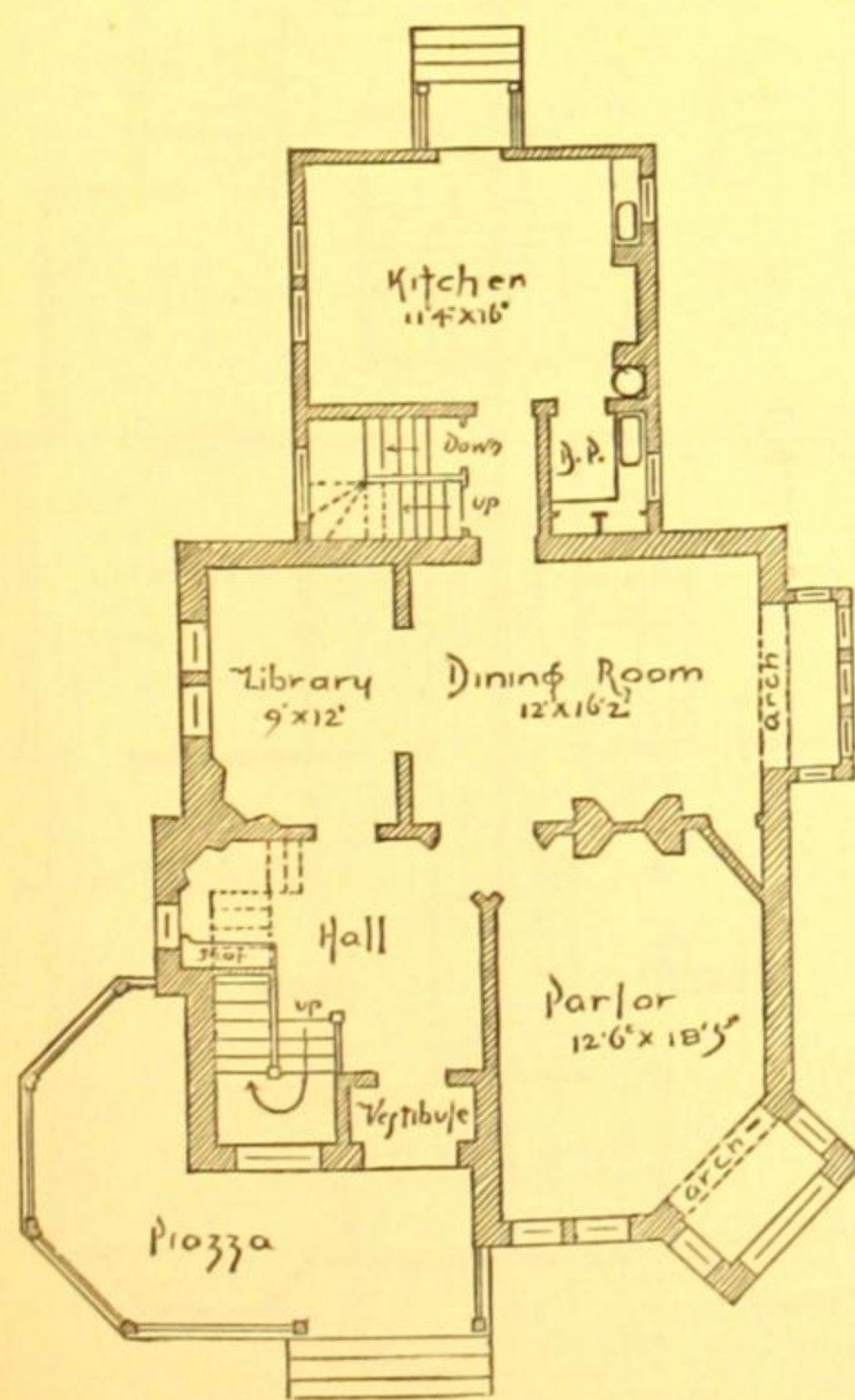
The hall, entered from a vestibule, is spacious and inviting. The nook underneath the upper part of the stairway has a seat facing the fire-place and a window.

The stairway starts near the centre of the hall toward the front, and has a broad platform at a height of four steps, at which point the direction of ascent is reversed toward the rear.

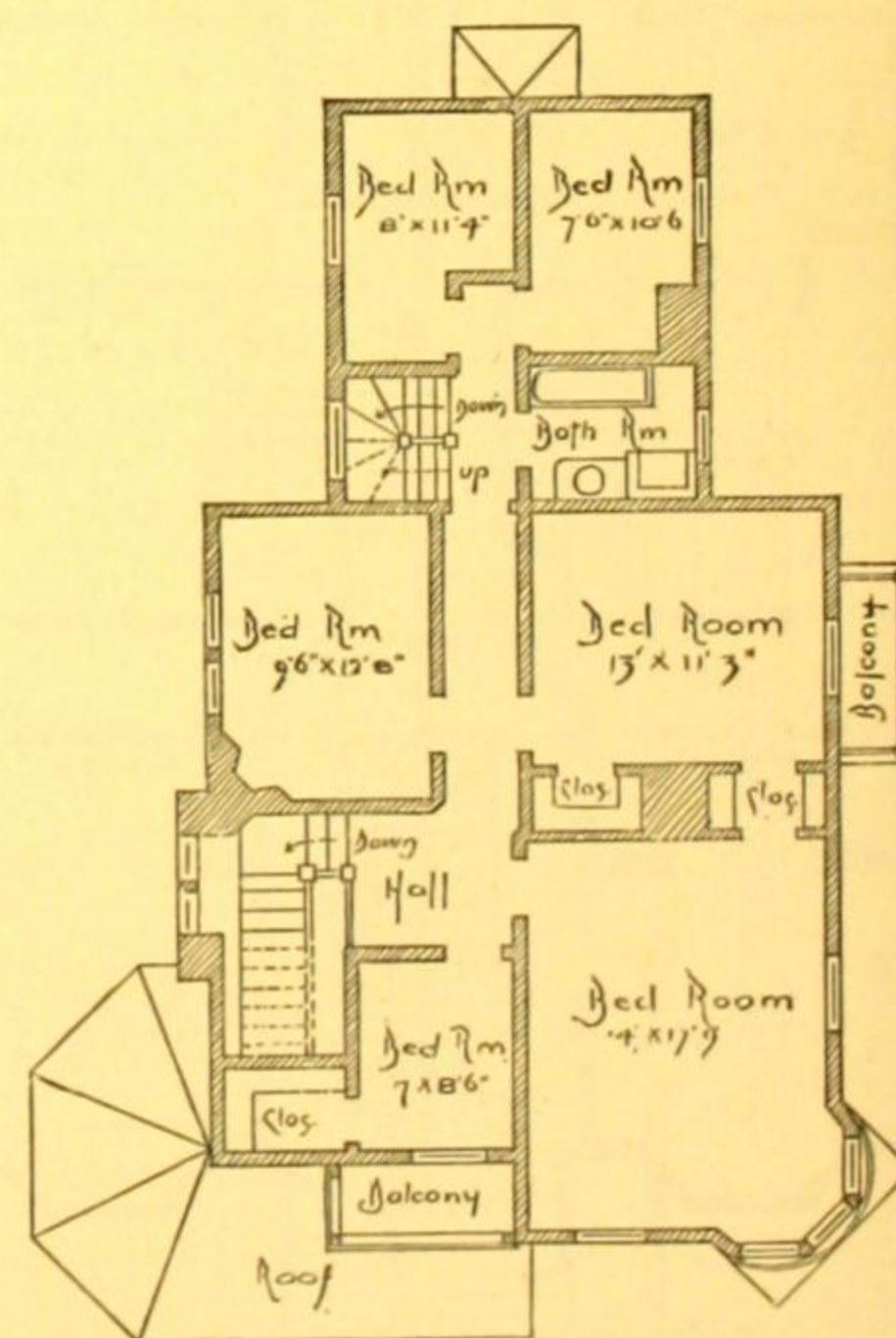
Six bed-rooms on the second floor, and four in the attic if required.

The kitchen extension is built all frame down to the foundation walls.

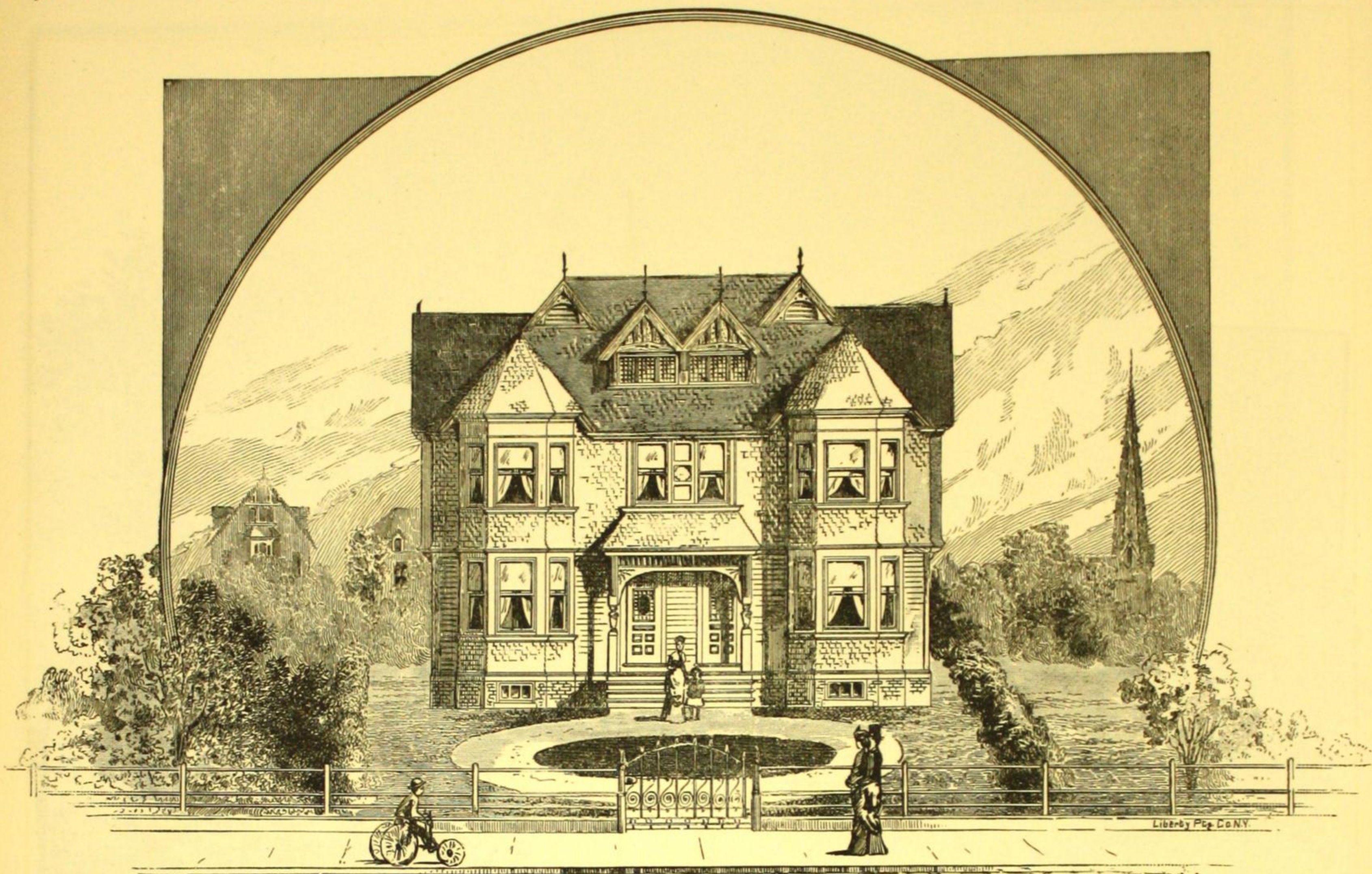
Cellar under the whole house.



FIRST FLOOR. NO. 362



SECOND FLOOR. NO. 362



DESIGN No. 363. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 363

SIZE OF STRUCTURE: Front, 42 ft. Side, 65 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$8,000, complete, except mantels and kitchen ranges.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A double frame "flat," designed for erection on a 50 ft. lot, allowing 4 ft. passage way on each side.

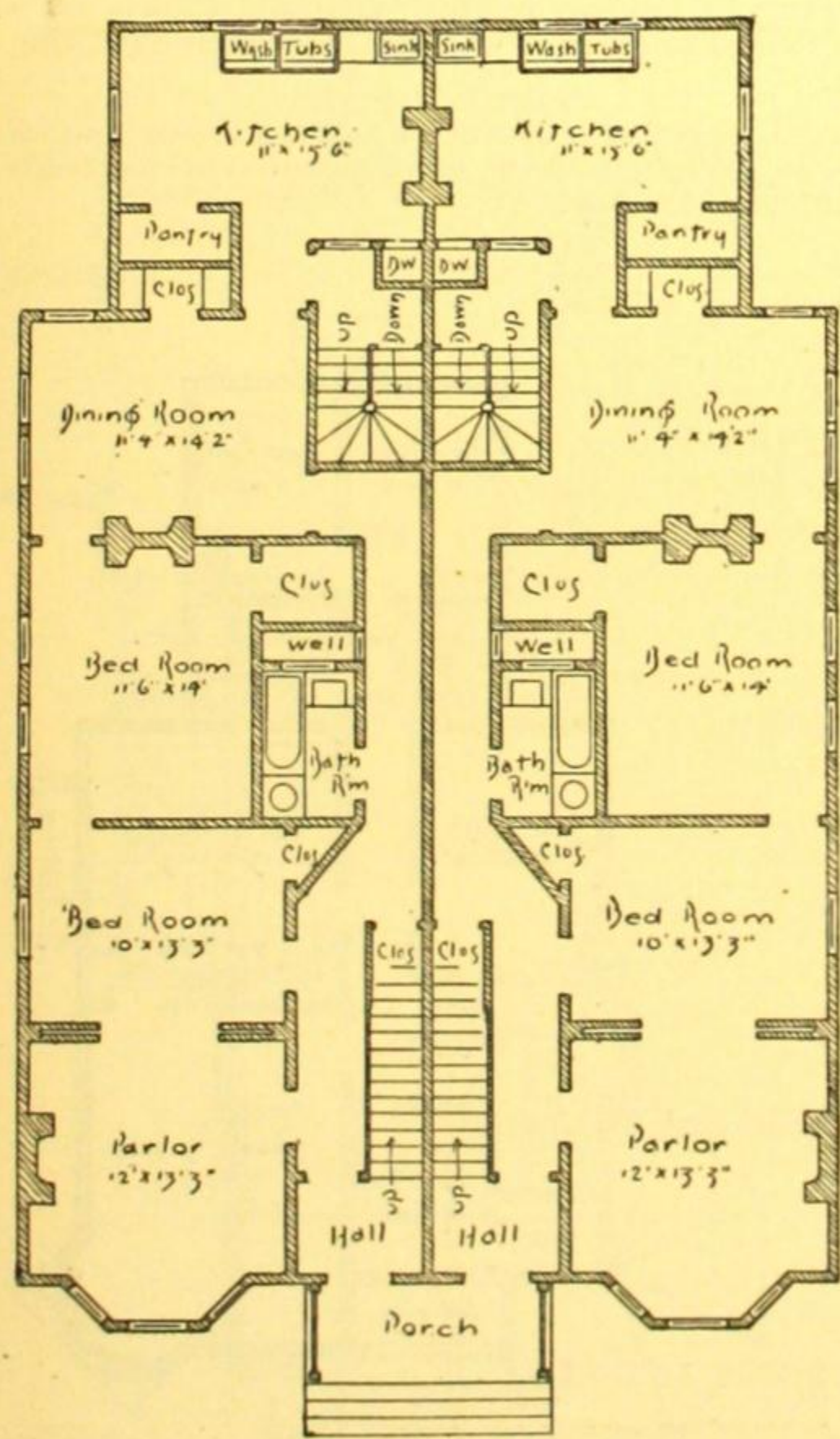
Each flat contains parlor, two good bedrooms, dining-room and kitchen, bath-room and large closets. The second story flats each have an additional hall bedroom at the front.

Dumb waiters to take provisions, etc., up from the cellar, where the tradesmen's entrance is placed.

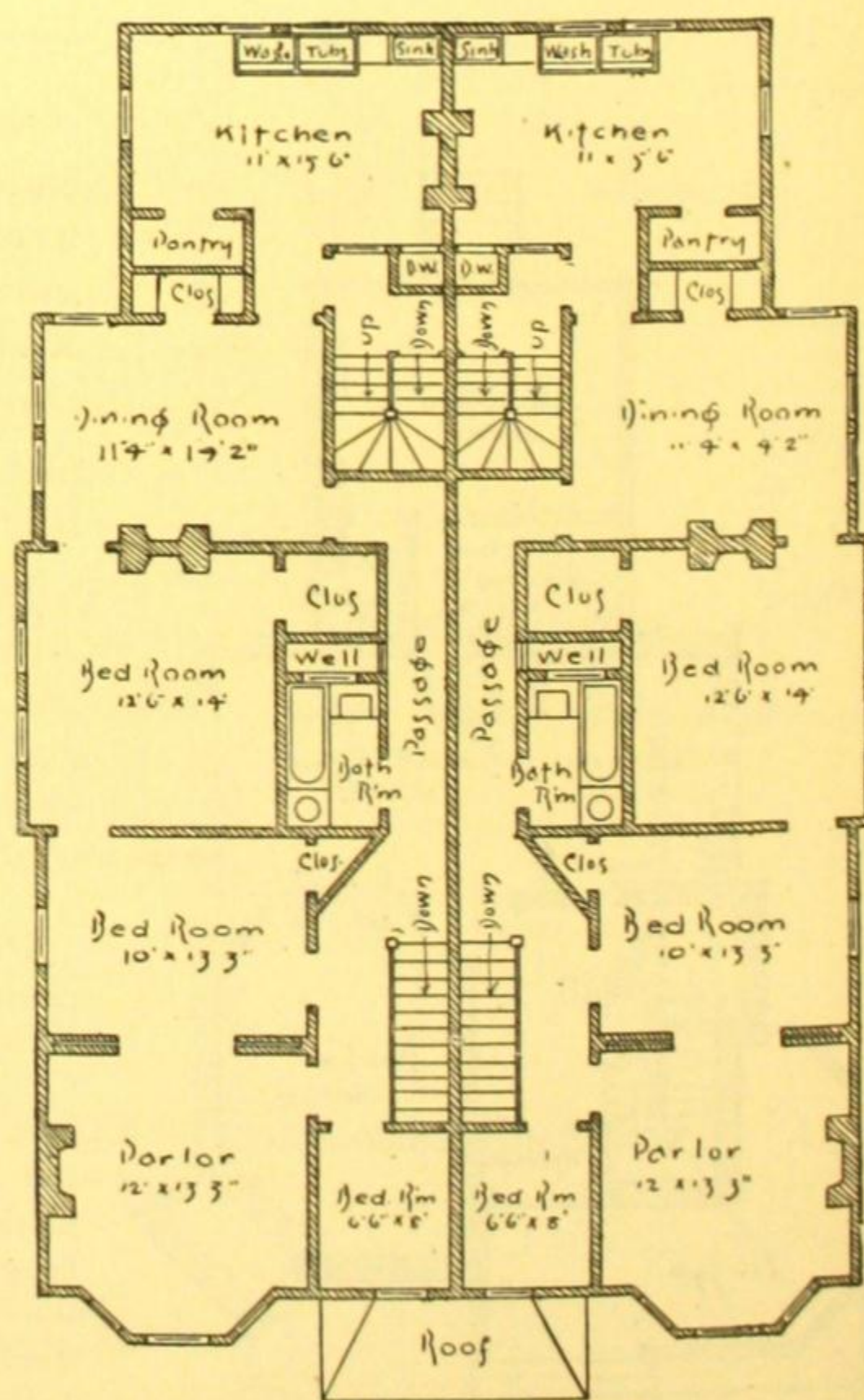
Servants' rooms in the attic.

Cellar under the whole house.

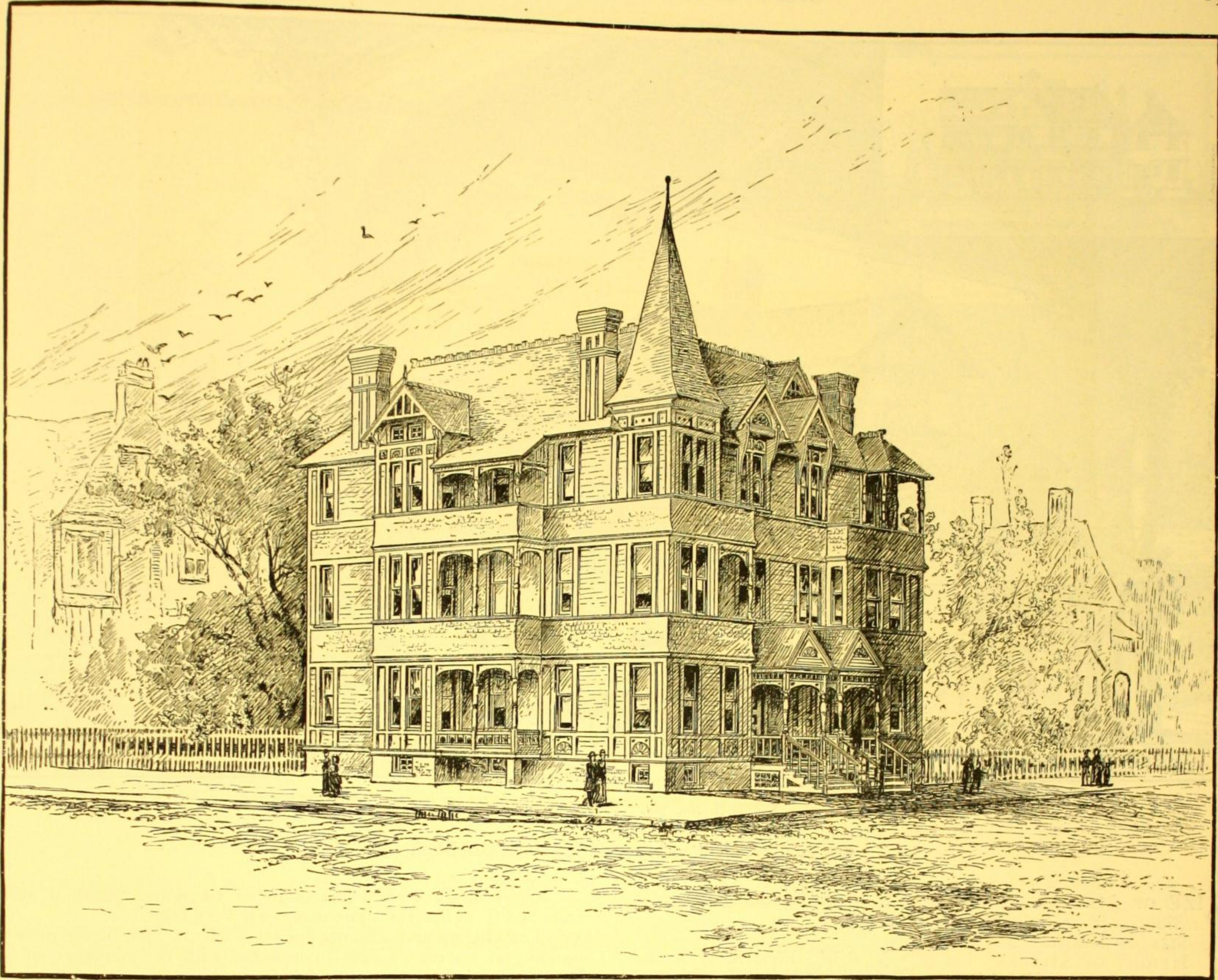
Back stairway from the cellar to the attic, entirely private.



FIRST FLOOR. NO. 363



SECOND FLOOR. NO. 363



DESIGN No. 364. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 364

SIZE OF STRUCTURE: Front, 44 ft., (each house, 22 ft.) Side, 53 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft., 9 in.; Third Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, wood; Second Story, wood; Roof, slate; deck tinned.

COST: \$12,000, complete, except ranges, mantels and plumbing.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A double frame three-story and attic "flat," intended for a corner lot. By cutting off the side projection, it can be built on a 50 ft. inside lot, and have a 3 ft. passage each side.

There is an attic where each of the three families occupying each building can have a store-room under lock and key.

Each family has three good bed-rooms (except those on the first floors), besides a servant's room, and parlor, dining-room and bath-room. Ample closets.

Large hall and easy staircase, with landings.

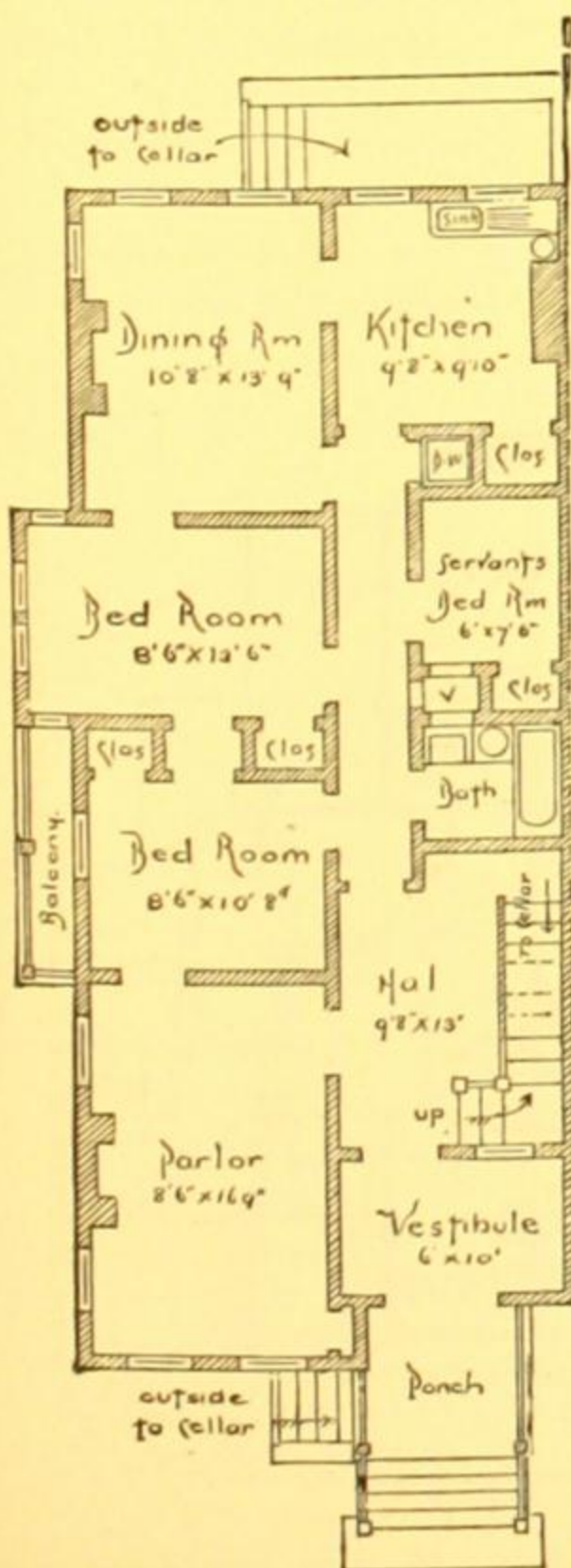
A dumb waiter for carrying coal, provisions, &c., to the upper flats.

The exterior is well broken up with balconies and bays; it does not have the "boxy" appearance which buildings of this class generally have.

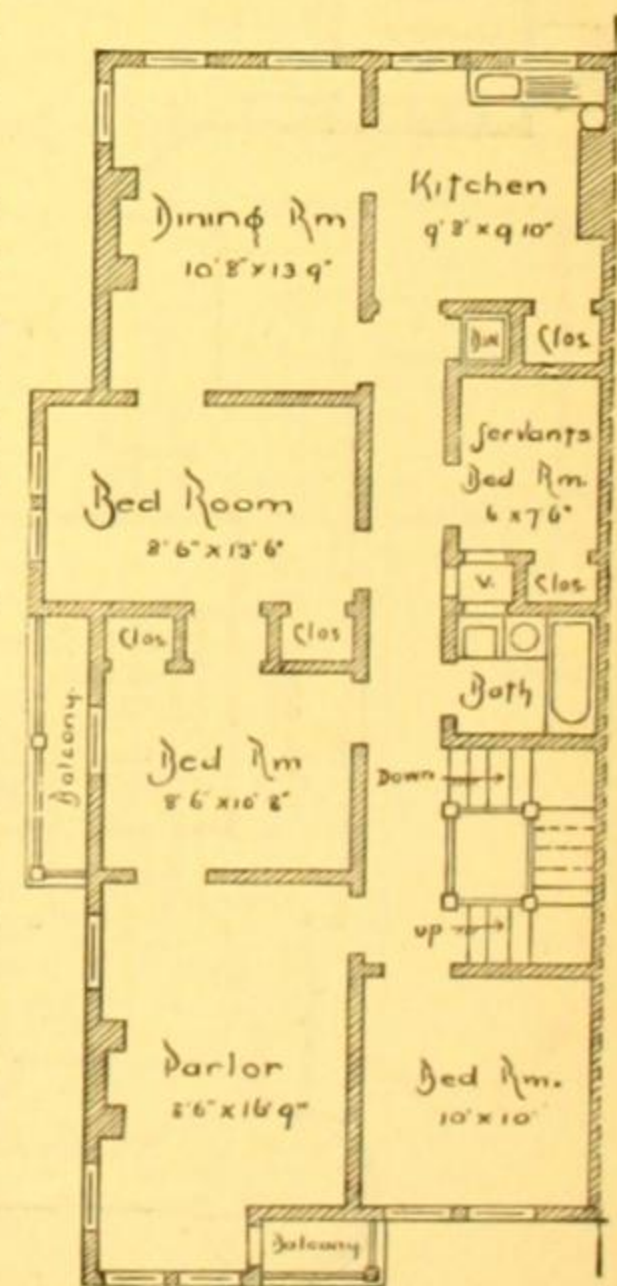
Cellar under the whole, with cement bottom.

The specifications call for a good, substantial and warm building.

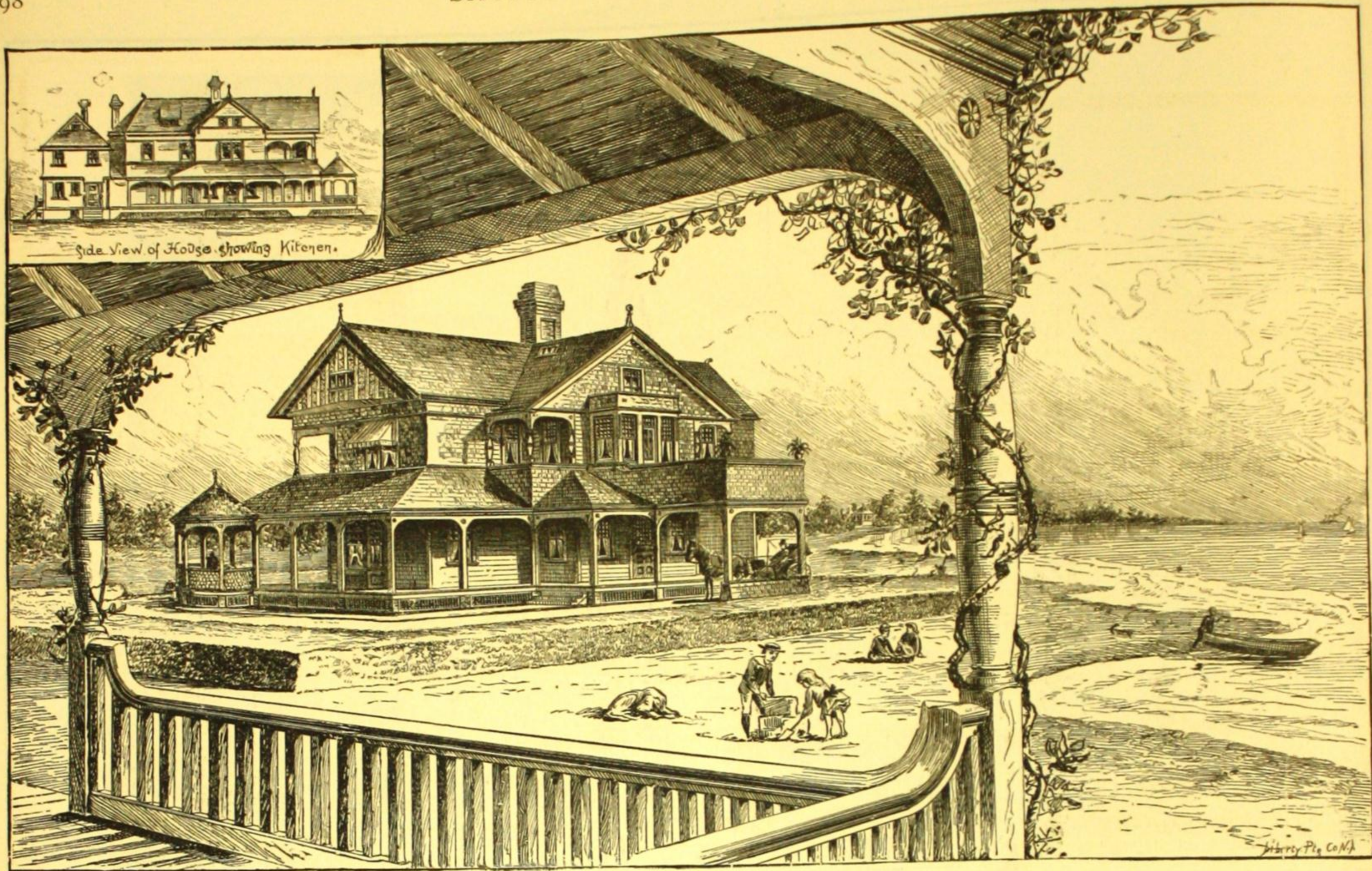
The third floor has the same accommodations as the second.



FIRST FLOOR. NO. 364



SECOND FLOOR. NO. 364



DESIGN No. 365. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 365

SIZE OF STRUCTURE: Front, 43 ft., 6 in., including verandas.
Side, 92 ft., including kitchen building.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.;
Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, brick walls and piers; First Story,
clapboards; Second Story, shingles; Roof, shingles.

COST: \$9,000,
complete.

[See page 147
for information
about details,
specifications,
bill of quantities
and working
plans of this de-
sign.]

NOTE

The cost is fig-
ured from prices of
material and labor
in the neighbor-
hood of New York
City, June, 1886.
In other localities
and at different
dates the cost will
be somewhat mod-
ified. The publish-
ers will be glad to
acquaint the in-
tending builder
with this modified
cost at any time.

**SPECIAL FEAT-
URES.**— De-
signed for a
seaside house.

The veranda around three sides of the house affords a prome-
nade 200 ft. in length. The rooms are very large.

The kitchen and servants' quarters are in the nearly detached
building in the rear, which is connected with the dining-room by a
butler's pantry.

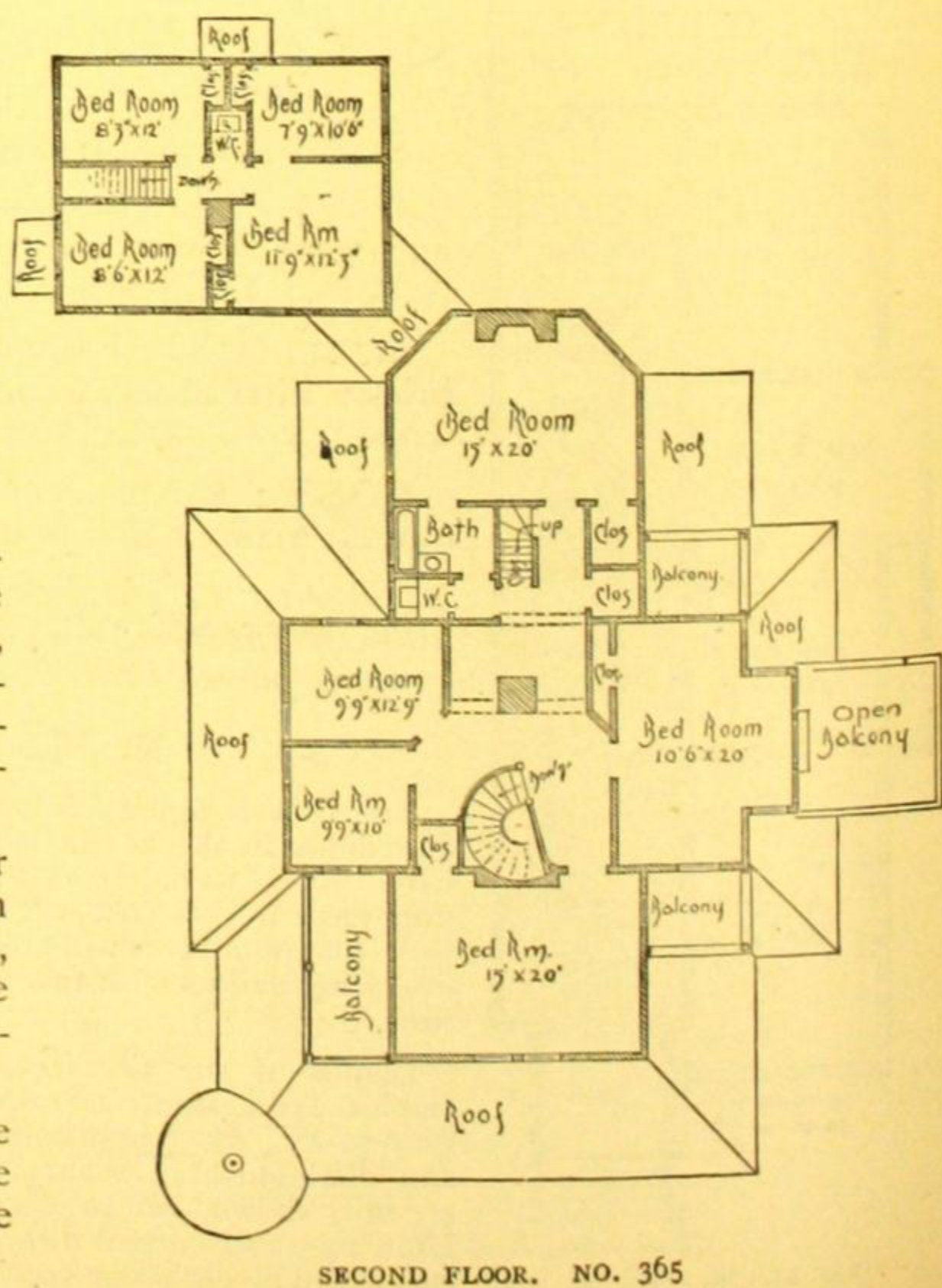
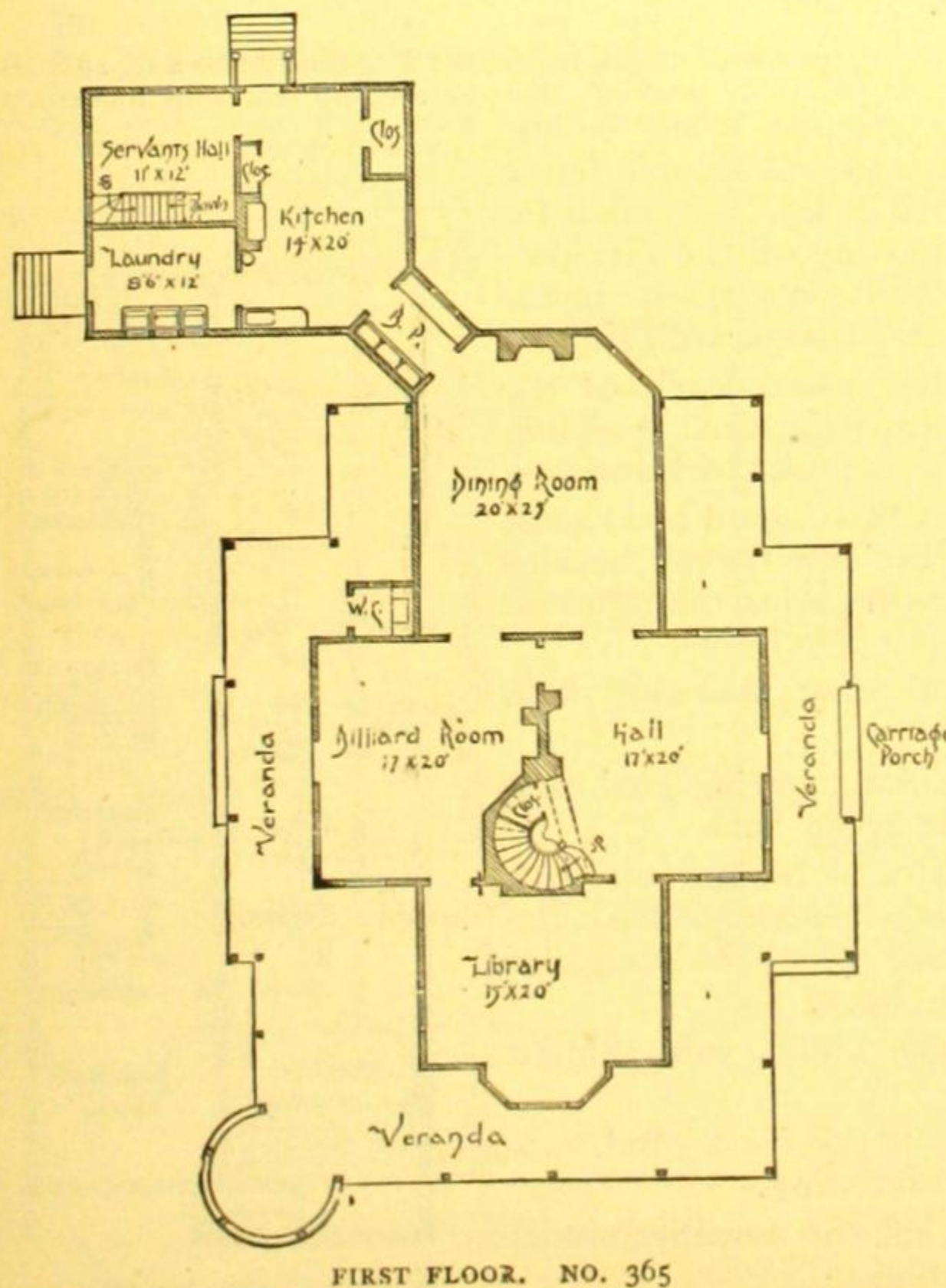
The entrance hall, 17 x 20 ft., has a large brick fire-place,
with a 4 ft. opening, which will take in logs of large size. The
dining-room
and the billiard-
room also have
large open fire-
places.

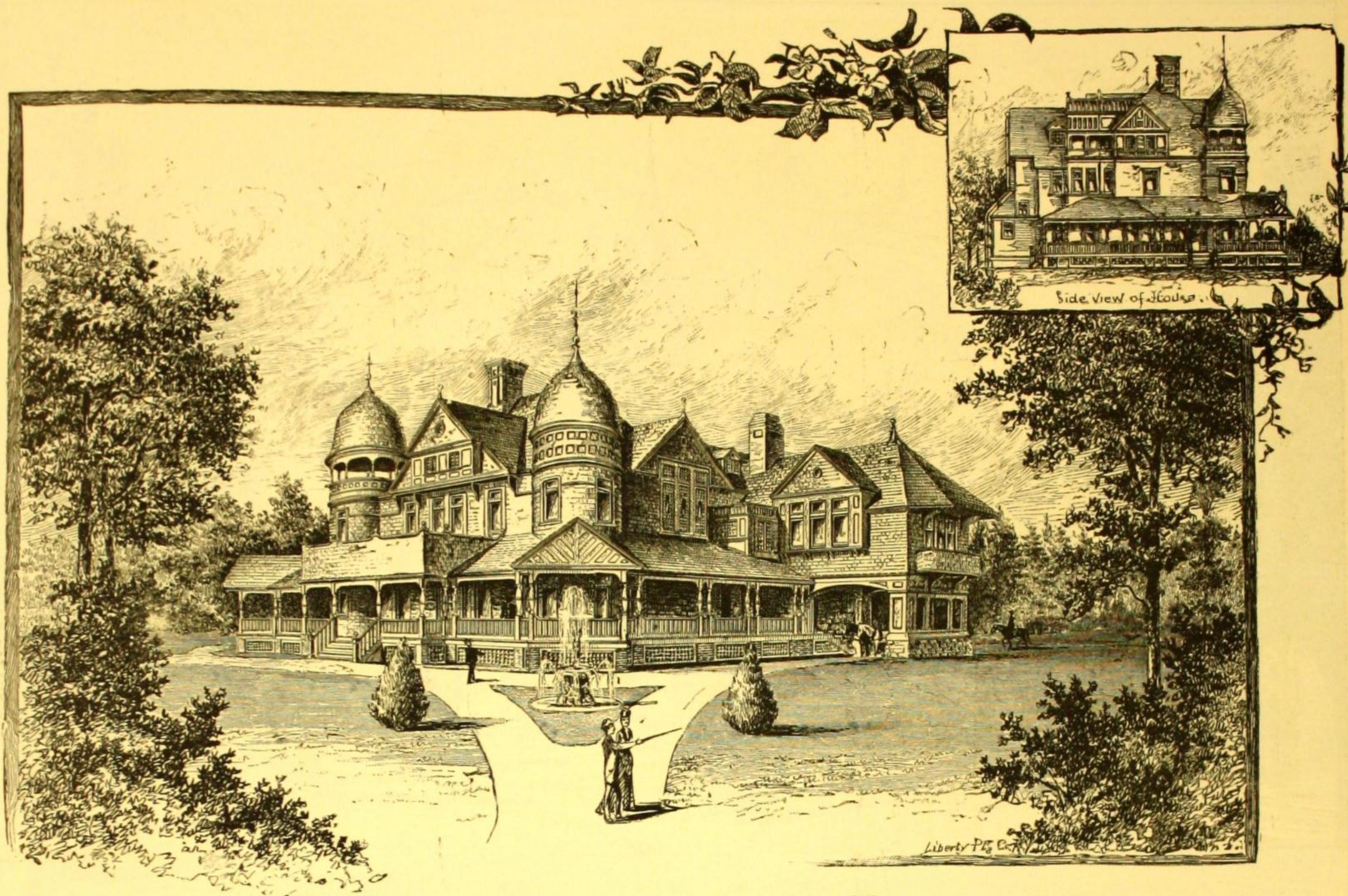
In the second
story the hall is
lighted by a
dome sash,
glazed with
stained glass,
placed over the
staircase.

An open bal-
cony over the
carriage porch,
and covered bal-
conies connect-
ing with the bed-
rooms.

Cellar under
the kitchen
building only,
the main house
not being ex-
cavated under.

Four or five
rooms can be
finished in the
attic if desired.





DESIGN No. 366. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 366

SIZE OF STRUCTURE: Front, 72 ft., including verandas. Side, 78 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 12 ft.; Second Story, 10 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, rock face stone-work; Second Story, shingles; Roof, red Akron (Ohio) tile.

COST: \$15,000 to \$18,000, complete, except mantels and heating apparatus.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

The entrance to the hall is by a low, wide "Dutch" door, which, with the windows at the side of the door are grouped under a wide elliptical stone arch.

The hall is finished in Georgia pine; the staircase is oak. The hall ceiling is wood panelling.

Sliding doors connect the rooms.

The hall fire-place is very large—intended for burning wood.

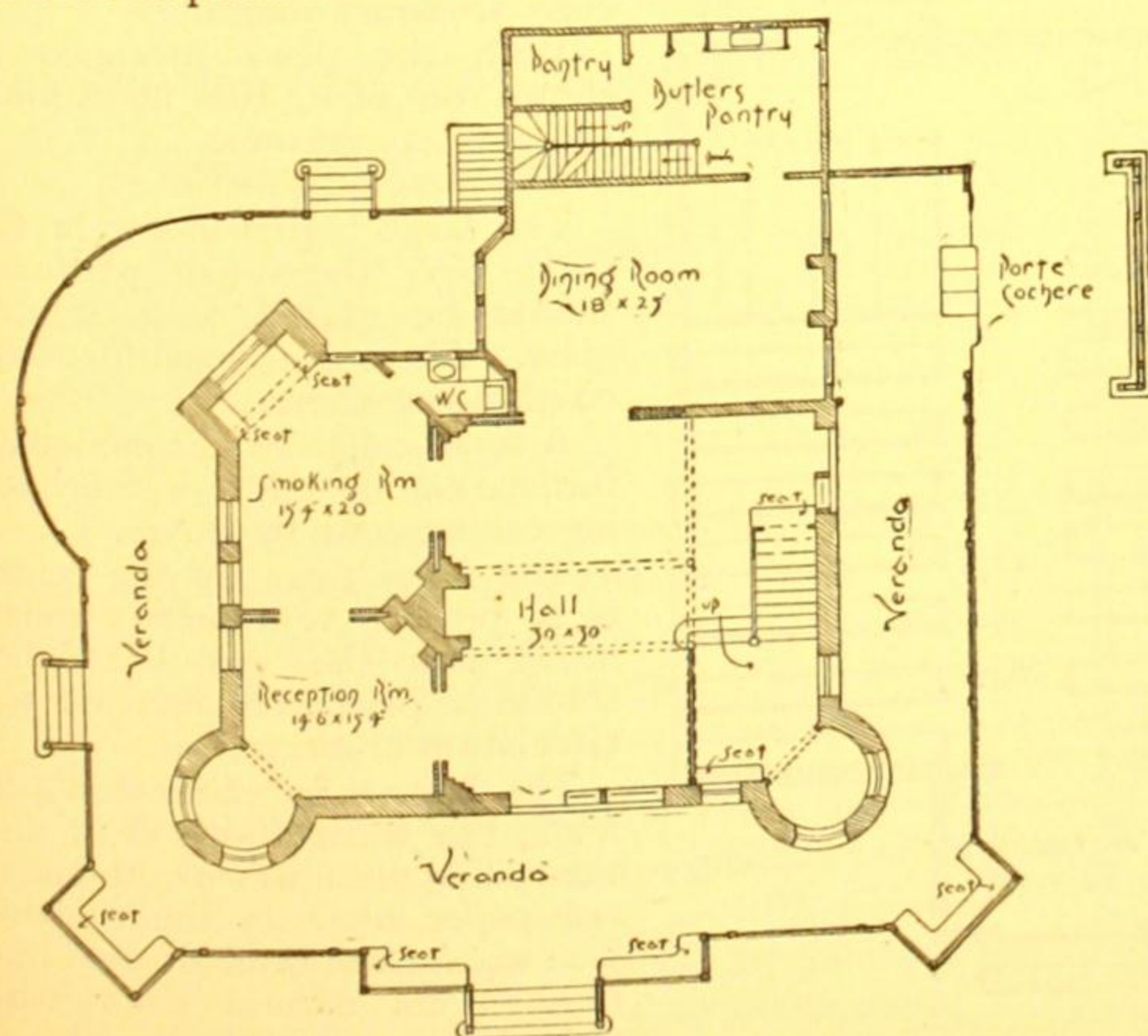
The veranda has an average width of 12 ft.

The group of three long windows over the staircase, which show in the view, are filled with stained glass of rich design.

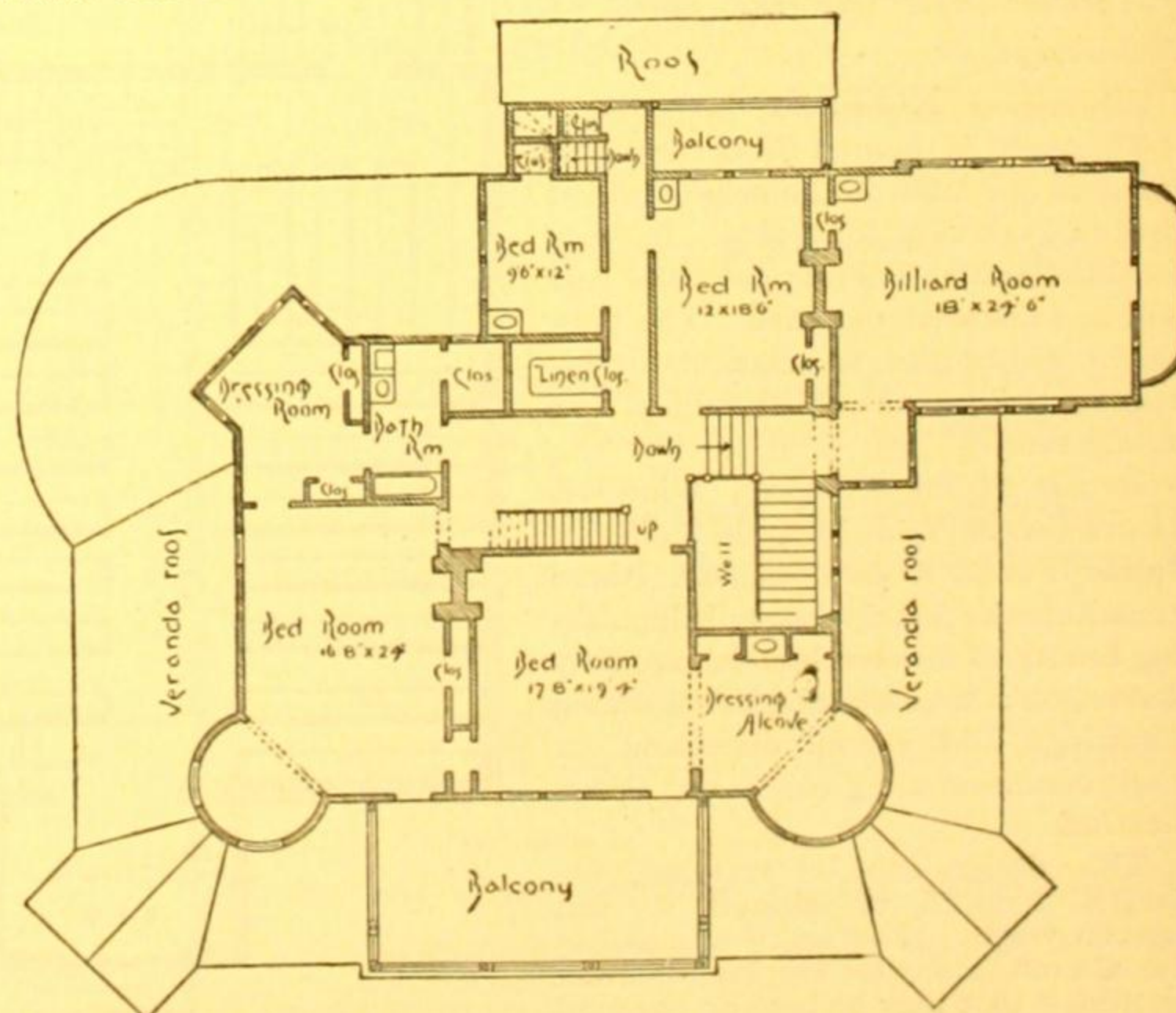
The billiard-room is over the carriage porch, and has a panelled ceiling.

There are two large bed-rooms in the attic, besides two rooms for servants.

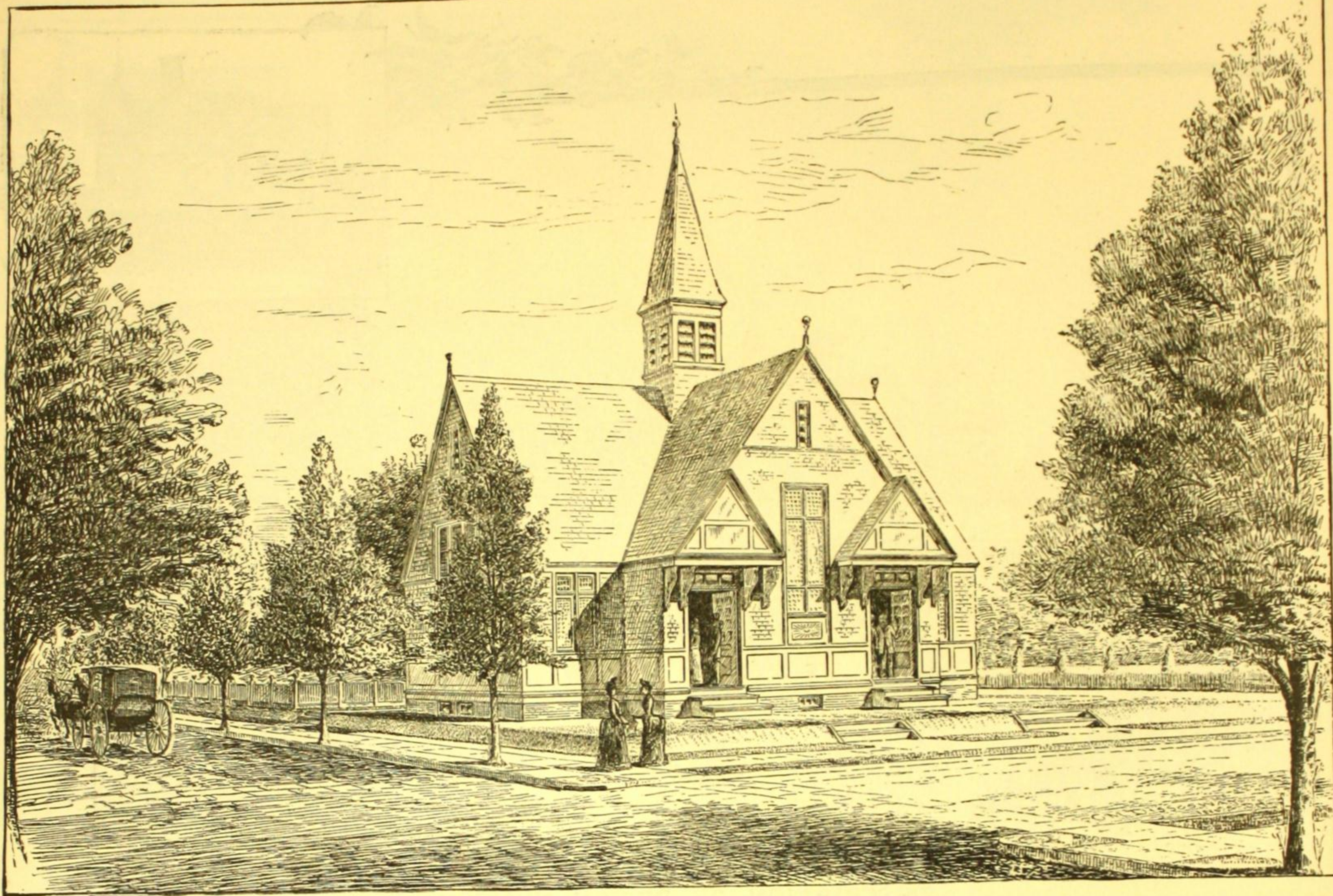
Cellar under the whole house, where kitchen, laundry and servants' hall are located.



FIRST FLOOR. NO. 366



SECOND FLOOR. NO. 366



DESIGN No. 367. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 367

SIZE OF STRUCTURE: Front, 51 ft. Side, 45 ft., over all.

SIZE OF ROOMS: See floor plans.

MATERIALS: Foundation, brick; Walls, shingled; Gables, shingled; Roof, shingled.

COST: \$3,000, complete, except pewing and heating apparatus.

SPECIAL FEATURES.—Designed for a small Baptist church. A baptistry is provided under the preacher's platform. That part of the platform covering the baptistry is arranged to slide back under the floor of the passage.

Omitting the baptistry, this design is appropriate for any evangelical denomination.

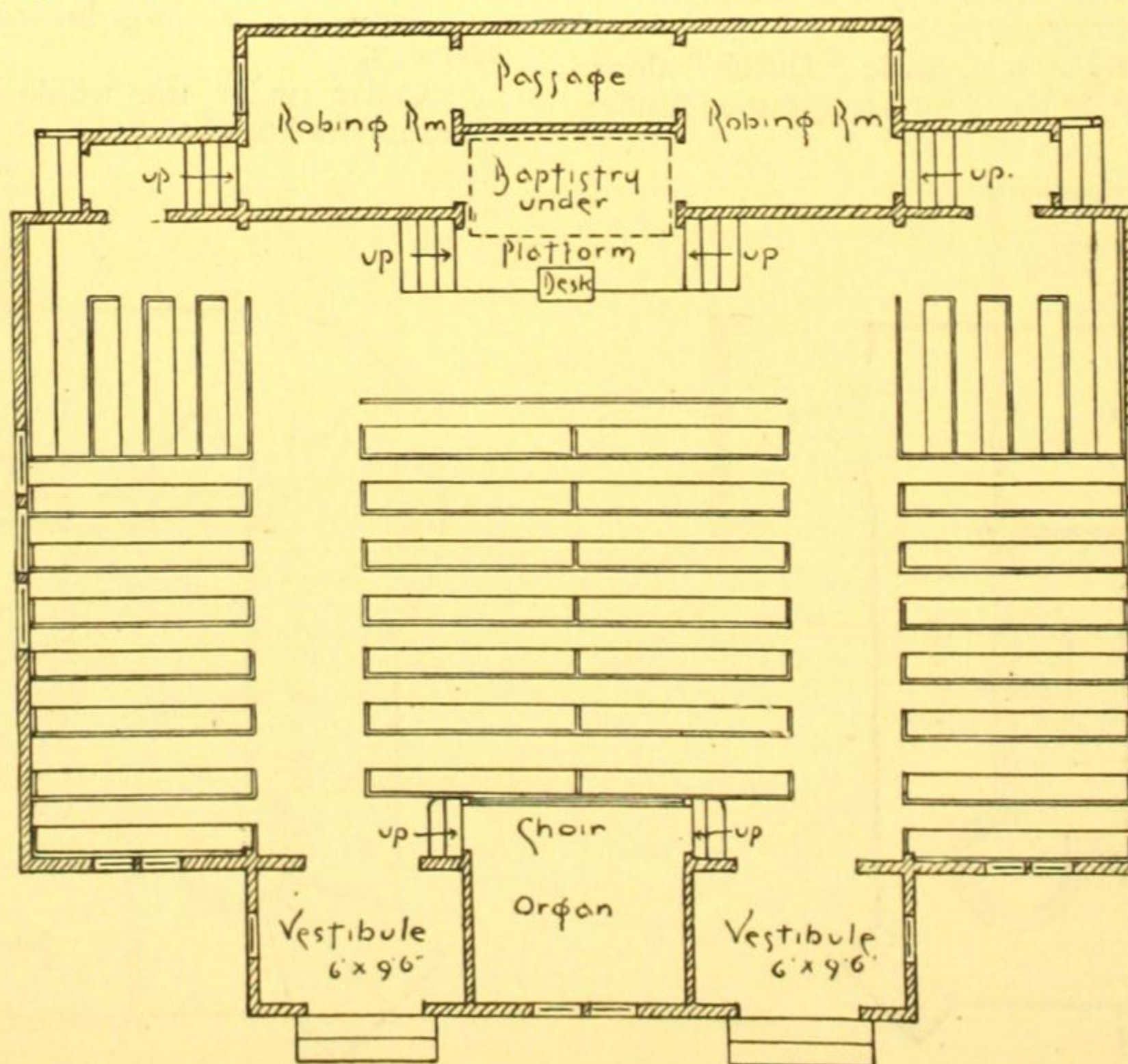
[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FLOOR PLAN, NO. 367

The inside dimensions of the auditorium are 50 ft. by 29 ft.

The robing-rooms are 8 ft. by 9 ft.; they can be used as study, class or library rooms.

With the pews arranged as shown on plan, the auditorium will seat 225 persons.

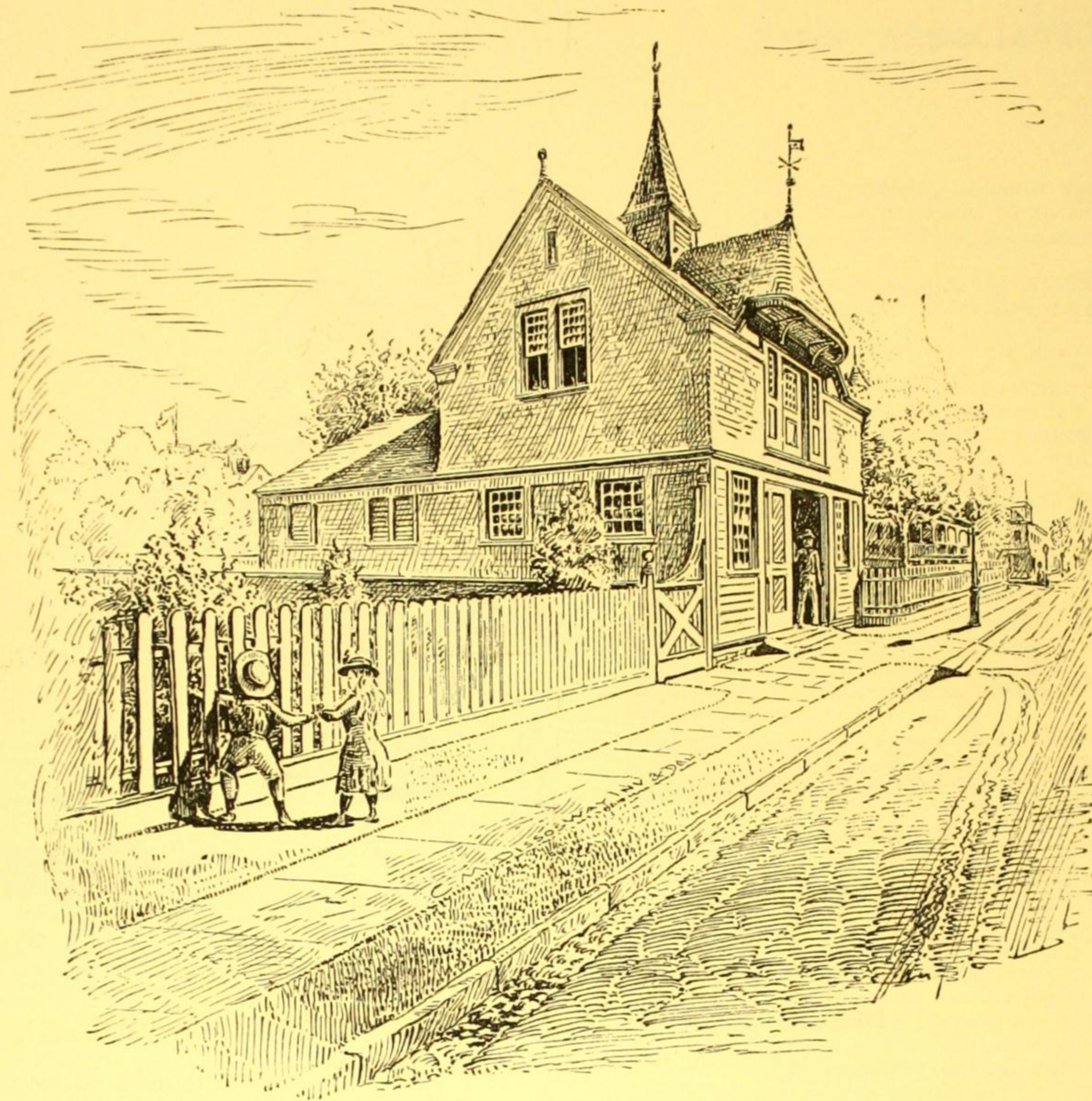
There are no galleries.

The large high window in the front, over the organ platform, should be glazed with stained glass. There is no need for stained glass elsewhere.

A small cellar to accommodate furnace can be built, or the heating can be done by stoves.

The small tower in the centre is to provide ventilation; underneath this the gas chandelier should be placed, to increase the circulation of air.

The interior is wainscoted 4 ft. high; the walls above that, and the ceiling are finished with heavy red paper between the timbers. The wood-work is all dressed and finished its natural color with varnish.



CARRIAGE-HOUSE AND STABLE DESIGN No. 368. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 368

SIZE OF STRUCTURE: Front, 20 ft. Side, 40 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

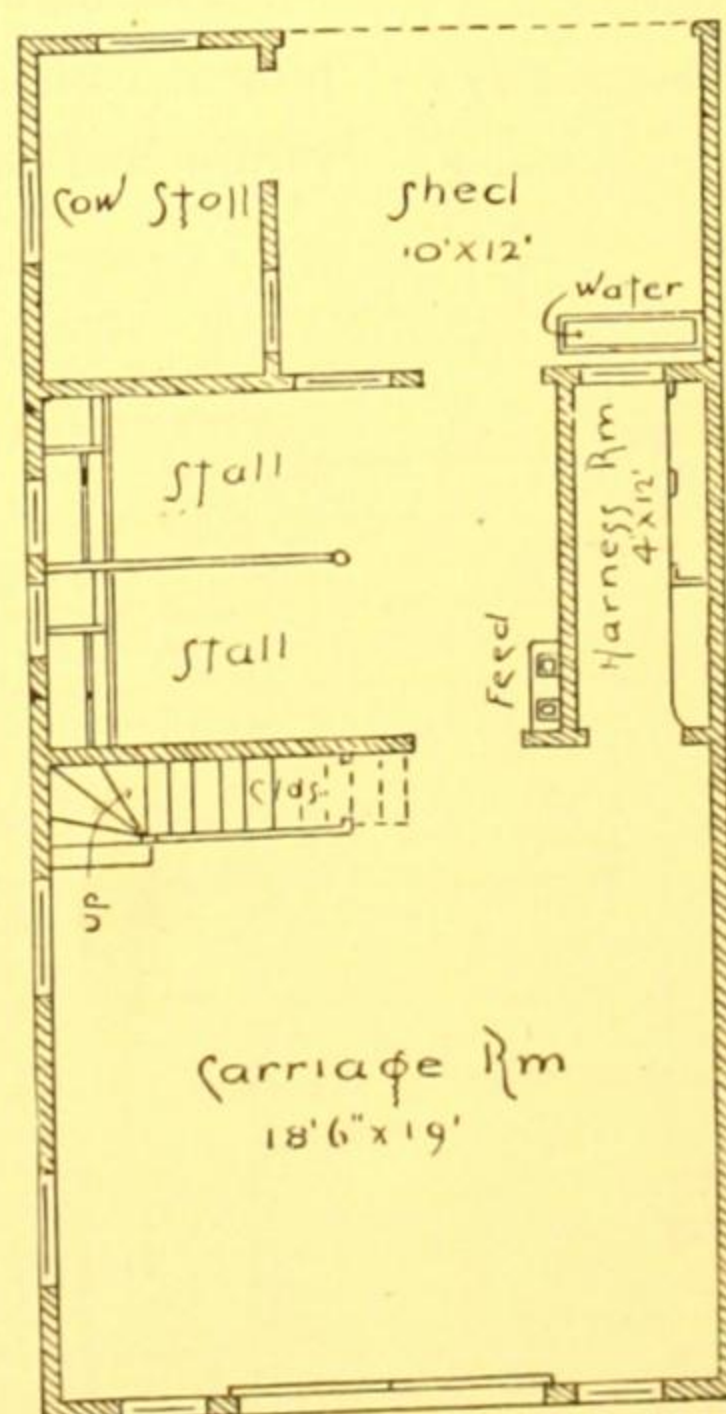
COST: \$1,000, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.



GROUND FLOOR. NO. 368

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Suitable for a twenty-five foot village or city lot.

Accommodations for two horses and a cow. A covered shed in the rear, 10 x 12 ft.

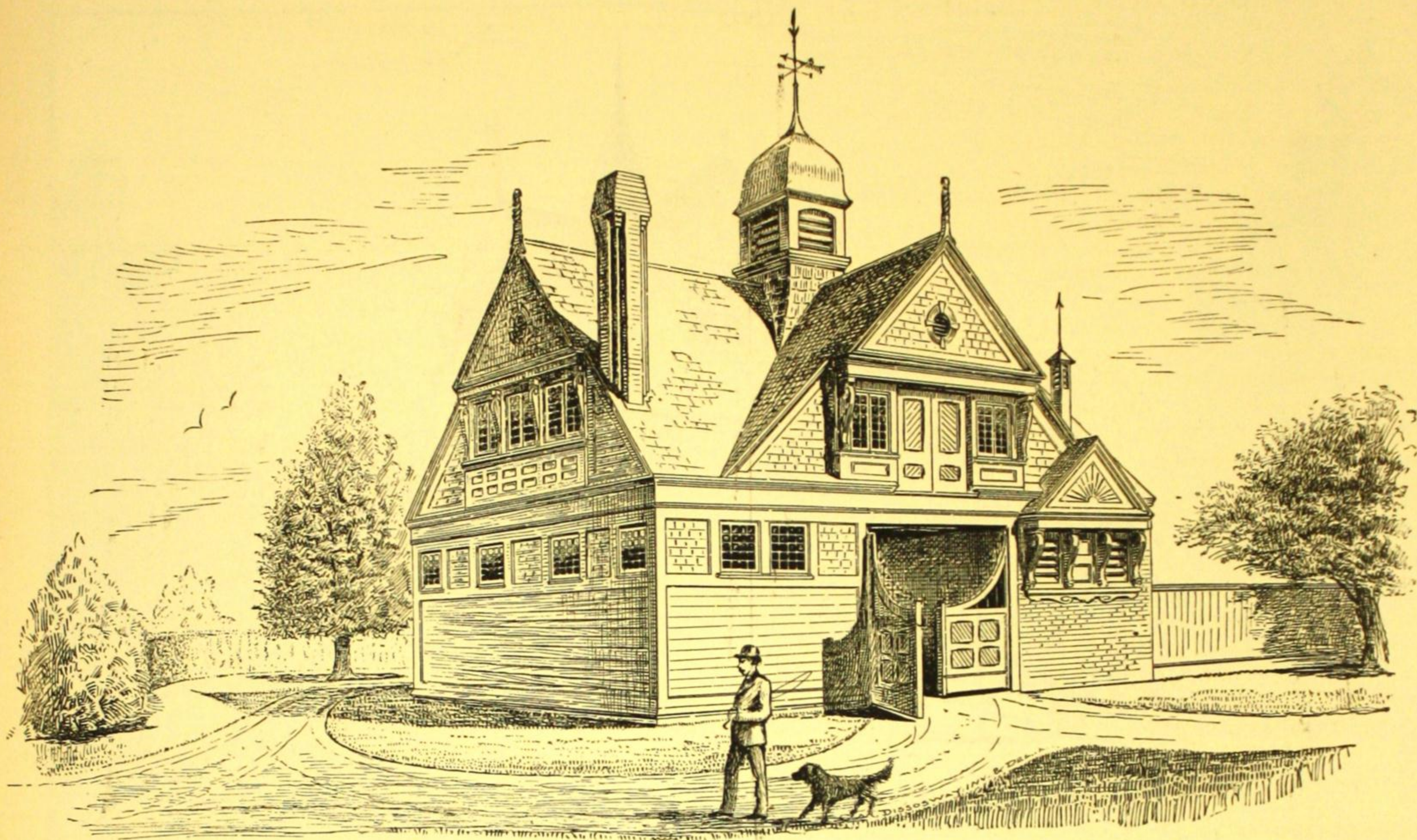
The carriage-room accommodates two or three carriages.

Harness-room, 4 x 12 ft., connected with the carriage-room. A closet under the stair to loft.

A good hay-mow over the carriage-room. The man's bed-room may be partitioned off in mow, if desired.

With small additional expense the mow may be extended, full height, over the stable, cow-stall and shed.

The space occupied by the cow-stall is wide enough to make two horse-stalls, if such an arrangement is preferred.



CARRIAGE-HOUSE AND STABLE DESIGN No. 369. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 369

SIZE OF STRUCTURE: Front, 36 ft. Side, 29 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.

MATERIALS: Foundation, stone; First Story, stable part, brick; carriage-house, wood; Second Story, frame, shingled; Roof, shingles.

COST: \$1,500, complete.

[See page 147 for information about details, specifications, bill of quantities and working plans of this design.]

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

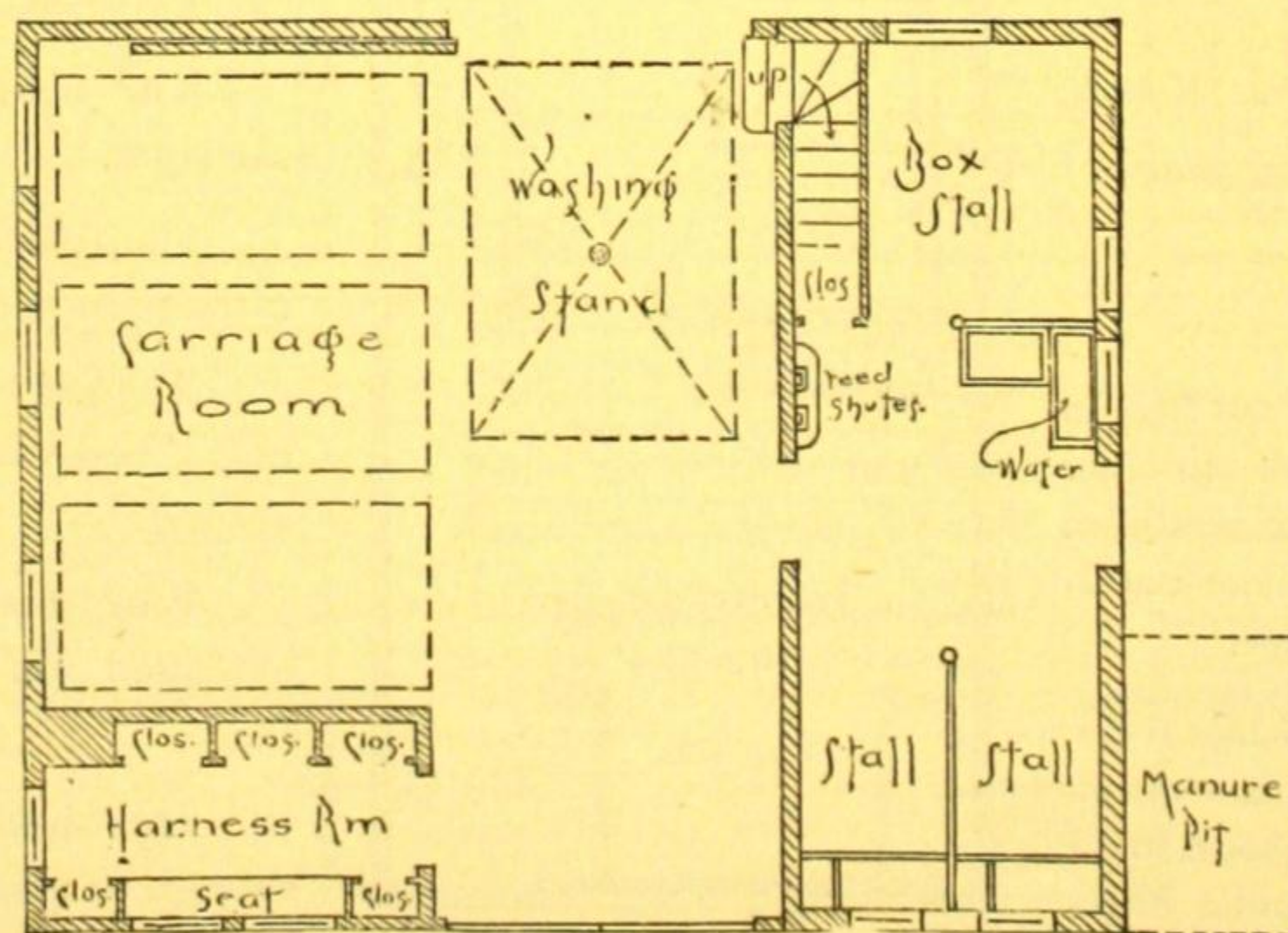
SPECIAL FEATURES.—A Coachman's room is provided over the carriage-room with a heat flue in the chimney, conveying heat from the harness-room stove.

The harness and carriages are well separated from the stable proper, avoiding the injurious effects of stable gases upon the coach varnish and harness.

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, June, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.



GROUND FLOOR, NO. 39

Vehicles can enter or leave the barn from either the front or rear entrance; if a storm is assailing the front, the carriages can enter or be driven out at the rear.

In the centre of the building, under the ventilator, a hatchway is provided in the second story floor, providing a means of taking up hay or grain.

The washing-stand is made with cement, and connected with the drain.

The manure pit has a ventilator as shown on the right of the perspective.

SUBURBAN HOMESTEAD AND VILLA PARK ASSOCIATIONS

BY HON. CHARLES CRARY

IT is not generally known that the Legislature of New York, in 1881, passed a most important general law for the incorporation of Suburban Homestead and Villa Park Associations. That law may be found in the Session Laws for that year (Chapter 351, page 473). It is published in full at the conclusion of this article, and the attention of those interested in the subject is specially directed to it.

Prior to the passage of the act referred to, there were two general laws in this State for the incorporation of real estate associations. (See 3 Edmond's, N. Y. Statutes, pp. 778, 783). But there was no law for the proper organization of a suburban homestead, or a villa park association. An association organized under either of the general laws, could own real estate, and dispose of it; but having disposed of it, the association would cease to have any interest in, or control over it, or over the purchases of it. And so, under those laws, purchasers would own the property bought by them, but would have no interest in the corporation, or any control over it, or over any of its property. It was desirable to change this, and, if possible, combine the two interests. And this has been done by the statute under consideration; which makes the lot proprietors not only owners in fee of the lots purchased by them, but directly interested in the association, and in all its remaining property; and, therefore, interested to carry out successfully the objects for which the association was incorporated. The lot owners thus become interested to improve and build up the property, and to enhance its value. And, after all the lots into which it has been sub-divided have been sold, they will still keep the control of the association with respect to streets, avenues, public places and parks, and the improvement and embellishment of the same; and with respect to sewerage or drainage, and the water supply, and the enforcement of rules set out in the deeds to the lot proprietors.

The following is a synopsis of the several provisions of the Statute:

Sections 1, 2 and 3, are the usual provisions under similar acts, and direct the manner of organizing the corporation.

Section 4 authorizes the corporation to buy real estate, and to sub-divide the same into lots and plots, and sell the same.

Section 5 relates to the election of trustees, the qualifications for the office, and of the persons entitled to vote for trustees. The section allows lot-owners to vote according to the number of square feet of land owned by them; and shareholders are entitled to the number of votes agreed upon in their agreement with the association.

Sections 6 and 7 direct, in respect to the disposition of the funds of the association, no part of which can be paid to the lot-owners until provision is made for the payment of taxes and for the improvement and embellishment of the property, and the streets and avenues within it. The seventh section further provides for the purchase of lands by paying for them a proportionate share of the proceeds of the sales of lots and plots made from the same; and authorizes certificates to be issued, representing such proceeds, in the form of stock certificates, and transferable on the books of the association as stock is usually transferable.

Sections 8, etc. The remaining sections of the Statute are the same as are usual in similar acts, enabling corporations formed under them, to carry out the objects for which they are organized.

The Statute imposes no liability, personal or otherwise, upon lot-owners; nor are trustees of the association liable, in any manner, except that they must employ such diligence and such prudence in the management of the property, as, in general, prudent men of discretion and intelligence employ in their own like affairs.

The above is a synopsis of the several provisions of the new Statute. An examination of the previous laws on the subject will show that they were inadequate to accomplish the purpose desired, namely, the proper organization of suburban homestead and villa park associations. They were made for the capitalist, and as a means only to facilitate the purchase and sale of real property. The act under consideration, on the contrary, was made for those who will purchase the property and occupy it, and make it their homes, as well as for those who will put their money into it for purposes of investment.

The Statute, it will be seen, provides for two forms of organization; one, under section six, where the entire proceeds from the sales of the property will belong to the association or the lot proprietors, alone; and the other, under section seven, where a proportionate share of the proceeds will be allotted to the persons from whom the

property was purchased, as the price or consideration thereof, and whose interests will be represented by shares in the form of certificates, transferable on the books of the association as stock is usually transferable.

For the purpose of illustrating the two different forms of organization, a plan of organization is submitted for each, as follows:

I. PROPOSED PLAN FOR ORGANIZATION UNDER SECTION SIX:

A party of twelve persons purchase three hundred acres of land, which they propose to lay out into lots and plots on the Villa Park plan; the whole to contain about five hundred building sites, averaging from one-quarter to one acre each, and to be sold to those who will build upon them.

A corporation to be formed under the Statute; the certificate to provide for twelve trustees to manage the affairs of the association, and the persons owning the land to be the trustees for the first year; after which trustees to be elected annually by the lot proprietors, as provided by the Statute.

The owners to transfer to the corporation the three hundred acres, taking a mortgage for the entire consideration, or subject to a mortgage for that amount, already on record.

The association will then own the real estate, and the former owners the mortgage.

The corporation will then be in a condition to sell its lands, which should be carefully laid out into lots and plots, of various sizes and shapes, depending on the grade of the ground, etc., and a map made of the same. The lots to be sold subject to such conditions and restrictions as may be thought proper to impose, to be embodied in the deed.

Provisions should be made in the mortgage to have the lots, as they are sold, released from the mortgage, on payment of the whole or some portion of the consideration money received on the sale; the amount paid, in such case, to be seventy-five per cent. of the sum received. This would leave twenty-five per cent. in the hands of the trustees, to constitute a fund for distribution among the lot proprietors, after providing for the opening and grading of streets, and for general improvements and incidental expenses. And, as a protection to the holders of the mortgage, a further provision should be inserted, to the effect that the lots should not be sold for less than a specified sum, named therein, except with the consent of the mortgagees.

It will be seen, that the only indebtedness of the association would be the mortgage. This should be paid off as fast as possible, with the proceeds from the sales of lots; and, at least, sixty per cent. of the proceeds is required by the Statute to be applied to the payment of this indebtedness until it is fully paid.

The portion of the proceeds reserved by the association, as well as the entire proceeds after the mortgage is paid, to be distributed among the lot-owners, after deducting sufficient to pay the taxes and incidental expenses, and for necessary improvements to the property.

The lot proprietors would thus receive the entire proceeds of sales, except what was necessary for the purposes mentioned; and, in this distribution, they would share equally, according to the value of their respective lots, to be estimated at the sums paid for them to the association.

II. PROPOSED PLAN FOR ORGANIZATION UNDER SECTION SEVEN:

A party of twelve, or other number, purchase three hundred acres of land for the purpose of laying the same out into lots and plots on Villa Park plan, and then organize themselves into a corporation under the Statute.

The three hundred acres are then to be conveyed to the association, and the grantors to take from the association, as the purchase-price thereof, an agreement to pay for the same, seventy-five per cent. of the proceeds of all sales of lots and plots made from the lands.

The interest represented by the agreement, to wit: the said percentage, to be divided into twenty-five hundred equal shares, transferable on the books of the association in the same manner as stock is usually transferable; and certificates to be issued for the same, substantially in the form of ordinary stock certificates.

The persons owning the shares to be entitled to vote for trustees, and to have one vote for every five shares of stock standing in their names respectively on the books of the association; provided, that when all the lots are sold to bona fide proprietors, the right of shareholders thereafter to vote shall cease.

The agreement to contain a clause fixing the prices of the several lots included within the lands; the prices not to be changed, except with the consent of a majority in interest of the shareholders.

Such an agreement being made between the owners of the property and the association, the situation would be as follows:

1. The association would own the real estate, and the grantors would, as the purchase-price thereof, be entitled to receive seventy-five per cent. of the proceeds of all sales of lots made from the same. The balance of the proceeds, twenty-five per cent., would go to the association, to be applied and distributed as prescribed in sections six and seven of the Statute.

2. The owners of the seventy-five per cent. of the proceeds would have five hundred votes in any election for trustees, or one vote for every five shares; and the lot proprietors would have one vote for each lot of the dimensions of twenty-five hundred square feet (a city lot 25 by 100) purchased from the association.

3. The association would be represented by trustees who were lot-owners. And, after all the lots were sold, only lot-owners would be entitled to vote for trustees; and, thus, the corporation would be exclusively under their control. The purchase-price of the land having been fully paid by the sale of all the property, the shareholders would cease to have any interest in or control over the association.

4. The association would always have important duties to perform in respect to the property. Its business would be to sell the property to those who would build upon and improve it, and to see that the lot proprietors abide by the rules annexed to their deeds. It would, besides, have the control and supervision of roads and highways, as well as lands within the grounds set apart for parks and public places, or otherwise reserved by the association.

The foregoing plans may be modified in many ways; thus, for illustration:

Associations may purchase any number of acres, from one to three hundred.

In the case of organizations under section six, they may buy for cash, or for part cash and part mortgage, or may leave the entire consideration on mortgage, as in the plan proposed. Any number of persons together may organize under that section, and they may at once partition the property among themselves, according to the amounts paid by them respectively, or otherwise, as they may agree; or they may keep a portion of the property for themselves and sell the remainder, distributing the proceeds of the part sold among the lot proprietors in the manner provided by the Statute.

The percentage of the proceeds of sales to be paid for the land, where the organization is under the seventh section, may be fixed at any rate the parties may agree upon, thus giving to the lot proprietors a greater or smaller percentage, according as it may be desirable to interest them in the property. The parties may agree, too, in respect to the number of shares into which the interest of the shareholders shall be divided; and also in respect to the number of votes the shareholders will be entitled to in the election of trustees; otherwise, however, as to lot proprietors, their vote being definitely fixed by the Statute.

Other modifications of the plans proposed may be made, besides those stated, depending upon the circumstances of each case, the Statute being sufficiently general to allow great variety in the details.

In conclusion, it may be said, that the Statute is most radical and far-reaching in its consequences, possessing features that are novel and unusual, yet practical and sensible; and justifying the prediction, that, if made available generally for the purposes intended, it will prove one of the most valuable and beneficent acts ever passed by the Legislature.

AN ACT AUTHORIZING THE INCORPORATION OF SUBURBAN HOMESTEAD AND VILLA PARK ASSOCIATIONS, PASSED MAY 25, 1881.

SECTION 1. Any number of persons residing in this State, not less than five, who shall desire to form an association for the purpose of purchasing, holding, improving, and disposing of lands for suburban homesteads or residences, or for a villa park, may meet at such time and place as they, or a majority of them, may agree, and appoint a chairman and secretary by the vote of a majority of the persons present at the meeting, and proceed to form an association by determining on a corporate name by which the association shall be known, the number of trustees to manage the concerns of the association, which number shall not be less than three, nor more than twelve, and the day in each year upon which the future annual elections of trustees shall be held, and thereupon may proceed to elect by ballot the number of trustees so determined on; and the trustees so elected shall hold their offices for one year, and until their successors are elected.

SEC. 2. The chairman and secretary of the meeting shall, within three days after such meeting, make a written certificate and sign their names thereto, and acknowledge the same before an officer authorized to take the proof and acknowledgment of conveyances in the county where such meetings shall have been held; which certificate shall state the names of the associates who attended such meeting; the corporate name of the association determined upon by the majority of the persons who met; the number of trustees fixed on to manage the concerns of the association; the names of the trustees chosen at the meeting, and the day fixed on for the annual election of trustees, which certificate shall be recorded in the Clerk's Office of the county in which the meeting was held, in a book to be appropriated to the recording of certificates of incorporation, and a duplicate thereof filed in the office of the Secretary of State.

SEC. 3. When the certificate shall have been filed and recorded as aforesaid, the association mentioned therein shall be deemed legally incorporated, and shall have and possess the general powers and privileges, and be subject to

the liabilities of a corporation. The affairs and property of such association shall be managed by the trustees, who shall annually appoint from among their number a president and a vice-president, and shall also appoint a secretary and a treasurer, who shall hold their places during the pleasure of the board of trustees.

SEC. 4. Any association incorporated under this Act may take by purchase, devise or gift, and hold within the county in which the certificate of its incorporation is recorded, not exceeding three hundred acres of land to be held and possessed by it for the purposes mentioned in the first section of this Act. The trustees may sell and convey the said lands, or any portions thereof, for such price, and upon such terms as they may deem advisable; and subject to such conditions and restrictions as may be imposed upon the same by rules and regulations to be adopted by them and inserted in, or annexed to, conveyances of the same. Any such association may hold personal property to an amount not exceeding ten thousand dollars, besides what may arise from the sale of lots and plots.

SEC. 5. The annual election for trustees shall be held on the day mentioned in the certificate of incorporation, and at such hour and place as the trustees shall direct. The trustees chosen at any election subsequent to the first shall hold their offices for one year, and until others are chosen to succeed them. The election shall be by ballot, and every person of full age who shall be the owner or holder of one or more lots or plots containing not less than the twenty-five hundred square feet of land purchased from the association, or the owner or holder of a sufficient number of the shares mentioned in the seventh section of this Act, to entitle such person to vote according to the terms of the agreement authorized by said section, or if there are more than one owner or holder of any such shares, or of any such lot or plot, than such one of them as the majority or joint-owners or holders shall designate to represent such shares, or such lot or plot, may, either in person or by proxy, give one vote for every one or other number of such shares, as authorized and specified in said agreement, and one vote for each lot or plot of the dimensions aforesaid; and the persons receiving a majority of all the votes given at such election shall be trustees to succeed those whose terms of office expire; but in all elections after the first the trustees shall be chosen from among the proprietors of lots or plots. Vacancies in the office of trustee, or of president or vice-president, may be filled in such manner as shall be prescribed by the by-laws of the association; and public notice of the annual election shall be given in such manner as shall also be prescribed by such by-laws.

SEC. 6. At least sixty per centum of the proceeds of all sales of lots and plots shall be first appropriated to the payment of the purchase-money of the lands acquired by the association, until the purchase-money shall be paid; and the residue thereof, as also the proceeds of all sales thereafter made, shall be applied to the payment of the taxes and assessments against the lands of the association, and to preserving, improving and embellishing such lands, and the roads or avenues and walks therein, and leading thereto, and to defraying the incidental expenses of the association; provided, that any proceeds remaining after the payments aforesaid, and after providing in a reasonable manner for expenses and improvements to be thereafter made and incurred, may, upon the vote of two-thirds of the trustees in favor thereof, be distributed among the owners of lots purchased from the association; such proceeds to be distributed equally among such lot-owners according to the value of their several lots, to be estimated at the sums paid for the same to the association, or otherwise, as provided in the by-laws of the association.

SEC. 7. Associations formed under this Act may agree with the person or persons from whom its lands, or any part thereof, shall be purchased, to pay for such lands, as the purchase-price thereof, any specified part or portion of the proceeds of all sales of lots and plots made from such lands; in which case the part or portion of such proceeds so agreed upon shall be first appropriated and applied to the payment of the purchase-money of the lands so acquired; and the residue thereof shall be applied and distributed in all respects as provided in the last preceding section in respect to the residue of proceeds therein mentioned. The part or portion of the proceeds constituting the purchase-price of the lands may be divided into as many equal shares as may be agreed upon between the association and the person, or persons, from whom the said lands are purchased; and the said shares shall entitle the owners thereof to such number of votes at any election for trustees of the association, and shall be transferable on the books of the association in such manner as shall also be agreed upon between the said parties. In all cases where lands shall be purchased and agreed to be paid for in the manner herein provided, the prices for lots or plots specified in the agreement between the association and the person, or persons, from whom the said lands were purchased, shall not be changed without the written consent of a majority in interest of such persons, their heirs, representatives or assigns.

SEC. 8. The trustees at each annual election shall make a report to the lot-owners of their doings, and of the management and condition of the property and concerns of the association. If the annual election shall not be held on the day fixed in the certificate of incorporation, the trustees shall have power to appoint another day, not more than sixty days thereafter, and shall give public notice of the time and place at which time the election may be held, with like effect as if holden on the day fixed on in the certificate of incorporation. The terms of office of the trustees chosen at such time shall expire at the same time as if they had been chosen on the day fixed by the certificate of incorporation.

SEC. 9. Any person who shall willfully destroy, injure or remove any statutory, fence, building, or other structure, placed on the grounds of any association incorporated under this Act, or who shall willfully cut or injure any tree, shrub or plant within the said grounds, shall be deemed guilty of a misdemeanor; and such offender shall also be liable in an action of trespass to be brought in the name of such association, to recover damages caused by such unlawful act or acts.

SEC. 10. Any association incorporated under this Act may take by gift, devise or bequest, and hold any property, real or personal, upon trust, to apply the income thereof under the direction of the trustees of the association for the improvement or embellishment of the grounds of the association, or the erection, repair or preservation of any statutory, fence, buildings or structures erected, or to be erected upon the same, or in planting trees, shrubs and flowers, in the grounds of the association, or for improving or embellishing such grounds, in any other manner or form consistent with the design and purposes of the association, and as specified in such gift, devise or bequest.

THE HABITATIONS OF MAN IN ALL AGES

By VIOLLET-LE-DUC

Translated by BENJ. BUCKNALL, Architect

CHAPTER XI.

THE GREAT MIGRATIONS.

TO the south of a chain of barren mountains stretches a vast gravelly plain. Here and there in the neighborhood of streams are meadows and stunted trees. In summer these streams, confined within precipitous banks, are almost dry. In winter, on the contrary, they overflow and inundate part of the lands, bringing down with them mud and gravel. Winds from the east continually sweep these plains, and all vegetable growths bend towards the west.

Men are seen in these deserts only occasionally; passing southwards in winter, and towards the mountains in summer. Of nomadic habit, they drive their flocks and herds before them, but do not tarry in the arid plain.

We observe, however, a long train of wagons journeying westwards. They are filled with women, children, furniture, poles and boards; drawn by oxen and asses, they are conducted by men for the most part on horseback. A cloud of dust accompanies and precedes them. The sun is scorching, and the caravan moves forward with painful effort. At some distance in its rear, follow beasts of prey, which, with outstretched necks, are snuffing the air, stopping for a moment, or moving hither and thither. If some beast of burden, exhausted by fatigue, has been abandoned on the route, these beasts of prey immediately fall upon it, fight furiously around it, and tear off portions of its flesh, which they carry away to devour. Flights of birds of prey accompany the column on its flanks, uttering ominous cries.

The horseman who guide the caravan are tall, muscular and sunburnt; their features are handsome, and their clear bright eyes inspire respect. They are dressed in white tunics with short sleeves, their legs are bare, and they are shod with sandals fastened by thongs. Their head-dress consists of a kind of ball covered with white stuff, and sometimes terminated by a narrow veil which falls as far as the middle of the back, and protects the nape of the neck.

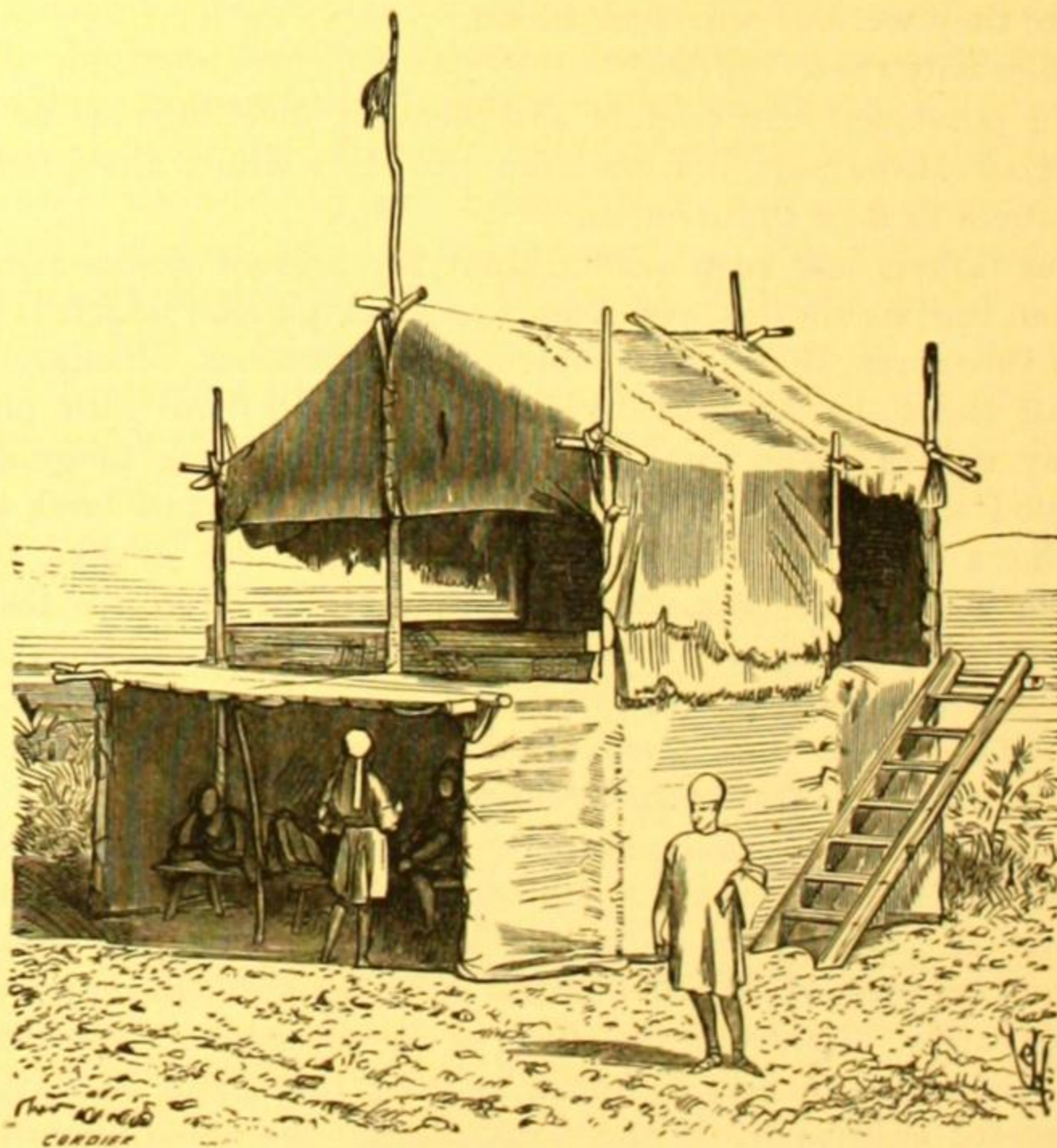
The women, seated or reclining in the wagons, are completely enveloped in veils of light stuff edged with rich embroideries of various colors. Their skin, shaded from the sunshine, is white, and their limbs are delicate. They are of medium height; and a mass of light chestnut hair falls over their shoulders in thick plaits.

Among the more youthful some may be distinguished as remarkably beautiful. They are conversing and laughing together.

Between the wagons flocks of sheep, long-horned goats, and herds of heifers are being driven along, over which large black dogs with

pointed ears and sharp noses are keeping watch, panting as they go.

In the evening the caravan halts on the bank of a stream partly dried up; the cloud of dust follows its course westward; and soon a great stir is observable in the long train. The sheep are bleating, the dogs barking, the heifers and the oxen uttering their deep lowings, amid the shouts of the men and the neighing of the horses. The women and children are getting down from the wagons, from which the poles and large rolls of woollen stuffs are being taken; for the caravan anticipates a long sojourn in this place. The poles are fixed in the ground and fastened together with thongs; next the boards are put across, and the stuffs cover the whole. Thus a great number of huts are set up, all presenting the same appearance (figure 41), and



TENT OF THE ARYA IN THE DESERT.—FIG. 41.

consisting of a low room in which at night the horned cattle are housed. The family ascend to the upper part by a short ladder. In front is a sort of porch; it is the place for rest in the daytime. When the sun is set we see fires lighted in every quarter; the women prepare

the meals, and all take their food by the light of the flames. Soon afterwards the sheep are folded near the huts, the horses are tied to the stakes of the porches, and the horned cattle brought in. The families one after another ascend to their booths to sleep, and let down the awnings, for the nights are cold. Each man in his turn watches beneath the porch and keeps up the fire. The lion, disdain- ing to follow the caravan by day, sometimes presents himself in the middle of the night, alone, with head aloft and measured tread. He prowls around the encampment, watches his opportunity, and at a bound, strangles a horse or an unwary watcher. Shouts arise on all sides, and the men armed with bows, heavy clubs, or lances, fall upon the terrible animal. These incidents are of rather frequent occurrence; a good watch, therefore, is kept in the encampment; and in certain places ditches are dug, concealed by branches of trees and grass on which a dead animal is placed. But the lion is rarely seduced into these traps, while hyenas are often caught.

The lion never repeats his attack, and if he fails to secure his prey he retreats. But if he is wounded by one of the watchers he becomes furious, and then there is a terrible combat lasting sometimes far into the night. The men issue from all quarters, and no one in the camp sleeps.

The tents are set up only when it is intended to make some stay in a place, to give rest to man and beast. At such times the men employ themselves in hunting, for game never fails in these deserts, while the women repair the harness and clothing.

Epergos on a certain evening fell in with one of these encampments. Being unarmed he excited no mistrust, and as he was without baggage, no cupidity. Moreover he had much serviceable knowledge; for example, that of remedies for man or beast in case of disease. Accordingly he had not spent more than four-and-twenty hours among them when he had secured a welcome from the migrating colony.

Sometimes the men entrusted with the safety of the encampment would unite in groups of twos or threes, and to keep themselves awake would talk of the incidents of the past or of their hopes for the future. Epergos liked to interrogate them and to hear their recitals. So one night he sat down by one of the watchers, a gray-bearded man, who gave him the statement that follows:

"It is twenty years since we left the shores of the great river which descends from the Holy Mountains; I was then young, and we had been obliged to abandon our dwellings in consequence of a battle in which half our able-bodied men had perished."

"Were those who defeated you of a different race?"

"No, they were of the same blood."

"Then why these battles?"

"We possessed fertile lands and pleasant dwellings at the foot of the Sacred Mountains, not far from the place where the great river passes them to flow southwards.

"Our fathers had been settled there for a great number of years. But from the mountains and from the great plateau which is on this side to the north, there came down tribes desirous of enjoying the riches of the soil. At first our fathers received them with pleasure, for they saw in them brethren who spoke the same language and resembled themselves. At first there was no want of land, and all could have a share. Fresh tribes, however, were always arriving from the mountains; for you know that Mount Meron is the great cradle of the noble race. One day we were obliged to tell the new-comers that the land was full and that they would not be able to find a place. Many went southwards in the hope of finding fresh lands; others bent their course towards the rising sun.

"It seems that a great number perished, for they had to contend with nations numerous as the pebbles of the torrent. Some perhaps went further. We were none the less subjected to constant embarrassments in consequence of the number of tribes that continued to pass over our lands. That was the cause of our disasters. We wanted to compel the mountaineers to follow another route, and to leave us to the peaceful enjoyment of our possessions. We took up arms, and for several seasons we caused our territory to be respected. But at last, by dint of ever-increasing numbers, these mountaineers ended in surrounding us on all sides. The struggle was terrible. There I witnessed the death of my father, my brother, and many of my kin.

"The victors then wished to impose conditions upon us; rather than submit to them, having collected our flocks and herds, and

placed the women and children and our most valued property in wagons, and set fire to our houses, we quitted the land of our fathers; and in order that we might not encounter on our way that great body which had gone towards the rising sun or towards the south, and that we might not have to blush for our defeat among them, we betook ourselves towards the setting sun, keeping near the mountains."

"It is twenty winters, you say, since then?"

"Yes, twenty winters, and many of our number have died; and children have been born. In order to find the means of living along our route we separated into twelve bodies, and we march at intervals of a year."

"Will you give me a full account of your adventures?"

"When we had all left our possessions, our number being about twenty thousand, including men, women, and children, we reached after five or six moons a chain of high hills, which stretch from the Sacred Mountains towards the south. We had lost many of our people in consequence of the privations we had to suffer and the want of sufficient nourishment; for we had nothing to live on but our flocks and herds and what we found on our route.

"There we resolved to stay and settle if possible; the country presented an inviting appearance; it was well stocked with game and watered by numerous rivulets.

"In this country the cursed race of the Dasyus swarmed in great numbers. Timorous and feeble, we had easily subjugated them. We compelled them to till the ground, tend our herds, and supply us with food. We had already begun to build houses, and the lands were apportioned among us, when these wretches dared to attack us, for they were very strong in numbers. That fatal night still lives in my remembrance. . . . The wind was raging violently. It was just at the time when the snows begin to disappear from the slopes of the mountains. Confused cries warned us of the danger, and fires soon broke out in the plain. Most of us inhabited the higher grounds, enabling us to see to a distance. Our people assembled in small bodies in haste, but the tempest prevented us from hearing each other's voices and acting in concert. Women came running towards us wild with despair; the Dasyus, armed with clubs, were killing all they met, and setting fire to dwellings—advancing in a compact mass, howling furiously. Thus suddenly attacked, all would be lost, if the wretches should gain the heights. Each group perceived the danger, and without losing time in endeavoring to join that near it thought only of bravely defending itself.

"With wagons, unfinished houses, rocks, and trees, they made themselves a rampart; and when the scoundrels came on like a herd of wolves, they were assailed from every quarter by darts, stones, and sharp arrows.

"Having no plan of action, and seeing many of their number fall, they recoiled. This enabled those of us who were farthest off from the attack to unite in bodies large enough to take the offensive. We made a great massacre of the wretches. But advancing day showed us how numerous they were; for some of the neighboring tribes had joined those among which we lived.

"We should have been wearied to no purpose, if we had gone on mowing down these scoundrels like the rushes of the marsh; the mass was so dense that we should always have found some left to kill. We therefore retired to the heights, taking with us our most valuable movables in our wagons. Having held a council the following night, we resolved to pass the mountains, and to seek in the direction of the setting sun a less populous territory.

"Having cut down trees to form a rampart, we left behind us a thousand of our warriors, who were to stop the advance of the Dasyus while the retreat was being effected.

"In this passage across the mountains, we lost a great number of horses and wagons. Women and children died of cold during the nights. But the Dasyus did not attempt to pursue us. At the end of eight days we came down into a desert plain, but where game was not wanting. There we remained several moons, living by fishing and hunting and on what remained of our cattle. It was then that we resolved to pursue our search for homes towards the west; taking care to go in separate bodies, so as not to exhaust the country, and that we might always find game.

"What more need I say? Keeping always on the flanks of the mountains, so that we might meet only rivulets or torrents narrow

enough to be easily crossed, we also found wood, game and sometimes shelter in the forests. Stopping where life was most tolerable we reached this place."

"And did many other detachments pass before you?"

"We form part of the last."

"Do you know whether those who went before you have taken up a fixed residence?"

"They have done so; for we have always kept up a communication between the different detachments by messengers who travel several together."

"And what have you learned by these means?"

"That our predecessors have settled in a fertile country, watered by numerous rivers, and bordered by two chains of mountains, seven days' march apart, and both stretching towards the setting sun. On the northern side, beyond one of these chains of mountains, is a vast extent of salt water which is the end of the earth. There are also great lakes of fresh water. Near the mountains, on the southern side our brethren have settled and have built houses."

"And did your brethren find men in these countries?"

"They found men with a dark skin, but they drove them away."

"And what were the occupations of these men?"

"They kept flocks and herds and lived in tents made of skins of beasts. This is what the traveling messengers reported to us."

"We are eager to reach that land where our brethren are happy, surrounded by their numerous and prosperous families, possessors of vast domains. We shall fight with them against the men of the north, and those who come from the south to spoil them of their goods; for the man of noble race is born to fight to establish his power over the accursed races, and to be the master of the earth."

CHAPTER XII.

HOW THE EARLIEST DWELLINGS OF THE ARYAS SETTLED IN UPPER MEDIA WERE CONSTRUCTED.

THESE emigrants who had made their way from the valley of Cashmere, and had settled at first on the upper course of the Indus, were thus slowly traversing the southern slopes of the long chain of mountains which stretches from Mount Meron to the Caspian Sea. They had settled there in a fertile country, sheltered from the north wind by the Caspian Mountains, and from the south wind by Mount Zagrus—the chain bearing that name being parallel to the Caspian Mountains. Divided as is their custom into tribes, they had built small straggling towns, between whose houses were spaces reserved for tillage and pasture. This country, which occupies an elevated position and is crossed by mountains, though somewhat cold in the winter season is very hot in summer. The emigrants had found races already settled in this country: some of them were living in caverns, hollowed out by natural causes or laboriously excavated; they occupied the slopes of the hills, and were black; the others, who kept to the plains, lived in tents, were nomad in their habits, and possessed numerous flocks and herds on which they subsisted. These had a yellow skin with hair and eyes black; they were daring and predatory, and followed no industrial pursuits.

Not being accustomed to assemble in large numbers to fight, they retired gradually before the Aryan emigrants in a northerly and westerly direction, not without having done all possible damage to the new settlers.

The Aryas, therefore, soon found themselves isolated and obliged to provide for their own wants. In these regions they had no longer around them, as on the Upper Indus, a numerous and submissive native population whom they could compel to work. The pastoral race that occupied this district before them, had neither cities nor villages, followed no industrial occupation, and despised all manual labor. Proud and barbarous, and continually changing the place of their abode, it was impossible either to subjugate or to plunder them, since they possessed nothing but wandering herds.

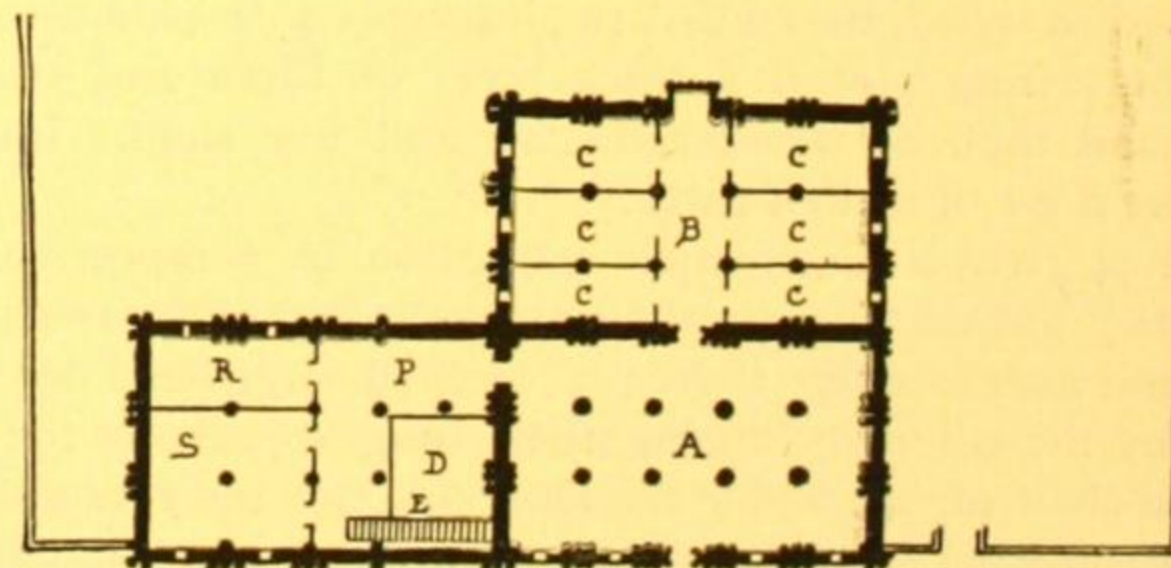
As to the black inhabitants of the mountains, they were an abject race, subsisting by the chase and on wild herbs,—in any case, unable to assist the colonists, even had they the will to do so. The latter, moreover, still too small in number and too ignorant of the country, dared not risk themselves in the mountain defiles occupied by the blacks. Those of the Aryas who had attempted to penetrate into the gorges of the Zagrus range had not returned.

For some time the Aryas were satisfied to live in huts such as had been their dwellings in the desert; but these habitations did not preserve them from heat or cold, and were liable to be destroyed by the tempests that not unfrequently arose between the two mountain chains. They wished, therefore, to erect houses like those of their fathers, wood being abundant. These dwellings, however, in a country where extremes of temperature prevailed, scarcely sheltered their inhabitants better either against frost or sun. They had observed that the blacks who lived nearest the valleys—the only race with whom they could carry on barter—in default of natural caverns had constructed for themselves actual burrows, by hollowing out the ground, and raising round the ditch a wall of pebbles and mud, placing across these very low walls trunks of trees covered with a thick layer of kneaded earth.

These dwellings which were cool in summer and warm in winter, but always damp, low, and noisome, could not approve themselves to the Aryas; but reflecting that the nearly equal temperature of these sordid abodes at all seasons of the year was owing in great part to the thick layer of earth which served as roofing, they resolved to employ the same method, though with interiors not below the level of the ground.

Blows with a stick, and the prospect of a regular supply of food, induced a considerable number of the blacks to labor in building the new dwellings of the Aryas. But the first attempts were not successful. The walls of mud and pebbles which, when scarcely so high as a man, would support the transverse trunks of trees that formed the ceiling, gave way under the load when it was attempted to raise them higher. Moreover, the settlers wished to have spacious rooms, and the mass of earth superposed made the beams bend, rendering props necessary. On the whole these new dwellings presented, in spite of the exertions of the colonists, a very singular series of tentative efforts when the last caravan of emigrants arrived in Upper Media.

The first thing to be done was to allot lands to the newcomers whom Epergos had joined. He had acquired a certain degree of authority among them, for on several occasions the emigrants had had reason to congratulate themselves on having adopted his suggestions. He was, therefore, consulted as to the most suitable method of erecting houses with the materials at hand, and so as to meet the requirements of the climate. Epergos remembering the methods he had seen adopted on the Lower Nile, and considering that the country possessed wood in abundance, and that the Aryas had long been accustomed to employ this material, spoke thus to those who consulted him: "As you recognize the advantage of employing earth, both for raising walls and covering the ceilings of your dwellings, to preserve you from cold and heat, while you perceive that an erection



PLAN OF MEDIAN HOUSE.—FIG. 42.

made with earth needs a support, because it has not consistence enough to sustain itself—why do you not make a skeleton of timber, not only substantial enough to resist the storms, but also to keep up the earthen walls and ceilings? You want large rooms;—well, then,

prop up the ceilings with trunks of trees, so that they will not bend under the load. In a word, make a house of wood and cover it with earth."

They set to work, therefore, and soon obtained satisfactory structures. Figure 42 shows a plan of one of these houses. Conformably to the custom of the Aryas, the habitation being placed on an elevated spot, or on a raised platform, commanded a view of the vicinity.

A large room A was set out, and to support its heavy ceiling, eight trunks of trees forked at the top divided it into three bays. Adjoining this was a passage B, communicating with six chambers, and at the end a small sanctuary; for as the Aryas had then temples and priests, the religious ceremonies were no longer performed in every family. At D a small court with a portico P, communicating



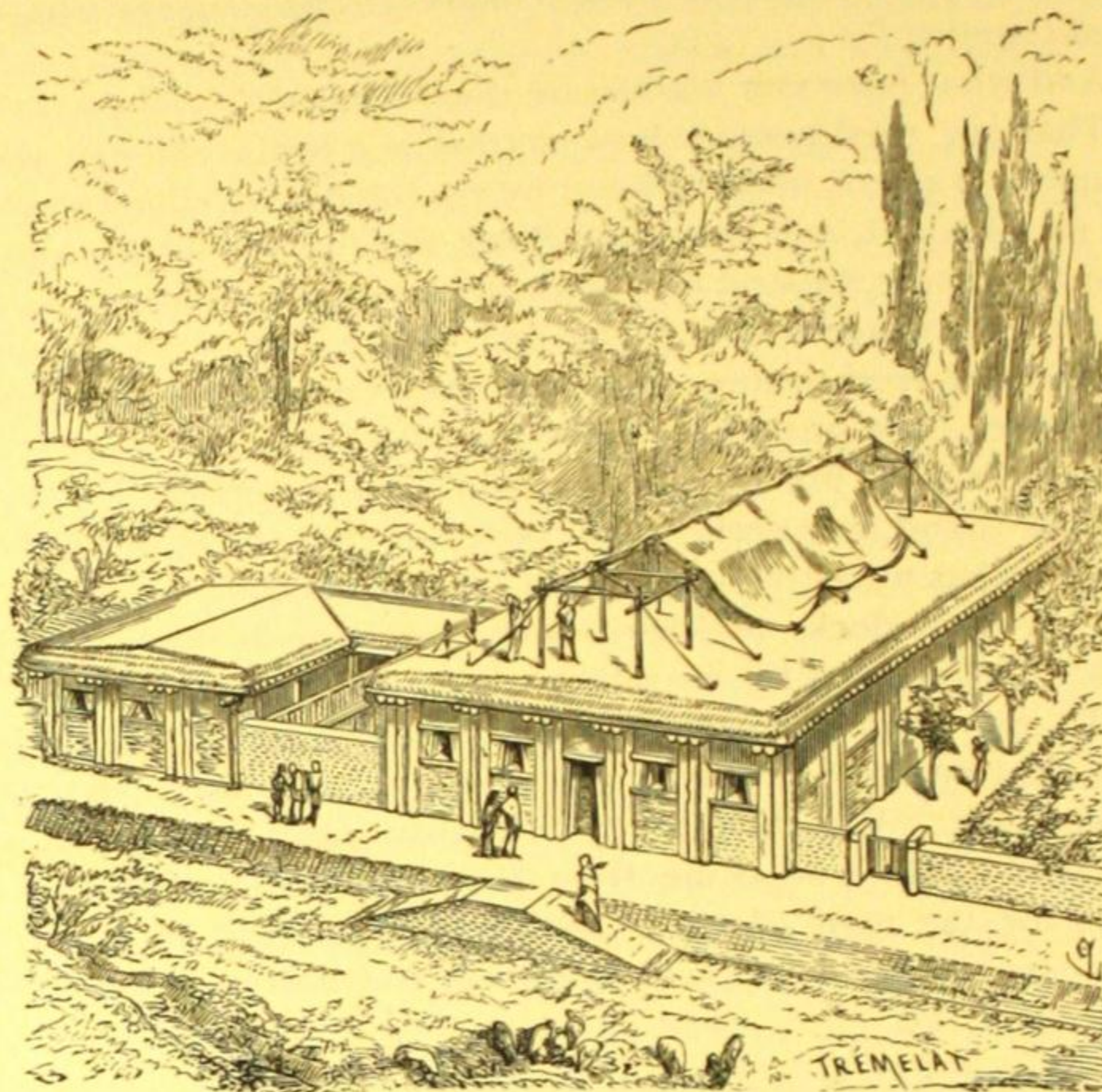
INTERIOR OF MEDIAN HOUSE.—FIG. 43.

with a kitchen R, and the room S allotted to the servants or dependants. A flight of wooden steps gave access to the terrace of the main building. As indicated in the plan, the buildings were constructed with trunks of trees, placed vertically in double threes, leaving the thickness of a wall of earth between them, and of forked posts. These posts received on their fork (see figure 43, which represents the interior of the large room), a cap consisting of a thick trunk end split into two. On each of these caps were laid three horizontal trunks of trees, which were supported at their ends by the three interior and the three exterior vertical trunks. Next, on these cross timbers were placed other trunks longitudinally forming a ceiling within and a projection without, to protect the walls from the rain. Thus the whole building being raised in wood, they filled the intervals with pebbles and earth, and on the ceiling placed a thick layer of earth and stubble well kneaded, and then of moistened clay and fine sand. Inside, mats covered the floor of beaten earth.

Figure 44 gives a view of this habitation in perspective. During summer they put up tents on the terraces to enjoy the fresh air of the evening and also to sleep there; a method suggested by the habit acquired by the colonists during their long sojourn in the desert, of passing all their nights under the tent, and by their feeling uncomfortable in shutting themselves up to sleep during the hot season.

Half a century after their settlement in Upper Media, the Aryas had attained a condition of prosperity, had become very numerous, and had begun to give some degree of elegance to their dwellings by dressing the wood with an axe and adorning the walls with paintings. They were acquainted with the art of manufacturing woolen stuffs variously dyed, and began to give themselves to culture; for they had succeeded in enslaving many of the black inhabitants of the mountains, whose defiles were henceforth known to them, and used for hunting grounds.

Several of their number during the great expeditions undertaken with a view to hunt wild animals and horses (of which there were numbers at large in the country), had sometimes crossed the Zagrus chain, and had observed beyond it an immense and rich plain inhabited only by shepherds who possessed large flocks. These Median hunters, who went out in large bodies, had sometimes even succeeded in carrying off some of these flocks; so that the Medes nearest the



VIEW OF MEDIAN HOUSE.—FIG. 44.

mountains began to assemble in considerable troops, and traversing the defiles, would fall suddenly on the shepherds, and drive off the cattle, which they sold as soon as they returned to Media.

These repeated expeditions irritated the shepherds, and having concerted a place of ambuscade, they attacked and massacred a large body of hunters. Great was the excitement through all Media, and it was resolved to take vengeance on the shepherds.

To the number of about four thousand men, the Medes issued from the southern mountains, and spread through the level country, carried off a considerable number of cattle, and killed all who offered resistance.

The shepherds, assembling in their turn, passed the mountains, and fell suddenly on the lands of the Medes nearest the defiles, killed the inhabitants, burned the houses, and plundered the fields. They spared only the women, whom they carried away with them.

CHAPTER XIII.

THE NOMADIC AND THE STATIONARY SEMITES.

TALL and lean, with skin of bistre tint, slender limbs and black hair, the Semites form that large pastoral population which occupies all the territory watered by the Tigris and Euphrates. They live in tents, and cultivate a few fields, sometimes at one spot, sometimes at another; for they are not accustomed to tarry long in the same place. They have neither cities nor villages. Temperate in their habits, their flocks and scanty crops suffice for their subsistence, dress, and dwellings,—which are only tents of stuffs made of camels' hair and wool. The horse is their faithful companion; for they never travel on foot. They take as many wives as they can support. Sometimes the dryness of the season obliges them to go in search of distant pastures, or destroys their cattle. Then they assemble in large bodies, and fall upon the neighboring country, where they hope to find booty. Thus they have often harassed the peoples of the

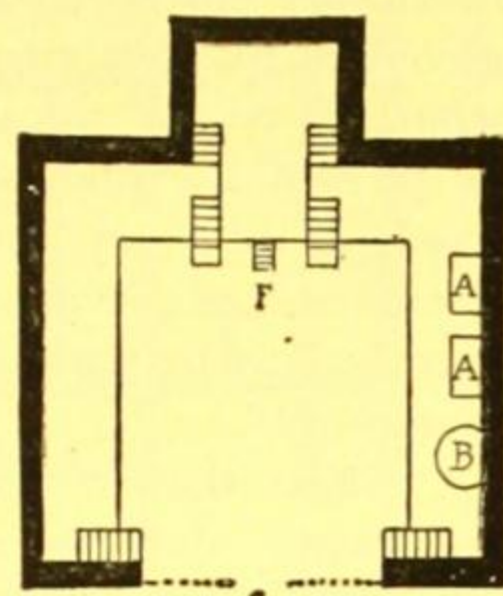
Lower Nile, for they do not hesitate to traverse the desert in search of plunder.

They may be vanquished, but they cannot be subjugated, since they are not attached to the soil, and elude pursuit. The desert is theirs, and if they take possession of an inhabited region, they drive away or kill its inhabitants, and turn it into a desert. They have no industrial pursuits or arts, though on occasions they traffic with more address and skill than probity. Nevertheless they practice hospitality, and the stranger who is admitted among them has nothing to fear, especially if he has no property.

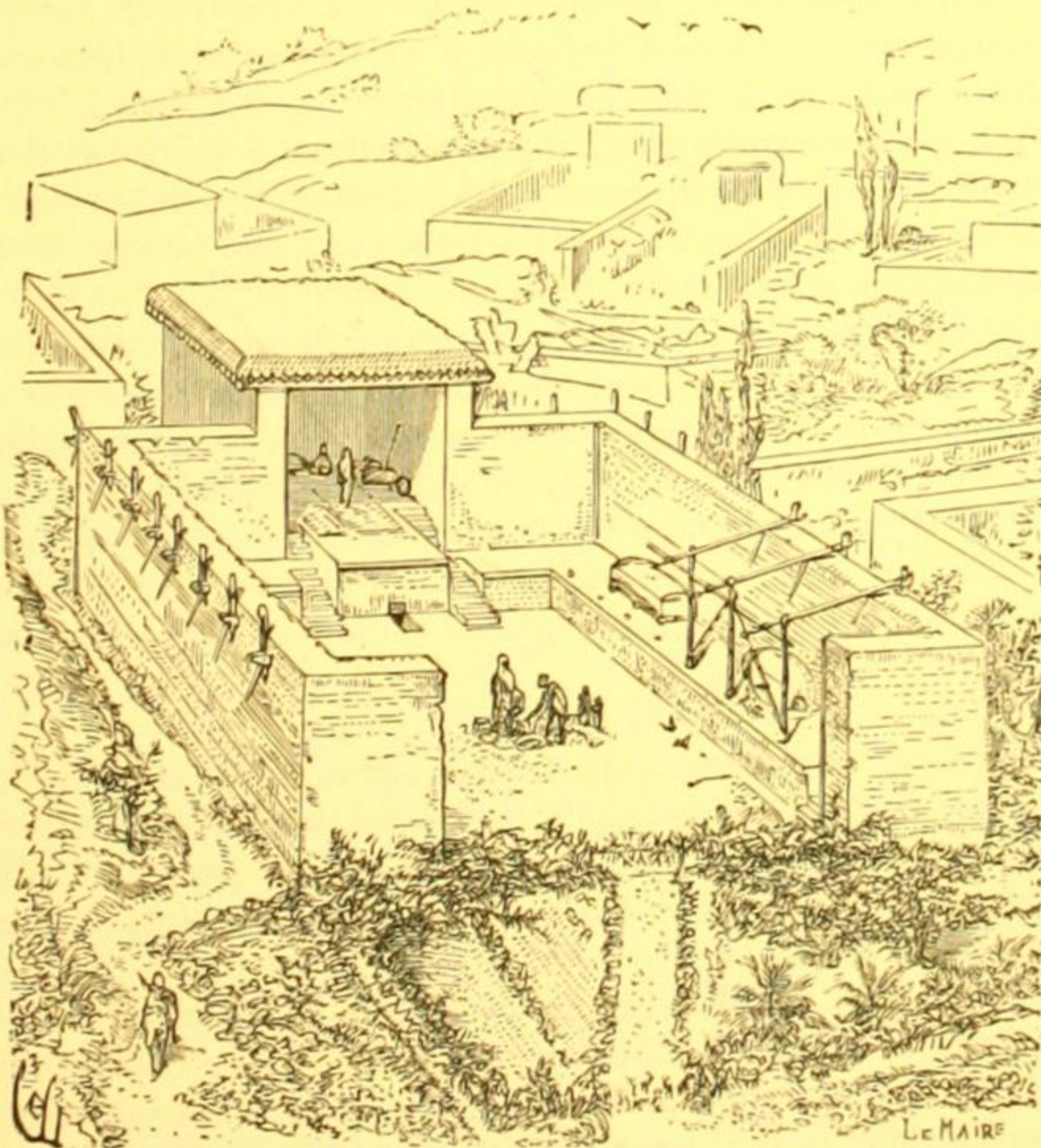
As regards the stationary Semites, they occupy the western region between the shores of the interior sea and the right bank of the Upper Euphrates. They engage in commerce and in certain industrial pursuits, have ports, and sail to distant lands. The districts they inhabit are mountainous, dry, and arid; there are only sixty days in the year on which rain falls, and the torrents which descend from the mountains are quickly dried up. The country, however, is cultivated; for the inhabitants construct vast tanks which receive water during the rainy season, and enable them to irrigate the ground.

Contrary to the Aryan custom, their houses are in groups, and form cities or straggling towns surrounded by walls to protect them against the incursions of the nomadic Semites and the men of yellow race, who sometimes make an onslaught from the north. They also construct large vessels, in which they cross the sea, and carry on commerce along the shores of the Delta. On the south, their country is bounded by the desert, and extends nearly to Lower Egypt.

The following is the method in which they usually build their dwellings, figure 45. Around an area of 25 to 30 cubits they build a thick wall of pise or dry stones, leaving a void space in front, and forming a quadrangular space of about 8 cubits on the opposite side. Along this wall, in the interior, they raise a platform of about 4 cubits wide and 2 cubits in height at most. At the further end the platform is a little higher. Small flights of steps facilitate the ascent to these platforms. Only the recess at the back is covered in a permanent way by means



PLAN OF PRIMITIVE SOUTHERN SYRIAN HABITATION.—FIG. 45.



VIEW OF PRIMITIVE SOUTHERN SYRIAN HOUSE.—FIG. 46.

of trunks of palm-trees or cypress placed close together, on which a floor is made of kneaded earth. It is there that the family sleep at night, and shelter themselves by day from the sun.

During the rainy season light frames of canes are erected, on which mats are placed.

On these platforms troughs of pise (at A) are constructed, in which provisions are kept; and a small circular fowl-house also of pise at B. A fire is lighted in the middle of the area for cooking. A thorn hedge protects the open side, and the entrance C is closed by a thorny trunk placed across it. Under the platform at the back end a cistern is excavated, to which there is a descent by the small flight of steps F.

Figure 46 gives a view of these dwellings, which sometimes have very small gardens in front. Rich families possess larger dwellings, but which are all constructed on the same principle. In these, rich stuffs sometimes take the place of mats, and woolen carpets cover the floor of the recess.

Paintings on coatings of earth garnish the walls, and in place of a hedge are placed strong barriers of painted wood artistically worked. Curtains shut in the recess.

No great length of time had elapsed since the earliest expeditions of the Medes into the territory of the Semites, when fresh bodies of Aryan emigrants advanced along the Caspian mountains. Land in sufficient quantity was no longer to be found, and the new-comers were not received as brothers, but as troublesome strangers. The last in the field, however, were not disposed to retrograde, and saw with envious eyes the prosperous establishments of their predecessors. This occasioned frequent contests; and as fortune favored sometimes one party and sometimes the other, and peace was incessantly troubled without any advantage to either, the chiefs of the tribes assembled, and came to the determination that since the territory of Upper Media could not support so many families, a great expedition should be organized, to occupy the lands on the southeast, beyond the mountains, and to drive away the shepherds, since they had always to dread their depredations.

But on descending towards the south, on the shores of the Tigris and the Euphrates, the emigrants found no longer nomadic peoples, but cities and villages. During a long course of years the emigrants from Media had to carry on a struggle with the peoples settled on the fertile shores of these two rivers, but at last they subjugated them, and were blended into one nation with them.



CHAPTER XIV.

THE ASSYRIANS.

A LONG time afterwards, the country watered by the Tigris and Euphrates formed the rich and powerful kingdoms of Assyria and Babylon. They were conquered by Thoutmes III, a king of the eighteenth Egyptian dynasty; but this conquest only brought into that country elements of civilization and art, which were still wanting to render it the queen of Western Asia.

The Assyrians, however, did not submit to the conquerors without struggles; and having formed a league with the other peoples of Asia, they ultimately enfranchised themselves from Egyptian rule under Ramses II and Ramses III. Soon afterwards they subjugated Media, their parent state.

Till the epoch of Egyptian supremacy, the Assyrians, like their neighbors the Medes, erected only very simple buildings, destitute of ornamentation. They made it a principle not to make sculptured

representations of the divinities; but the country which they occupied had necessitated certain modifications in the structure of their habitations.

The shores of the Tigris and Euphrates present only alluvial plains; wood suitable for building, is rare. For ten months of the year, no cloud appears in a sky whose clearness is incomparable. The heat is oppressive and incessant.

With their taste for the arts, the Egyptians had introduced into these regions their astronomical and geometrical knowledge, a civilization of some degree of refinement, and an exact and rigorous administrative organization. If the populations on the shores of the Tigris and Euphrates were able to profit by these advantages, they at the same time lost those austere and simple habits which they once possessed. The families of Aryan origin made a point, however, of preserving the purity of their blood, and were unwilling to form alliances with the subjugated natives. Convinced of the superiority of the Aryan race, these families constituted an aristocratic caste; and, considering the smallness of their numbers as compared with the subject people, they made it their object to become predominant, not only in intelligence and bravery, but also numerically. With this view, the superior caste adopted polygamy, and it was, in fact, no rare thing to find in Assyria persons of noble race surrounded by a hundred children or more. But this means of increase impaired rather than strengthened the prestige of the dominant superior race. In fact, the Semitic maidens were beautiful, and many of them entered the harems of the Assyrian nobles; so that after some generations, the Aryan and Semitic blood were considerably interfused. The Aryas possess an exalted genius. With a poetic taste they combine a passionate devotion to the study of natural phenomena. They are brave, and ambitious for power; but they have only a moderate aptitude for the practice of the plastic arts. The Semites, on the other hand, inclined to simple ideas, contemplative, adventurous, and independent, have a special aptitude for all that is connected with calculation. They are commercial as a race, and industrious individually; for they do not readily form combinations with a view to a collective undertaking; they are, it must also be observed, not artists, and have a kind of contempt for those who devote themselves to a manual art. The alliance of the two races, however, always produces the elements which are most favorable to the development of the plastic arts.

Epergos began to communicate his observations on this head to his companion Doxius, who had come with the Egyptians into Assyria, and settled in this country. Epergos, who had seen the buildings erected by the Aryas, from the time they quitted the cradle of their race till their settlement in Media, had assured himself that these works were far from having attained the value, in point of art, of those raised by the Egyptians, or even the yellow race of the far East, during the same lapse of time. He had also seen the buildings of the Semites on reaching the banks of the Tigris, and during a journey he had made on the shores of the inland sea. He perceived, therefore, that the dwellings of the men of this race did not vary during the course of many centuries, and had no pretensions to art. But since the influence of the Egyptians had made itself felt in Assyria, and the mixture of the two races, Aryan and Semitic, was being effected by the force of circumstances, the buildings began to attain a rare perfection, and to be enriched with sculptures and paintings; the luxury of their dwellings was daily increasing.

Doxius was listening to his companion's remarks and allowing him to go on, appearing to be thinking of something else.

Epergos continued thus: "Whence I should conclude that if the Egyptians have special aptitudes for the arts, it is because they are the product of a mixture of Aryan and Semitic blood." Doxius looked at him sulkily. "And," continued Epergos, unmoved by this expression of disapproval, "did we not see in Egypt men and women of a fine complexion, ruddy cheeks, and chestnut hair, thus distinguishing them from the majority of their compatriots, whose skin is of a dingy and slightly copper-colored hue, and whose hair is black as ebony? Observe that these exceptions belonged to the higher caste." Doxius shrugged his shoulders. "A strange thing," resumed Epergos, smiling at his companion's gesture; "these Aryas readily change their opinions; they are as variable as the waves, incessantly in quest of novelties, and tenacious in their desires; nevertheless, when left to themselves,

they build to-day as they did yesterday, faithful to the traditions bequeathed by their ancestors in regard to what concerns their domestic habits. The Semites, on the other hand, have no regard for progress, they do not expect it either from their own efforts, or from the lapse of time; external things affect them but little, and in the buildings they erect for their convenience, they seek neither improvement nor change; but when these races are mingled, the race that issues from the fusion is possessed by a passion for luxury, its houses are decorated, and contribute to all the pleasures, and even the refinements, of life. Whence does this arise? Who, I wonder, causes these mysterious results?"

"Foolish thou hast been, foolish thou art, and foolish thou wilt always be," replied Doxius. "Thou speakest of races of men as if there were different races among men. Some are black, others white, others copper-colored; what has been the cause of these differences? Climate, the sun, perhaps deterioration. I make no distinction between men, except that of wise and unwise. The wise are those who, like my friends the Egyptians, hold fast for ages to the good and serviceable which they have discovered, and interdict fools from changing anything in it. The unwise are those who, incessantly changing, restless, and agitated, abandon the good to seek for the better, and to fall into the worse. And thou fanciest that by mingling what thou considerest as different elements, such or such a result inevitably follows? What folly! what blasphemy! Nations that are governed by wise men maintain themselves in purity and tranquility, whatever be the color of their skin. Those who allow themselves to be guided by thoughtless spirits, and who, with their eyes always fixed on the hazy horizon, do not see what is just at their feet, are wretched, and advance only from one form of ruin to another. It is therefore to be wished that thou mayest never be called to govern mankind!"

"Canst thou never discuss a question without using this strong language? Answer my questions, or rather come and see this royal villa which thousands of workmen are just completing here, and say if thou dost not perceive in it the result of a prodigious effort, and at the same time a mixture of dissimilar elements, contrived, nevertheless, in a way which betokens artistic power—something which recalls neither the Egyptian palaces nor the modest Median dwellings, though related to both."

"I shall perceive that the inhabitants of this country have profited by the instructions given them by the Egyptians."

"No, it is something different: but come!"

The companions soon reached a wide square platform, surmounted by buildings which did not present a symmetrical appearance, but whose lofty walls were pierced by arched gateways. Epergos was acquainted with the architect of the royal villa, to which the workmen were giving the finishing strokes. This architect, anxious no doubt to secure the approbation of the two strangers, offered to show them every part of this splendid dwelling.

"This platform, which forms the basis of the royal villa" (said the architect, while they were ascending the flight of steps on the south), "and which rises to a height of more than twenty cubits above the banks of the river, is built entirely of unburnt bricks; its facing only is made of stone, from the mountains that separate Assyria from Media. Each of its sides measures three hundred and forty cubits. You see here at AA' the inclined planes which enable chariots to be driven even to the doors."

"But," remarked Epergos, "why this platform?"

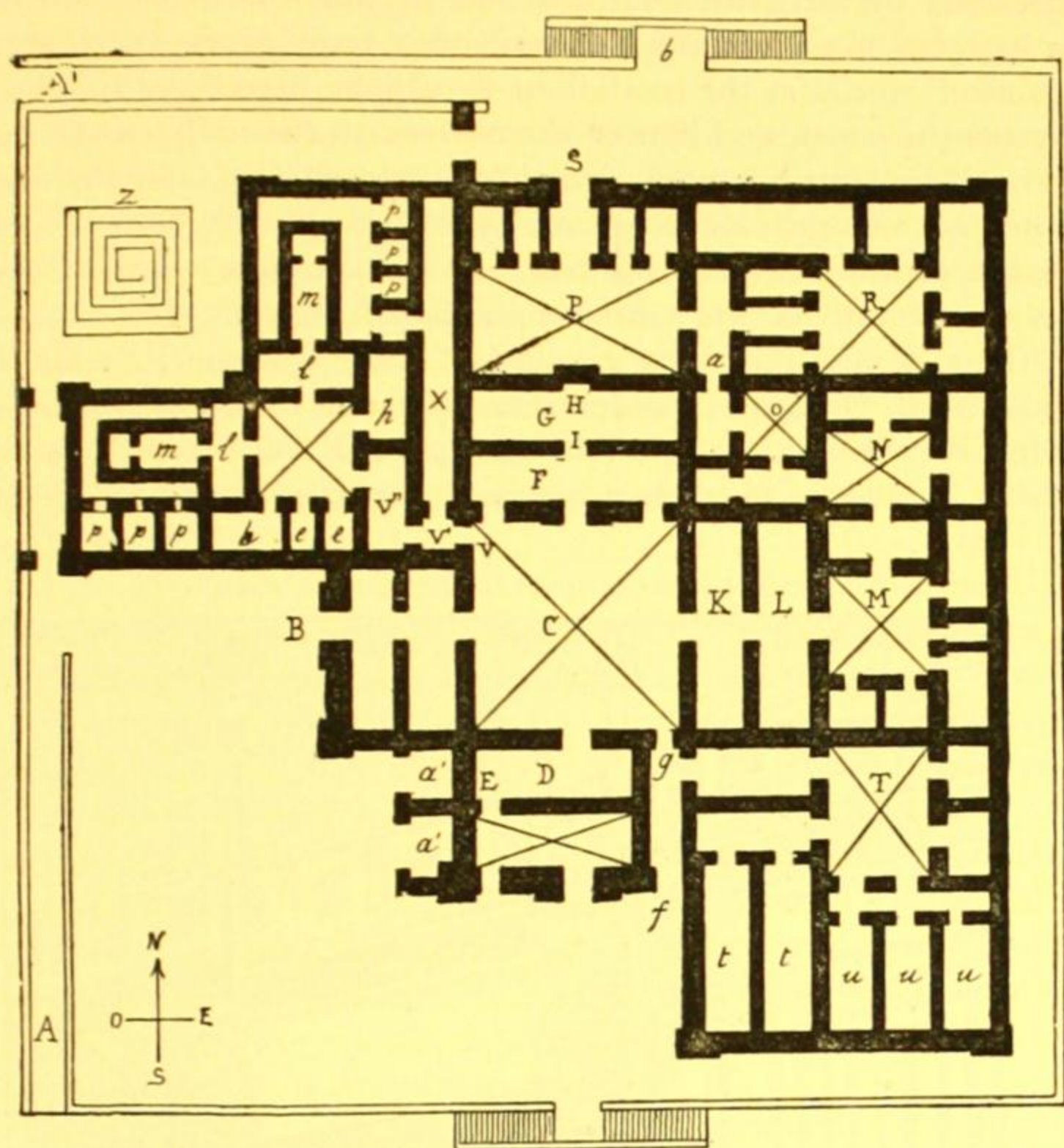
"Because it is the custom of men of noble race to build their dwellings on elevated places; it may well be imagined, therefore, that the king insists upon his palaces being placed in a commanding situation. As the country is flat, the nobles raise hills of clay to build their houses upon."

"How is it that this enormous mass of clay has not sunk under the weight of the buildings it supports?"

"This is our method of proceeding:—There is, as you are aware, abundance of clay in the plain, and it is found even below the bed of the rivers. To irrigate the land, and to secure its fertility, we dig a great number of canals which establish a communication between the two rivers. It is the clay taken from these canals that serves for buildings, so that the erection of a vast palace is a benefit to the country, for it necessitates the digging of a canal. While some of the

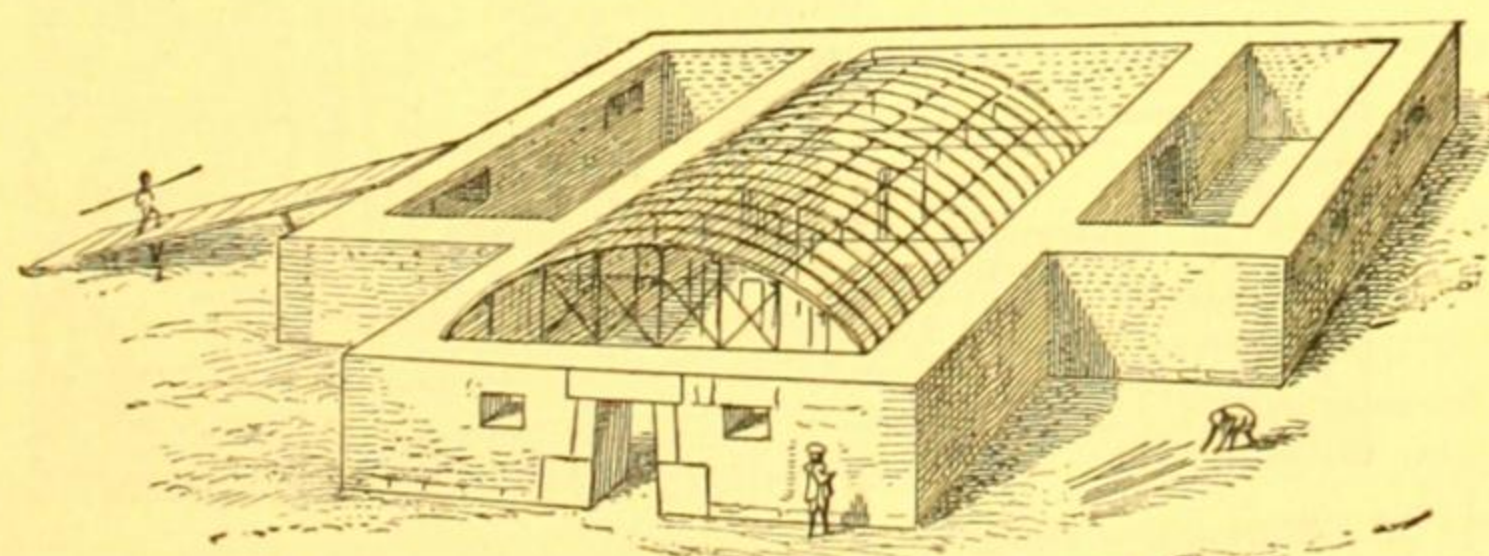
workmen get clay out of the excavations, others are ready to receive, and carefully beat it in large basins; then, being approved by the royal surveyors, this material is thrown into flat, square moulds, and beaten and compressed in these boxes; bricks are thus obtained which are dried in the sun.

"A few hours are sufficient for this drying, since it is undesirable that the bricks should lose all their moisture; for if they did so they would break in being used. When they have attained the proper condition, the bricklayers lay them, carefully crossing the joints, and slightly wetting the subjacent bed, to make the new bed adhere thoroughly. Thus they obtain a structure which experiences neither settling nor rending, for as this clay is kneaded and the bricks are



PLAN OF ASSYRIAN PALACE.—FIG. 47.

jointed, the mass is homogeneous. You observe, however, that the walls and the platforms are faced with large stones, which form a kind of box containing the bricks. Moreover, part of these bricks are burned to form aqueducts, which circulate under the platform, and for arches or piers which require great solidity; they are sometimes even glazed. You see some of these glazed bricks around and above the southern portals. But we will not linger over these details; we shall have leisure to examine them later on. The persons who come in chariots leave their vehicles in the covered places which you see at *d d*, for the king alone has the privilege of entering the interior courts



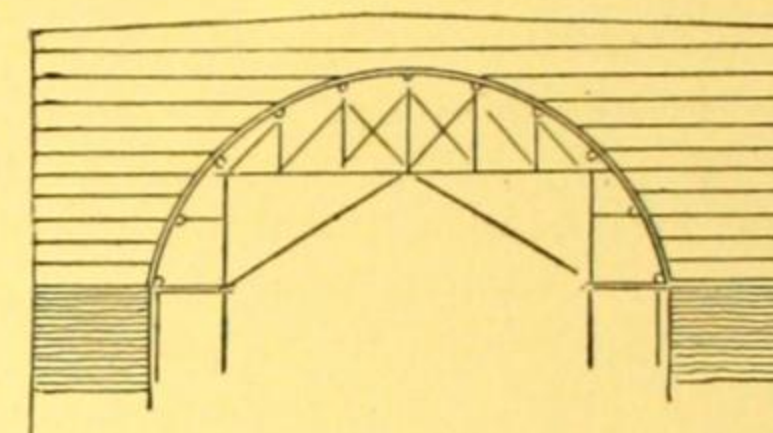
CONSTRUCTION OF ASSYRIAN VAULTING.—FIG. 48.

in a chariot. Let us proceed to the principal gate at B, for that on the south is only a secondary entrance, as I shall explain to you."

"Allow me," said Epergos, "to admire the exterior of this portal, which is crowned by an arch, a thing which I have never seen else-

where. It surprises me strangely. Who, then, taught you this method of building?"

"Necessity. Forests do not abound here as in Media; it is extremely difficult to convey wood hither; besides heat makes timber quickly perish when it is in contact with clay; moreover, timber coverings, even when overlaid with earth—the plan adopted in some regions to the north—do not afford a sufficiently cool temperature within. We are obliged, therefore, to do without wood, and to build entirely with clay. It was only by gradual means that our predecessors came to invent this vaulting. Seeing that beams, placed horizontally on the tops of the walls, bent under the weight of the earth forming the roofing, and were destroyed by the numerous insects that infested them, the builders of former times first conceived the idea of forming with the canes, which abound on the river banks, arches whose curvature was kept fixed by other canes placed below, vertically, horizontally, and diagonally (figure 48). Thus they composed a substantial piece of wicker work of large dimensions. On this wicker framework they placed lighter canes lengthwise; then a first horizontal layer of soft clay, following the form of the arch as it rose, was rammed on the walls. It was allowed to dry for one day. When it had hardened, a second layer of clay was placed on it, still

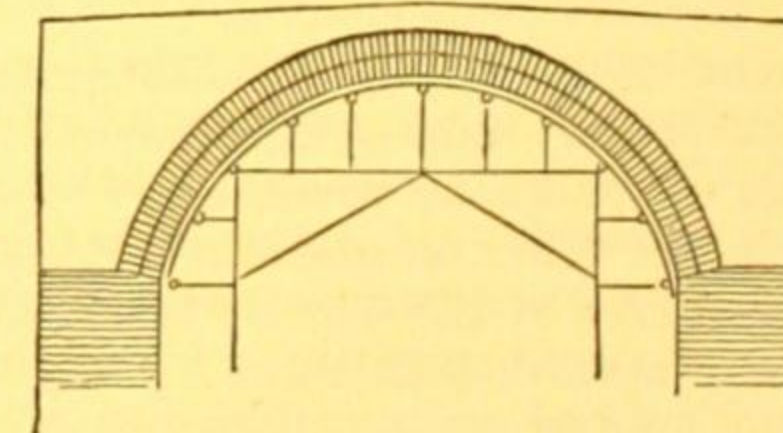


CENTERING WITH VAULTING IN HORIZONTAL LAYERS.—FIG. 49.

following the form of the centre as it rose; and thus, proceeding by horizontal layers, to which, when laid, they allowed time to dry, the arched wicker framework gradually became completely covered with clay. As each of these layers had been deposited horizontally, the entire series presented the section (figure 49); and the builders removed all the vertical, horizontal, and diagonal canes, leaving only those which had given the clay its curvature. There remained then a series of rods, showing which they dared not remove from under the vault, believing them necessary to its support. But in the process of drying, these canes soon ceased to adhere to the clay, and it became evident that they were useless; so they took them away.

"Since each layer of clay must be dried before the following one was laid, these vaults took a long time to build. Every other day, moreover, a sufficient quantity of clay must be tempered for ramming the new layer. Sometimes this clay was moistened too much, sometimes too little. Delay and even danger was the result, because the layers when too wet would crack and risk the fall of the work. Moreover, when they were near the summit of the vault, the portions of clay along the curves being very thin, would dry much more rapidly than those laid on the haunches of the vaults. It was necessary to keep these thin parts moist. All this required an excessive degree of care, and success was never certain. They were, however, already beginning to mould bricks as we mould them now.

"It was then that a man, held in great respect on account of his knowledge, and whom we call Kabu, proposed to build on the curved reeds in the same way as walls are built, that is to say, laying the

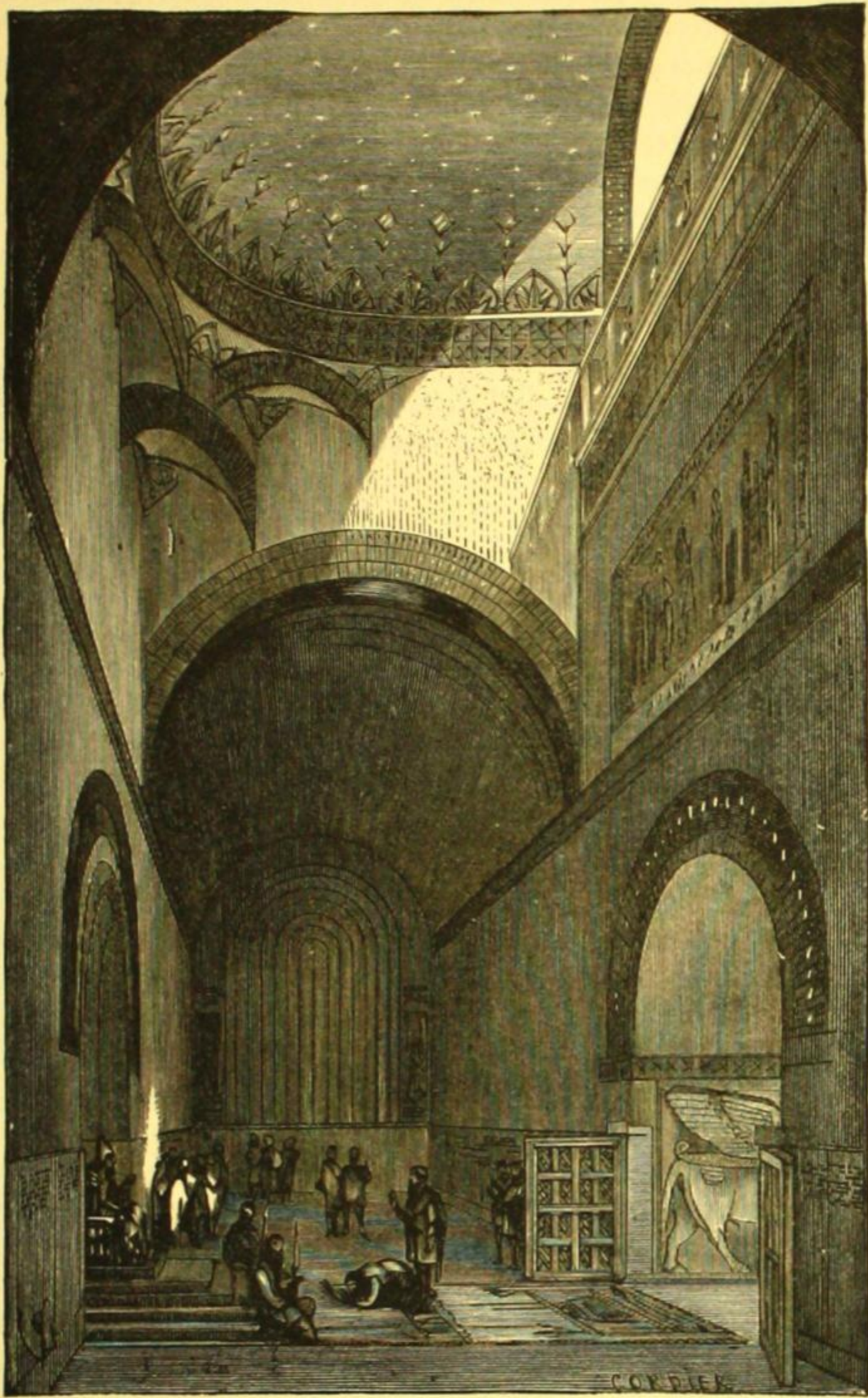


VAULTING MADE WITH VOUSOIRS.—FIG. 50.

bricks as you see here (figure 50); consequently, to pass from the vertical direction in which the wall was built to the curved direction of the arch, without leaving any angle between the two directions;

in a word, to carry the arches round by means of a complete semi-circle. Thus the wall would be continued, so to speak, curving over more and more.

"It appears that Kabu had much difficulty in getting his idea adopted; the elder men pronounced him crazed, asserting that a wall ceased to be able to stand the moment it deviated from the vertical. . . But Kabu constructed a small arch according to his system.



INTERIOR OF A HALL IN THE ASSYRIAN PALACE.—FIG. 51.

You smile," said the architect to Epergos; "perhaps this account seems to you rather trivial."

"By no means," replied Epergos; "it interests me, and I like to hear you relate it; and I will tell you the sequel of it," continued he, looking askance at his companion Doxius, who was evidently ill at ease. "Kabu's model of a vault did not persuade the elders; they told him that though his principle might hold good in the small scale, such a construction executed on a large scale would infallibly break down. Then Kabu had wedge-shaped bricks moulded of the size of ordinary bricks; and placing them together dry, without the interposition of wetted clay, he demonstrated by experiment that these bricks would hold together of themselves.

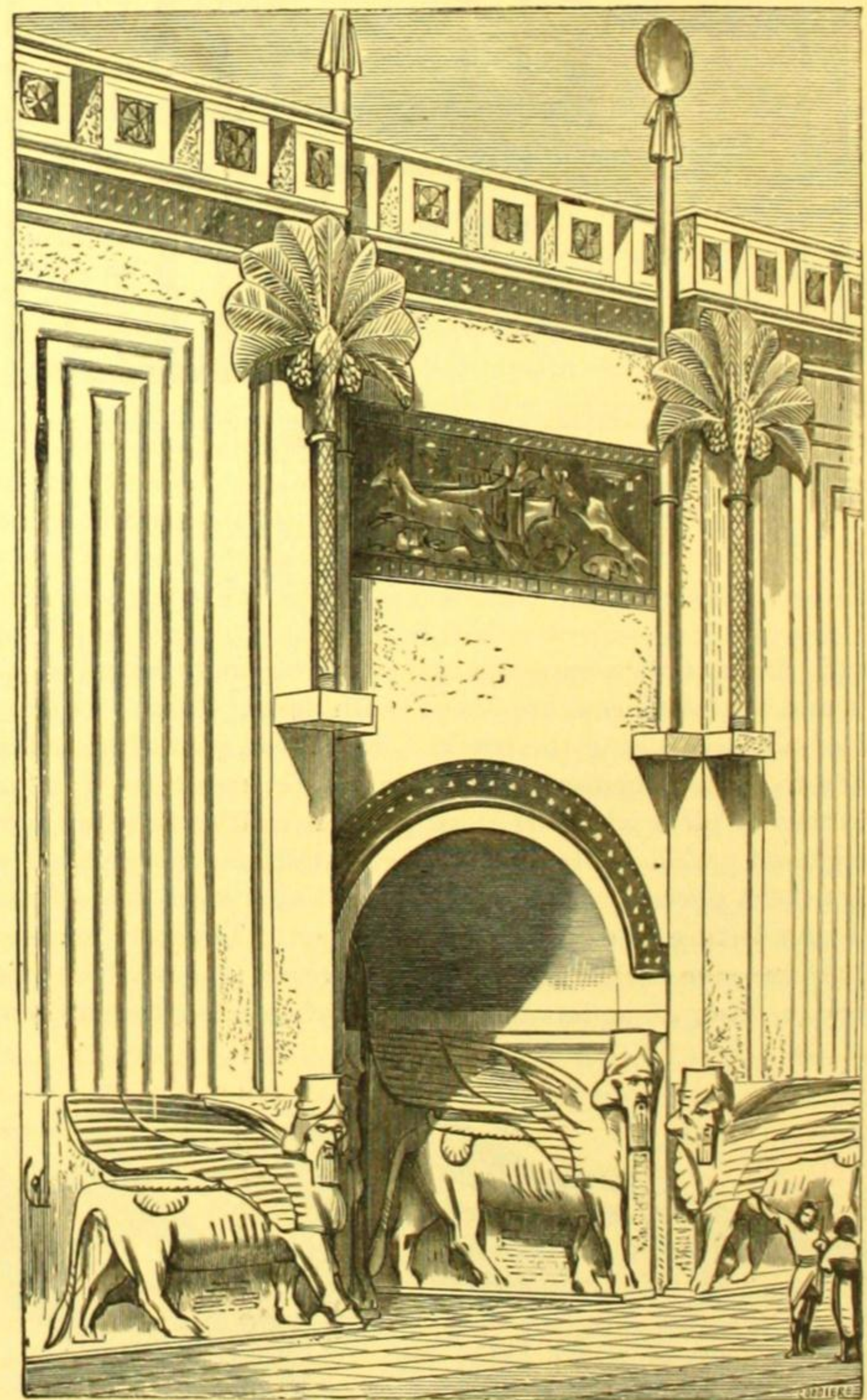
"Zulul, the most obstinately prejudiced among the elders, demanded nothing short of Kabu's banishment, since he was contravening the laws of nature by sorceries. . . Thou seest that I know the story in its minutest details. . . Kabu was, in fact, obliged to quit the shores of the Tigris; but it seems that his ideas have made their way nevertheless . . . in spite of Zulul; and I congratulate you on the fact.

"Now, if thou wilt continue thy explanation of these marvels, we are attentive listeners."

"When they began to make bricks specially adapted for the construction of arches, according to Kabu's suggestion," resumed the architect, "it was not difficult to burn them and glaze their faces, as

they burn and glaze pottery. It is, then, with these baked and glazed bricks that we form the fronts of the archways which display their brilliant colors in the sunshine, the string-courses and tablets and the surbases of the halls, and even the pavement of rooms. But let us go in. This principal gate B (see figure 47) whose jambs are ornamented with winged bulls cut in stone, gives admission to a first and a second vestibule, where the servants remain who accompany the persons summoned to the king's presence. Here is the greater court c, belonging to the suite of apartments specially reserved for the king—the seraglio. On the south side opens a hall, in front of which is a second long court, and a thick wall in which is a large doorway and a second smaller one. In this hall and court assemble the parties to causes submitted to the decision of the king. The litigants of high birth enter by the great door, the rest by the small one; but neither can be introduced into the hall D till they have given their names to the officer posted at the small door F. At the hour fixed for the trials, all cross the court, and betake themselves to the halls on the north, F and G. The king is seated on a throne placed at H, and the litigants, as they are successively called on, pass through the door I. You see how the second hall G is lighted. A demi-cupola, open to the sky, rests on the vault in the centre of the hall" (figure 51).

"This is certainly very beautiful," said Epergos; "what is thy opinion of it, Doxius? Confess that the old Zulul was quite in the wrong in wishing to prohibit this poor Kabu from constructing arches; for this is, in truth, a new and ingenious application of that first idea



ENTRANCE OF ONE OF THE BUILDINGS OF THE ASSYRIAN PALACE.—FIG. 52.

"In fact, since they were making arches, it was scarcely more difficult to make cupolas and demi-cupolas. But this one is skilfully managed. Wert thou the first to adopt vaults of this kind?"

"Oh no!" replied the architect. "This kind of structure has long been in use, and they are still more easy to build than the arches. Here these demi-cupolas, opening on the terraces of the palace, have

the advantage of pleasantly illuminating the interior of these halls, while they prevent the sun's rays from being too powerful. Besides, curtains are hung before these openings, and thus the light is subdued, and the air circulates freely. On this side," continued the architect, "there are no passages leading into the buildings on the northern side, and we shall have to go again into the great court."

"Permit me," said Epergos, "to contemplate this doorway of the first hall (figure 52).

"What is the meaning of these winged bulls with human faces, which form the piers of the entrance, and between whose legs long inscriptions are engraved?"

"The inscriptions record the labors of the king; as for the winged bulls, these representations belong to the class of sacred things, and it is forbidden to speak of them."

“Look above at those palm-trees of cedar-wood overlaid with gold plates, and which accompany that enameled painting representing a royal chase, and those poles terminated by disks of gold.

"It is all wonderful ; but I see that the walls are very frequently ornamented with large vertical cylinders like trunks of trees put close together."

“Yes, that is a tradition of the first constructions of our ancestors, which were made of trunks of trees placed together; and though we now build with bricks, we have preserved the souvenir of that primitive structure.

"In fact, I remember having seen in Media houses thus built."

"The two halls, κ L (figure 47) arranged like those you have just seen, and which are assigned to the officers of the royal household lead to the seraglio, which comprises three courts, M, N, O, and the king's apartments. You will observe that this quarter is entirely shut off, and only communicates with the northeastern buildings by a single door *a*. These northeast buildings, which have two courts, P and R, are tenanted by the officers attached to the service of the prince, who have their private entrance at the gate *s* by the stairs *b* and the ascent for the chariots *A'*. This quarter is also isolated from the others."

"Now let us pass to the southeast angle."

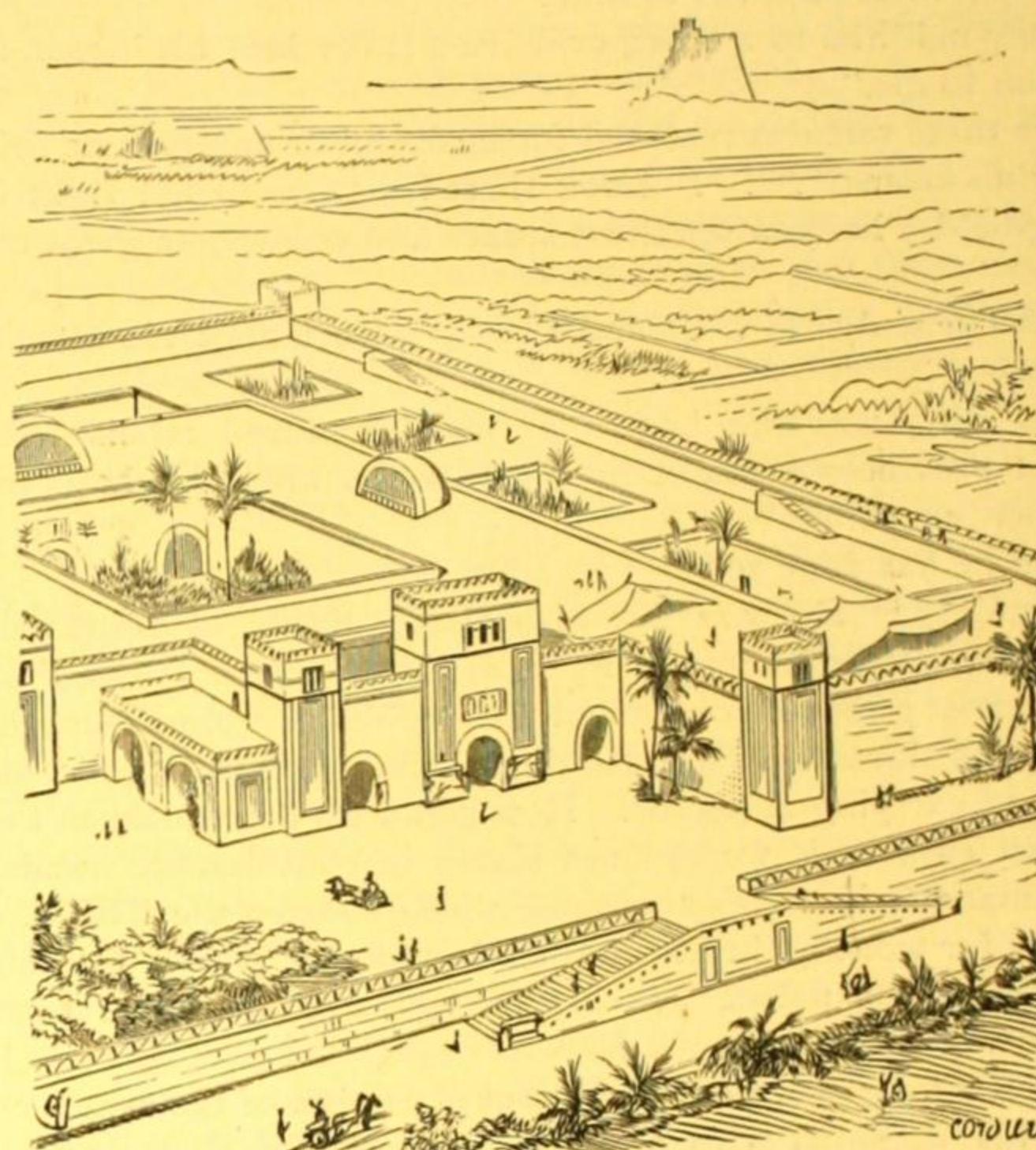
“Observe that the only entrance from the outside is by the door *f*, and from the court of the seraglio by the door *g*. The provisions and the kitchens are in this quarter, which has also its court *τ*. The provisions are arranged in the most orderly manner in the storehouses *ttu uu*. The servants convey the viands to the royal table, passing through the door *g*, and entering the large halls of the seraglio, where sometimes morning banquets are given to persons of distinction, or in the private apartments.

the private apartments. "All these halls are ceiled with semi-circular vaulting. But this is the most interesting part of the villa, and I am able to show it you as it is not yet occupied. It is the harem, on the northwest angle. The only entrance to this part of the building is by the door *v*, the little vestibule *v'*, and the second vestibule *v''*. Here at *x* is a long court, in which the eunuch guards reside. The harem properly so called has its courts, on which open two small rooms *e e* for the women who have the care of children, two large halls *h h* reserved for the children, who remain in the harem up to the age of five, two other halls *l l* in which the women pass their days, and the sacred apartments *m m* destined for the prince when he resides in his harem. The apartments are separated from the enclosure walls by isolating courts communicating with the lodgings of the eunuchs *p p p p p p*.

“Let us go out and visit the observatory placed at the northwest angle of the platform at z. This observatory is 120 feet high, and its base is a square of 70 feet. The ascent to the platform at the top is by inclined planes, whose aggregate length is 820 feet. This observatory, like all the rest, is built of unburnt bricks with a facing of stone at the base, some parts of glazed bricks. Each of the walls of the inclines forming a stage is painted in a different color. The first is black, the second white, the third orange, the fourth blue, the fifth scarlet, the sixth is silvered, and the last gilded. See how it shines in the sun. Would you like to go to the top?”

"With pleasure," said Epergos, and he began to climb the slopes at a brisk pace, while Doxius and the architect were ascending more slowly. Figure 53 presents a bird's-eye view of a part of the palace, taken from the southwest angle.

The view from the higher platform of the observatory was charming. On the horizon to the southeast the city of the Ninevites could be discerned, already of considerable extent, and with lofty walls, whose centre was occupied by palaces. The Tigris—divided into several branches, from between which emerged islands covered with a rich vegetation, and with country houses exhibiting whitened walls and terraces—was bearing along on its rapid current numerous circular rafts supported by leathern bags filled with air, each navigated by some half-dozen men who were thus bringing down provisions of all sorts to the city. Beyond the river, a chain of hills followed the



VIEW OF ASSYRIAN PALACE.—FIG. 53.

course of its shores, their barren summits contrasting with the expanse of dark verdure which covered the lower slopes. On the east extended an immense plain, streaked in every part by canals whose waters shone in the sun like silver plates, and from whose bosom might be seen rising at intervals artificial mounds surmounted by buildings—the mansions of influential personages surrounded by well-kept gardens. On the north, the winding course of the Tigris lost itself amid belts of blue hills which rose in succession towards an horizon of limpid clearness.

Epergos, supporting his chin on his hand, and leaning on the upper balustrade, seemed lost in contemplation.

"Well!" said the architect touching his arm; "is not this a fine situation for observing the heavens?"

"And the earth too," replied Epergos. "But tell me what is that large square enclosure which I see laid out there, in the plain, the side of which seems to me a furlong or thereabouts, and whose area is quite bare of vegetation?"

"It is the enclosure destined for the royal chase."

"What am I to understand by that?"

“At the present day, if the lion, formerly common in these plains, is to be hunted, you must go far northwards or westwards. The king cannot spare time for such distant expeditions. Servants, trained for the purpose, take large cages and contrive to entrap lions and lionesses in the mountains, without injuring them. These are conveyed to the royal domains; and when the sovereign wishes to indulge in the pastime of the chase, he surrounds this enclosure with soldiers, protected by large bucklers and armed with strong spears, and the cages are then wheeled into it. The king then mounts a chariot, with his charioteer at his side, and accompanied by two hunters selected by him. The cages are then opened; the soldiers utter loud shouts; the wild beasts, bewildered by the uproar, run in every direction; the king pursues them, and from his chariot transfixes them with arrows. Sometimes the beasts, infuriated by their wounds, throw themselves on the horses or on the wheels, then the two assistants, armed with lances, slay them.”

"But this sport seems to me somewhat dangerous."

"All depends on the charioteer; if he is skilful, he can elude the attack of the beasts, and afford his master an opportunity for shooting them. The present king takes great delight in this sport, and is very skilful at it. He sometimes kills a dozen lions and lionesses in a single evening. Accordingly, great favors are bestowed by the king upon a charioteer of experience and agility. But in the event of an accident—if the chariot is arrested in its course by some furious lion fastening on the horse's flanks,—if the king is imperiled; oh, then, woe to the driver!"

"Why? what happens to him?"

"They nail him to a cross, or drive a stake into his breast, and so leave him to die."

"Are these tortures reserved for unskilful or unfortunate drivers?"

"By no means . . . Look there! a little to the right of this hunting-field. Do you see those stakes and crosses,—a great number of them?"

"Yes, certainly . . . and I fancy I see bodies too attached to these stakes."

"Yes; they are the bodies of eight hundred rebels from the northern provinces brought here before the king, for he alone can order their execution."

"And he has done so?"

"Certainly! Do you see also those flights of birds of prey hovering over the gibbets?" Epergos turned away. "Oh, those are only the most guilty!" continued the architect, "ten thousand have been kept as slaves, and are working at the canals, the walls, making bricks, and carrying materials. How could we get workmen to build these vast edifices, if we had not slaves in considerable numbers at our command? Especially as these works shorten the lives of many of them; for working in the mud during the hot season is unhealthy work. Since this palace was begun, we have lost more than two thousand workmen."

"But if a long peace deprived your sovereign of the means of furnishing his domains with a sufficient supply of slave labor, what would you do?"

"This has been the case sometimes; and then emissaries are sent into the northern provinces, in the direction of Media and beyond, whose mission it is to excite the population of these districts—which are never easy under the yoke—to revolt. Provoked by these agents, they refuse to pay the tributes, or intercept the messages, or massacre some of the royal delegates. The king sends an army, the country is pillaged, and the whole population carried away into slavery: in this way our building works are supplied with labor; and the crucifixion of a few, who are regarded as the most guilty, in presence of the assembled slaves, renders those who are spared submissive and docile as girls, and they work without murmuring."

"These are expensive palaces," whispered Epergos to Doxius; and addressing the architect, he said: "But the fear of torture does not make sculptors and painters."

"Oh, as to fine work of that kind, it is different! We have corporations of sculptors and painters subjected to severe rules; these artisans are instructed in schools taught by masters under sacerdotal direction; for nothing must be done which is not in accordance with religion. These men are free, and live together in quarters assigned them; and what they gain goes into the fund of the corporation, which is charged with the maintenance of each of its members."

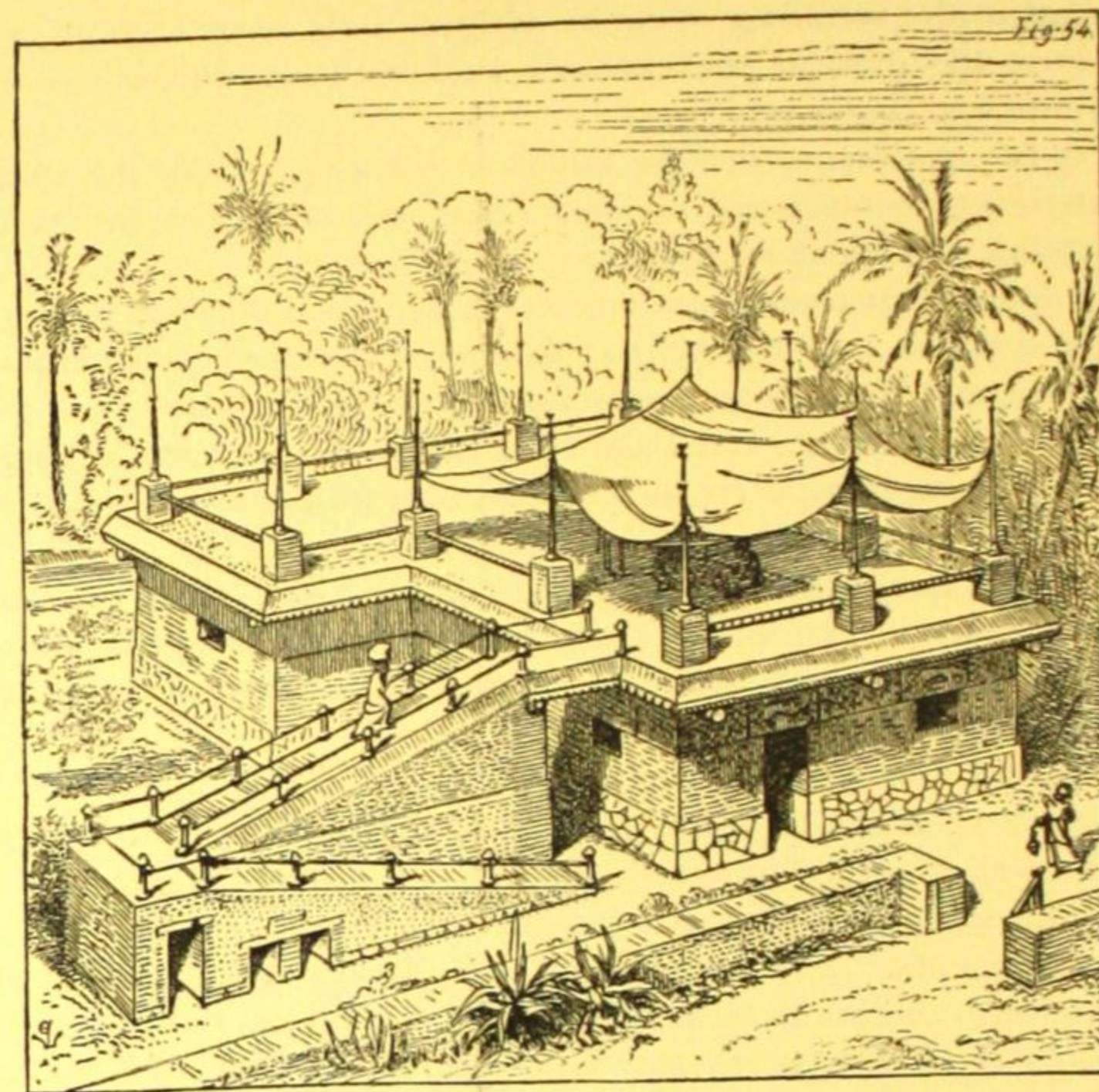
Just then a person presented himself on the platform, and said something to the architect.

"I must go down," said the latter to the visitors; "a message has been brought me from the court; but you need not hurry. Here," said he, presenting them with a small plate of lead on which certain characters were marked, "this will enable you to inspect the palace without me; we shall meet again after sunset."

For several days, Epergos and Doxius were engaged in traveling along the shores of the Tigris. Everywhere they saw well-cultivated, because well-irrigated fields. The roads exhibited the most perfect order; and along them might be seen vehicles continually passing, or herds of cattle quietly moving. Numerous canals served the purpose of irrigation, and were also in constant use for navigation; this means of transport being the least laborious in that country, where for a great part of the year the heat is most oppressive. The houses

scattered over the country were all built on nearly the same model. The better class had vaulted roofs; the less pretentious were covered in with palm-trunks and canes, upon which earth, beaten and plastered, formed terraces where awnings were stretched out to form sleeping places by night, and for shade in the daytime. These terraces were reached by inclines of unburnt bricks.

Figure 54 represents one of these habitations. The basements are generally made of stone (irregularly laid), to withstand the floods



ASSYRIAN HOUSE.—FIG. 54.

which sometimes inundate the plain. On these are erected walls of unburnt bricks, with lintels of wood over the doors and windows. Then large tree-trunks are laid across, on the tops of the walls, and others smaller, the contrary way; next canes and clay, well-kneaded and covered with lime plaster; for the Ninevites have the art of converting certain lime stones into lime by burning; and mixing this lime with fine river sand, they make very fine and excellent plaster. They also procure bitumen in the mountains to the west, which they use as a cement between the baked bricks, under pavements, and also upon the terraces. This bitumen is of great service to them, and they use it largely.

When the heat is so intense as to become stifling even in the interiors of the dwellings, the well-to-do inhabitants have tents of thick white woolen stuffs placed on the terraces, and servants are kept continually watering these tents outside. Thus the sun, by causing this water to evaporate, rapidly produces an agreeable coolness beneath the tents.

"It is evident," said Doxius, "that in these countries the enjoyment of life depends on being born among the dominant and wealthy part of the community. Never have I seen a people among whom the condition of the poorer classes was more pitiable."

"Must we not except Egypt?" replied Epergos.

"No, indeed; in Egypt there is a settled order of things; the several classes have their privileges, their rights and their obligations; they are separated by strict rules; but the meanest of these classes is treated paternally, if we compare the treatment they receive with that which all here have to undergo who are not of noble race, or favored by the great or by the king."

"Yes, I agree with thee that the condition of this people is miserable; that the dominant class is tyrannical, harsh, and unfeeling;—that it shamefully abuses its power. But observe, Doxius, a great work is going on here. This is a vast laboratory, where the civilizations of the future are being prepared; thy friends the Egyptians may be superior to these Assyrians with their large eyes, thick eyebrows, bushy beards, stout limbs, and wide shoulders; but Progress takes no account of the former, because they have never been in contact with the world, except incidentally; they are fixed, and will remain fixed, on the banks of the Nile. It is quite otherwise with the

inhabitants of these countries; they swallow up other peoples, and perhaps will be swallowed up in their turn; but they will have taught many things to mankind.



CHAPTER XV.

THE PELASGI.

THE stream from the east had continued to spread emigrants through Media; but, dammed up, so to speak, by the numerous populations settled in that country, it could no longer spread southwards; and while leaving small settlements of pure Aryan race on the banks of the Araxes, and as far as the southern slopes of the Caucasus, it spread farther and farther along the shores of the Euxine, occupied the fertile countries which later on took the name of Armenia, Paphlagonia, and Bithynia, crossed the Bosphorus, and founded colonies in Thrace, Macedonia, and Thessaly. The isles of the Ægean sea were peopled by them, as also the Peloponnesus.

These settlements had already long existed at the time when Epergos and Doxius were visiting the palace of the Ninevite king.

On the other hand, the Aryan peoples, mingled with those of the Semitic race, had spread along a line parallel to the north of the Taurus chain, and were occupying Phrygia, Caria, Lycia, Rhodes and Crete, or at least the countries thus designated at a later period. Nomadic or rather migratory in their habits, they continued for a long time without fixed settlements; they did not live in wagons like the Scythians, but dwelt temporarily in huts built amid the forests which covered all these countries; and possessed herds of cattle and swine, and flocks of sheep and geese. They already cultivated the ground in the plains but in a primitive way, and it was not till later on that they sowed seed in ground prepared by the plough. The habitations of these Pelasgi consisted of a low circular wall, formed of

the smoke issued from the top of the cones. A circular enclosure, likewise constructed of large stones, surrounded each of these huts.

Having lived among the mountains ever since they quitted the plateaus of the Indus, and having formed but a slight acquaintance with the already highly civilized peoples settled in the south of Media, they had preserved their rude and simple character. Like their ancestors, they had vehicles drawn by oxen or horses, lived together in tribes, and preserved the religious beliefs of the Aryas, slightly modified during their migrations.

When they settled on the west of the Ægean sea, the Pelasgi found in these regions barbarian aborigines, who lived on acorns and milk-food. Always on horseback, these first inhabitants drove their great herds of cattle before them with long pointed sticks.

Given to pillage, difficult to capture, and inhabiting only caves or forest jungles, they obliged the new-comers for many years to defend themselves against their aggressions; and these struggles left such an indelible remembrance in the minds of the Pelasgi, that they continued to portray on their public monuments those primitive contests with these beings—half-horse, half-man—who had disputed the soil with them.

The Pelasgian tribes prospered, however; they cultivated wheat and the vine, extracted oil from the olive, and devoted themselves to agricultural pursuits. Those inhabiting the coast and the islands had built vessels, were engaged in commerce, and practiced piracy. Relations were thus established between the populations of the opposite shores of the Ægean;—relations which were not always pacific, but which none the less tended, in many cases, to bring about the fusion of the two peoples.

Most of the inhabitants of the Asiatic coast were more nearly akin to the Semitic than the Aryan race; they already possessed arts comparatively advanced; worked metals; and were skilful in the art of building large vessels and towns. The Pelasgi of Thessaly and those of the shores of Peloponnesus, were obliged to concert measures for resisting the incursions of the peoples settled on the Asiatic coast. The tribes formed federations, and the most powerful among them, or those whose chiefs were most intelligent, soon acquired a marked preponderance.

In imitation of the piratical tribes who ravaged their coasts, they built towns and citadels.

The countries inhabited by the Northern Pelasgi, intersected by high steep hills and ravines, were peculiarly rich in various kinds of stone suitable for erecting durable buildings. Accordingly, the Pelasgi did not fail to make abundant use of these materials, avoiding tedious workmanship however; for they still had only bronze tools, and were therefore unable to give shapes of delicacy to these materials. As for traditions of art, they had none; and the little instruction they had been able to gather was limited to faint recollections derived from the Medes of the north during their sojourn south of the Caucasus, and from the articles they received from the Carians and Lycians in exchange for the products of their soil.

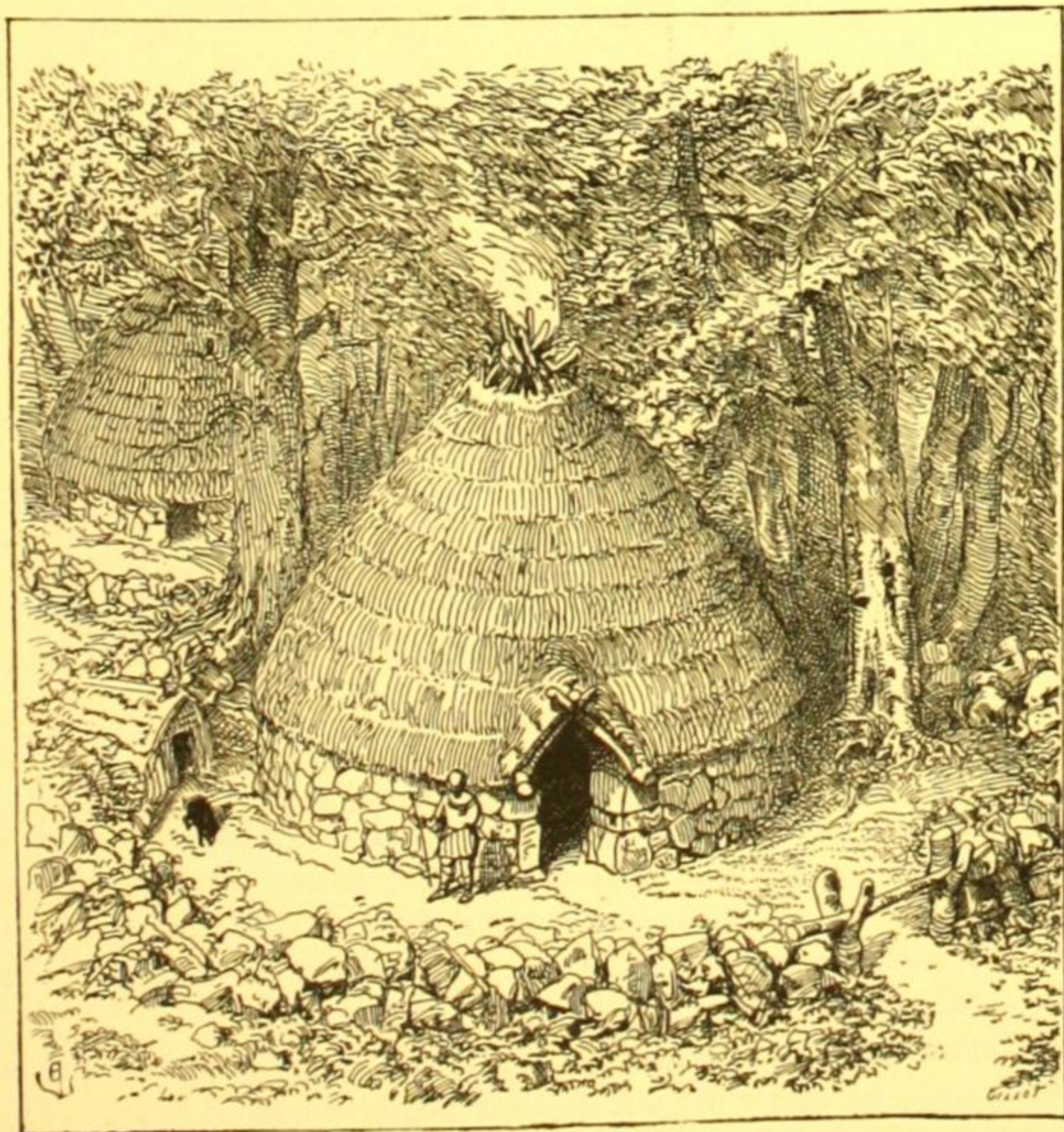
These Pelasgian villages, however, despite the extreme simplicity of their buildings, preserved a character of strength and rude grandeur, in perfect accordance with the unpolished manners and primitive habits of the people.

Taking advantage of naturally defended positions, such as promontories and acclivities, they surrounded these positions with thick walls built of large unsquared blocks of stone, irregularly laid according to the method of the Tyrrhenians; thus was formed the citadel, which enclosed the treasure-house, one or more temples, and the habitations of the chiefs of the tribes.

Around this citadel were grouped the dwellings, which were themselves surrounded by an enclosure. The leading men among them who had not residences in the citadel, built their houses upon some commanding point of difficult access.

As the huts of the shepherd and the tiller of the ground were circular, so the dwelling of the rich preserved this time-hallowed form, at least in one of its parts; for at that time even the temples were built on a circular plan. But the dwellings of the rich were built almost entirely of stone,—occasionally with a wooden portico.

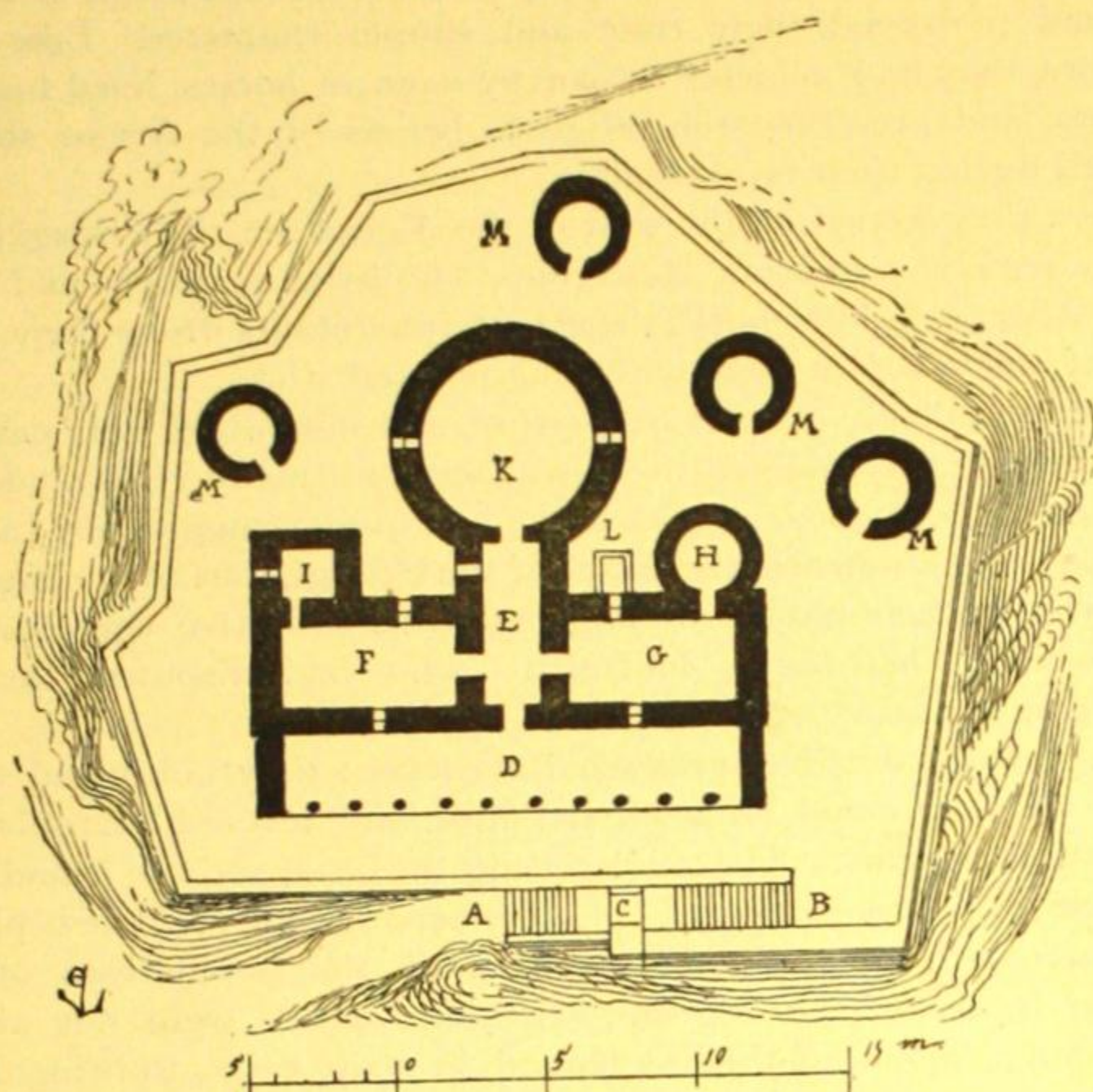
Figure 56 gives the plan of one of the most spacious and costly of their houses. Built on the summit of a rocky eminence, it is sur-



HOUSE OF PELASGIAN PEASANT.—FIG. 55.

large stones, on which was erected a cone of branches of trees covered with reeds or twigs (figure 55). The fire was made in the middle, and

rounded by a wall which crowns this leveled summit following all its natural sinuosities. A flight of steps A B gives access to the platform; but at c a gate shuts off the steps about the middle of the ascent. At D is a portico formed of trunks of trees roughly fashioned, sup-

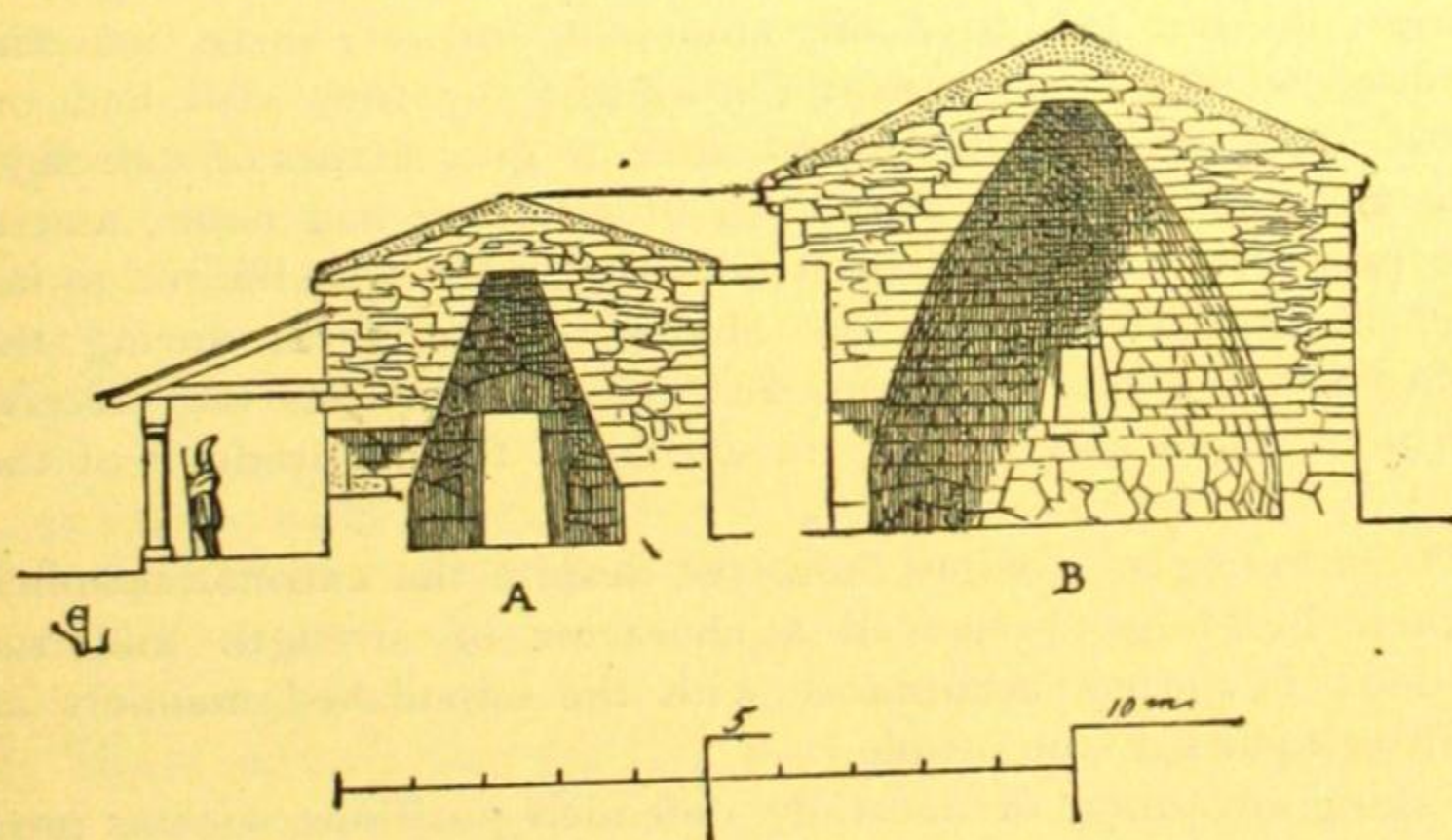


PLAN OF HOUSE OF A PELASGIAN NOBLE.—FIG. 56.

porting a longitudinal beam, on which rests the joists and the roof. A single door gives entrance to the vestibule E, which opens on the right into an apartment G, where the servants and strangers remain—with a kitchen of circular form at H; and on the left to a similar apartment F, which is occupied by the master; and a small chamber I, which is the family treasury.

From the vestibule there is a direct entrance into the circular room K. This is the place for social gatherings, and where meals in common are taken. At L is a cistern collecting and preserving the rain-water. At M are huts for the servants.

The following is the method according to which the Pelasgi construct their dwellings:—



SECTION OF HOUSE OF A PELASGIAN NOBLE.—FIG. 57.

A, figure 57, gives the transverse section of the room G and of the portico: B, the section of the circular hall K.

As the entire edifice is built with large stones, these are lifted to their place by main strength, with the help of inclines formed of stones and earth, which are taken away when all is finished.

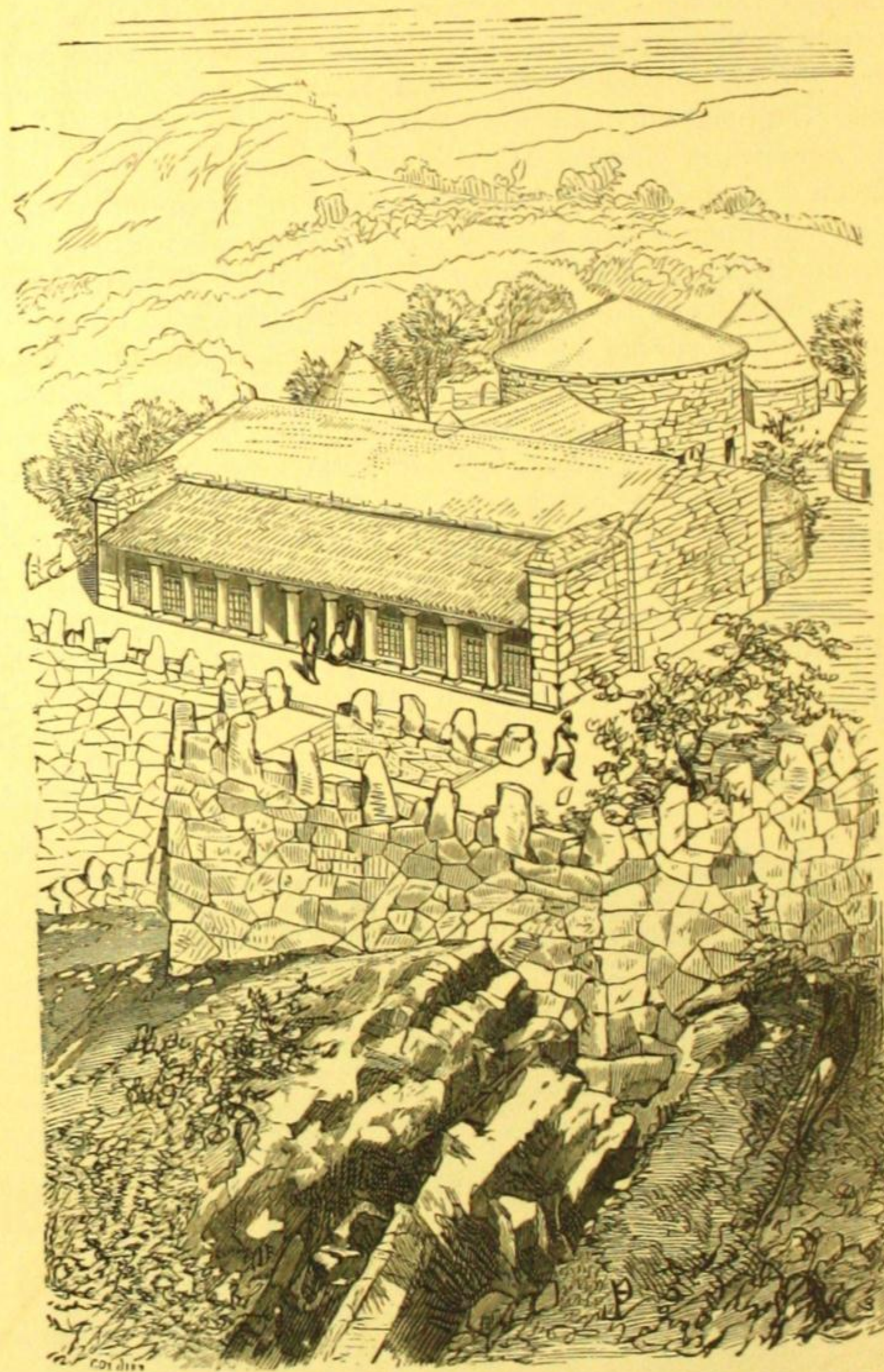
It is, however, for the erection of the basement chiefly that materials of great size are used; when the workmen reach the corbelled-out sloping walls they use lighter stones, and select flat ones. When the structure is complete—care being taken that every stone exactly covers the joints of those beneath—the upper part is plastered over with clay mixed with straw, so as to cover all the stones that present slopes on the exterior.

The Pelasgi assert that these buildings were so designed by their ancestors; but it is certain that they derived their ideas from what

they saw on the shores of Asia—in Caria and Lycia; though in these countries there were two modes of building—one entirely with stone, which seems to belong to the Tyrrhenians, and which much resembles what is shown here; the other with timber, which belongs more particularly to Aryan traditions inherited by the Ionians.

There are, moreover, different versions of the history of the migrations of the peoples to whom the name of Ionians is given, but whose Aryan origin cannot be doubted, though they may have been mixed with Semitic populations at a very early period. We must suppose these Ionians to have passed from Asia into Europe—i.e., the Peloponnesus, and to have been driven out by the Achæans; some would have returned to Asia where they founded colonies; others would have sought refuge on the coast of Elis and in the Archipelago which preserves their name.

But to return to the Pelasgian habitation of which the plan has been given. Figure 58 presents it in perspective, with its escarped enclosure crowned with large, rough stones which form so many merlons, and the openings between them crenellations for defence. On the platform are a few fig and olive-trees, round the huts set apart for the servants. The portico, constructed of wood and covered with reeds and straw, is the place occupied by the family during the



VIEW OF HOUSE OF A PELASGIAN NOBLE.—FIG. 58.

day. The space between the posts is partly closed with wattling. As stated above, these Pelasgi live in tribes more or less powerful, but which tend more and more to unite in federations. Their occupations are divided between the cultivation of the soil, cattle-breeding, and piracy.

They remained, however, in a state of simplicity which contrasted with the progress made by the Ionian populations of Asia. These, being in permanent connection with nations already highly advanced in the arts, were building sumptuous edifices, in which, as we shall presently see, the original traditions and influences of the bordering countries may be said to have been reflected.

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FLOOR PLANS AND DESCRIPTION ON PAGE 247

SHOPPELL'S MODERN HOUSES

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THE costs given in this publication are the *actual* costs of structures, just such as will be secured by buying the materials and having the labor performed by days' work. With the assistance of the Working Drawings, Specifications, Bill of Quantities, and all the aids furnished by this office, this way of building, particularly for houses of moderate cost, is altogether the best, where some time and attention can be given to it.

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Excavation, per cubic yard, - - - -	\$0.25
Rubble stone work laid up complete, all materials furnished by contractor, per perch of 25 cubic feet, - - - -	4.25
Stone wall, double faced above grade, 25c per foot, or per perch, - - - -	6.25
Brickwork laid in the wall, per M, - - -	15.00 to 16.00
Plastering, per yard, - - - -	.30 to .35
Spruce timber, per M feet, - - - -	20.00
Hemlock timber, per M feet, - - - -	14.00
Hemlock sheathing boards, per M feet, -	15.00
Pine Shingles, per M, - - - -	4.50 to 5.00
Pine flooring, merchantable, per M feet, -	26.00
Clear pine clapboards, per M feet, - -	25.00 to 30.00
Novelty siding, per M feet, - - - -	30.00 to 35.00
Rosin sized building paper, per lb., - -	.03
Clear pine trim, reeded or moulded $\frac{7}{8}$ x 5 in., per lineal foot, - - - -	.03
Turned corner blocks, each, - - - -	.05
Moulded base, 9 in. high, $\frac{7}{8}$ in. thick, per lineal foot, - - - -	.05
Glazed window sash, 2 ft. 7 in. x 5 ft. 6 in. x $1\frac{1}{2}$ in., per pair, - - - -	2.00
Doors, four panels, moulded both sides, 2 ft. 8 in. x 7 ft. x $1\frac{1}{2}$ in. each, - - - -	2.85
Blinds will average all around, per window, -	1.50
Tinning, per square of 100 square feet, - -	6.00
Painting, including materials and labor, per square yard, each coat, - - - -	.06
Carpenters' labor, per day, - - - -	2.50 to 3.00
Masons and plasterers, per day, - - - -	3.00 to 3.50

SHOPPELL'S Modern Houses, Nos. 1, 2, 3 and 4 (Price \$1 each) contain views, plans and descriptions of more than 250 of our best designs. We advise their purchase by every intending builder.

THOUSANDS of houses, built from our designs, are scattered all over the country. Those who are familiar with our publications often recognize them when traveling, and sometimes they see them go up in their own neighborhoods.

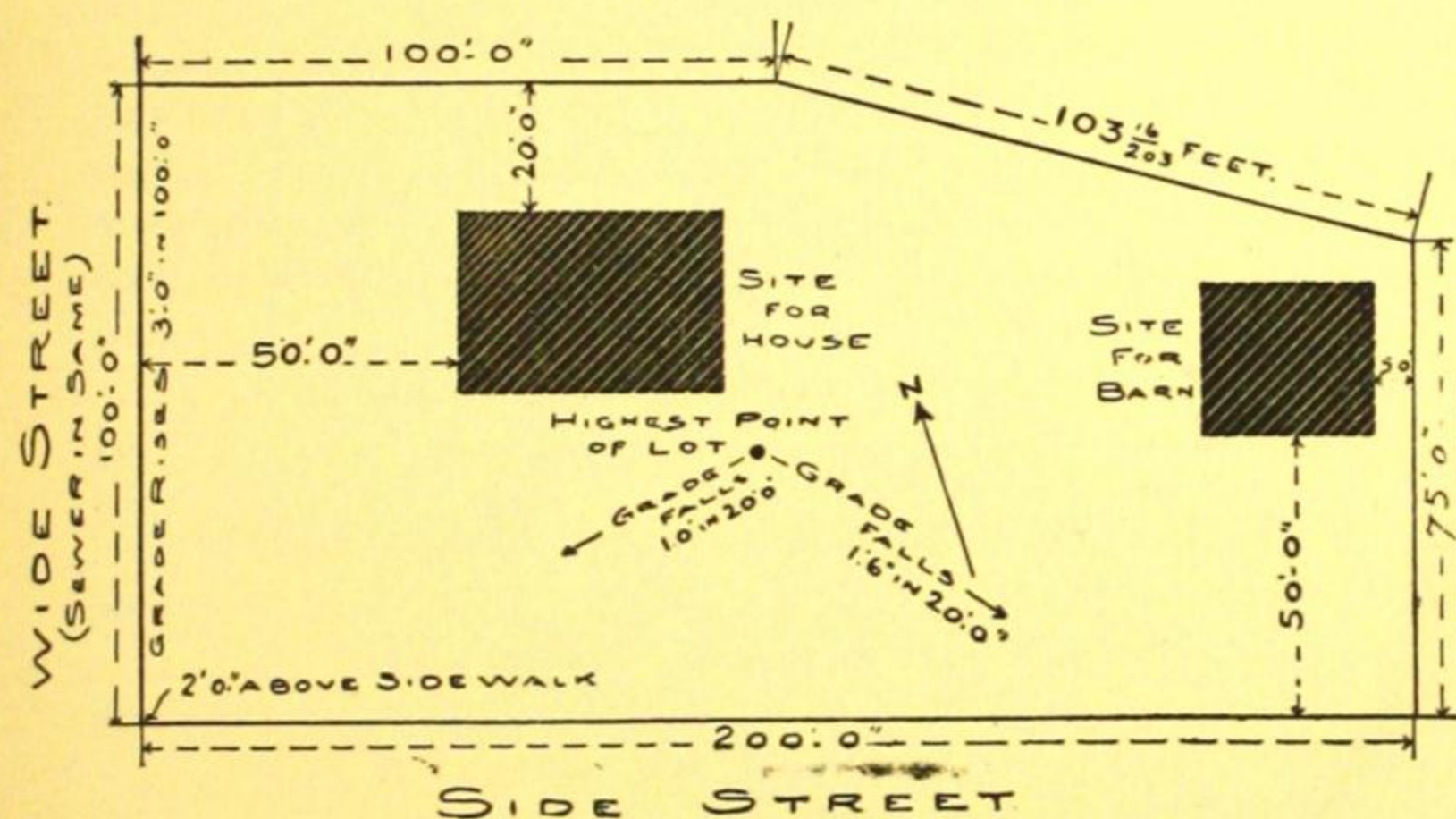
WE have practical builders in our office who make all the estimates. Almost without exception our figures prove to be correct in actual building.

ABOUT SPECIAL DESIGNS

IF none of our designs, or alterations of them, suit the intending builder, we are glad to make special designs to meet their requirements, or work out and put in proper shape any rough drawings of their own.

Before ordering special designs, however, it is well to examine "Shoppell's Modern Houses," Nos. 1, 2, 3 and 4, which contain views and plans of two hundred and fifty modern houses. It may be that the design wanted or nearly what is wanted, has been already worked out and that the client may avail himself of the price list for regular plans.

In ordering designs for special and original work the client should give us the following particulars: State the sum to be expended; give prices of material and labor prevailing in the neighborhood; is the construction to be of wood, brick or stone, and what material is preferred for foundation; what the building is to be used for; number of floors wanted, number of rooms on each floor, intended use of each room; height of stories in the clear; whether interior is to be finished in hard wood; what is required as to heating, hot and cold water, gas, bath, and water-closets; what is the water supply; can the drain be connected with a street sewer, or is a cesspool required, and make a rough drawing, showing size, shape and grade of ground, direction of best view, like this, for example:



We have a printed blank embodying these questions which we send to those intending to order special plans drawn. Send for one of these blanks if we do not send you one upon first correspondence.

Upon receipt of these particulars, we study the design and make preliminary sketches of the floor plans and elevations. These we send to the client for alterations, corrections and suggestions. When they are returned to us, we make the alterations suggested, so far as our judgment recommends, and send the sketches again to the client for his final approval, if necessary. Finally, when the sketches show just what is wanted, we make FULL WORKING PLANS, giving detail drawings for all exterior and interior work, and write up the SPECIFICATIONS. If requested, we prepare, also, a complete BILL OF QUANTITIES of all materials required for the building.

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Full Working Plans, including Detail Drawings and Specifications, for a building to cost \$2,000 or under, \$40.

Complete Bill of Quantities for the same, \$10.

Full Working Plans, with Detail Drawings and Specifications for a building to cost over \$2,000, two per cent. of the cost of the work.

Complete Bill of Quantities for the same, one-half of one per cent. of the cost of the work.

Visits of inspection within twenty miles of New York, \$10. At a greater distance, as per agreement.

Consultation fee, \$10. This does not apply to simple inquiries as to change of prices, practicability of modifications, or any questions requiring but little time and consideration to answer. It does apply to interviews of considerable length, where the merits and practicability of new plans are fully discussed, and to correspondence that covers the same ground.

ABOUT ALTERATIONS

For altering plans we charge extra, but we cannot set a price for the same as we cannot tell how much work is involved until we know what the alterations are. Upon receiving a description of the alterations required, which should always be accompanied with a diagram, no matter how roughly drawn, we will make a price according to the amount of work involved.

It is much better for our clients and customers to order Working Plans, &c., of designs that suit them or that nearly suit them, *without* alteration, if possible.

Small internal changes, such as shifting partitions to make rooms larger or smaller, adding closets, building fire-places in place of flues, &c., can be clearly indicated to the workmen by the owner himself, when the large Working Plans are spread out before them. Therefore, if the alterations are unimportant, the Working Plans and Specifications as per price list are quite sufficient. Only where the desired changes alter the external dimensions and, consequently, the appearance of the elevations, is it really necessary to have us make the changes.

Be very sure that the alterations contemplated are really desirable. It may be when the Working Plans, Specifications, &c., are thoroughly studied that some or all of the alterations contemplated will not be considered for the best.

Again, be sure that the alterations contemplated are not already made and represented by some of the designs or modifications in our books. Thoroughly examine "Shoppell's Modern Houses," Nos. 1, 2, 3 and 4.

In any case, the cost of alterations is not increased by first purchasing the regular plans as per list. In fact the cost is apt to be less, as the client can then indicate very plainly, by pencil drawings on the scaled plans and by notes on the specification exactly what changes are desired.

True economy for our clients is to avail themselves of the low prices charged for our regular plans. While work on Special Designs and Alterations necessarily brings greater fees and would seem to be an apparent advantage to this office, we believe that our true interests are identified with the most economical service we can render to our clients and customers. We seek, as every successful business that aspires to pre-eminence must seek, to make a legitimate profit by doing a large business.

WORKING PLANS, DETAILS, SPECIFICATIONS, &c.

See the opposite page for information about Alterations and Special Designs.

WITH those of little or no experience in architectural matters, there may be a feeling of disappointment that the full Working Plans, Specifications, &c., of each design are not given in this book. To such we would say that *really serviceable* Working Plans, *full* Specifications, &c., cannot be reduced to book page and paper page size without losing much of their value. If so published they must be abridged somewhere, and the very parts left out may be those that would be of the greatest service. Our details are shown full size, and every item of information and instruction that may be needed is carefully given. It would require a work of more than one thousand pages of this size to give all the drawings, &c., of the designs in this book.

It is important, also, that the owner should be in direct correspondence with this office to have everything explained that he does not understand, and for advice during the progress of the work, if needed.

The observations below, also, are addressed to novices in these matters. Those who have once employed Working Plans, Specifications, &c., in building, need not be told how useful, indeed how indispensable they are; how they simplify everything and make the owner the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; *how they actually save money*, it being a well known fact that their use saves at least ten per cent. of the cost of construction.

It is self evident that a contractor will figure lower when the request for an estimate is accompanied by full Drawings and Specifi-

cations; without them there are uncertainties which compel him to guard against loss by placing his figures high.

The Plans, Specifications, &c., we offer are unusually full and we may add unusually reliable, as they have been proved by actual building. By the practical co-operation effected by our books we are enabled to supply them at *one-quarter* the rates usually charged by other architects.

WHAT WE SEND FOR EACH DESIGN.

WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale $\frac{1}{4}$ inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, &c., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, &c.

SUPPLEMENT SHEET, containing drawings and descriptions of three approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

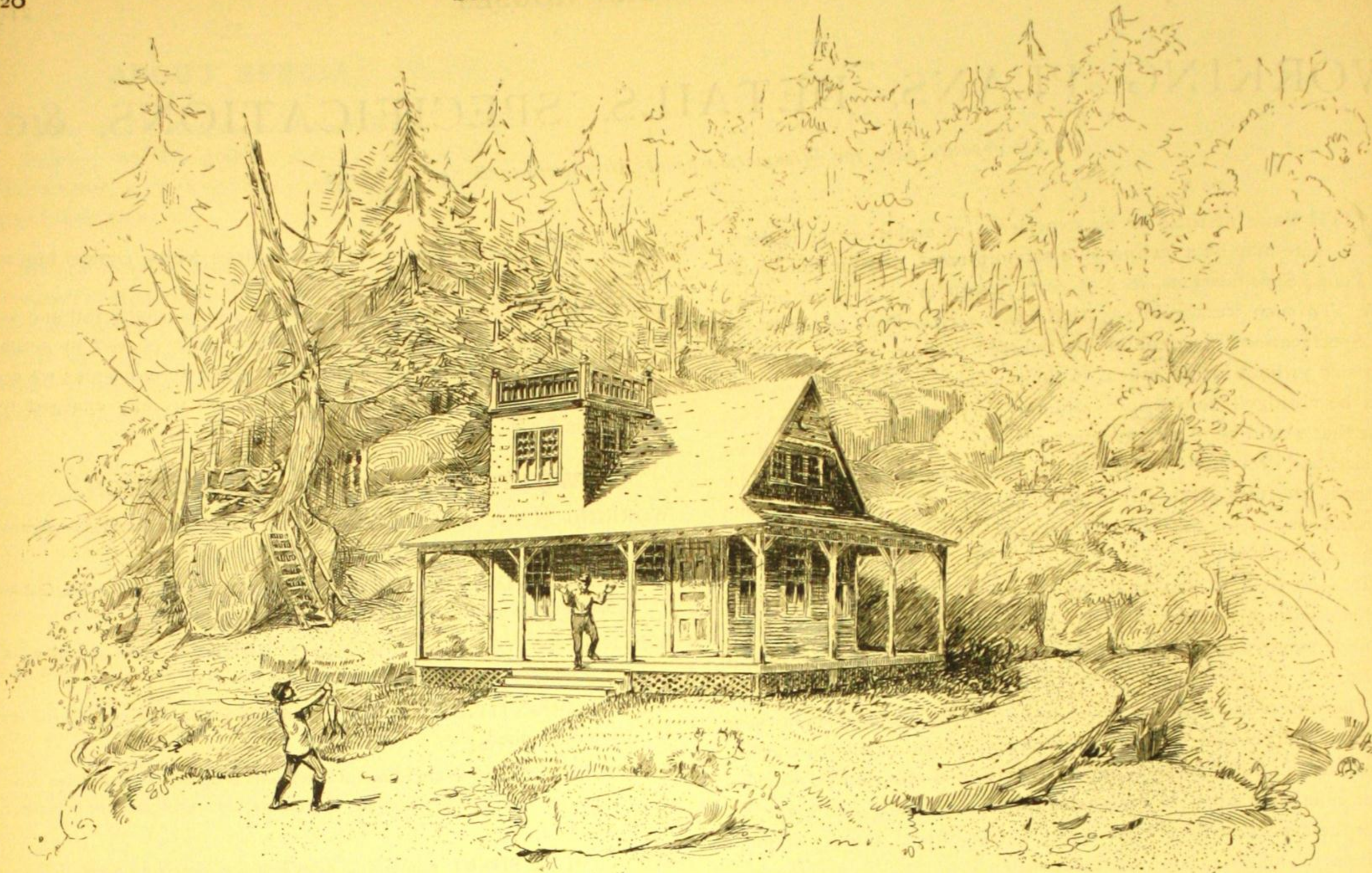
BLANK CONTRACTS, ready for use.

The reliability and thoroughness of our work is attested by hundreds who have built from our Drawings and Specifications. Please see "References by Permission," on the inside cover pages of this book.

PRICE LIST OF PLANS, SPECIFICATIONS, ETC.

UPON receipt of price annexed we will send by mail or express, charges prepaid, the Working Plans, Specifications, Detail Drawings, Bill of Quantities, Color Sheet, Supplement Sheet and Building Contracts for any of the designs mentioned below. Remit to The Co-operative Building Plan Association, 191 Broadway (P. O. Box 2702), New York City, N. Y. If preferred, we will send C. O. D.

No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.
370. - - - -	\$15.00	384. - - - -	\$35.00	397. - - - -	\$35.00	410. - - - -	\$60.00
371. - - - -	18.00	385. - - - -	30.00	398. - - - -	60.00	411. - - - -	60.00
372. - - - -	20.00	386. - - - -	30.00	399. - - - -	55.00	412. - - - -	65.00
374. - - - -	20.00	387. - - - -	35.00	400. - - - -	35.00	413. - - - -	80.00
375. - - - -	20.00	388. - - - -	50.00	401. - - - -	35.00	414. - - - -	85.00
375a. - - - -	25.00	389. - - - -	35.00	402. - - - -	35.00	415. - - - -	85.00
376. - - - -	30.00	390. - - - -	45.00	403. - - - -	50.00	416. - - - -	100.00
377. - - - -	35.00	391. - - - -	45.00	404. - - - -	60.00	417. - - - -	100.00
378. - - - -	35.00	392. - - - -	35.00	405. - - - -	60.00	418. - - - -	150.00
379. - - - -	35.00	393. - - - -	35.00	406. - - - -	35.00	419. - - - -	150.00
380. - - - -	35.00	394. - - - -	60.00	407. - - - -	85.00	420. - - - -	250.00
381. - - - -	45.00	395. - - - -	65.00	408. - - - -	55.00	421. - - - -	20.00
382. - - - -	45.00	396. - - - -	35.00	409. - - - -	90.00	422. - - - -	35.00
383. - - - -	35.00						



DESIGN No. 370. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 370

SIZE OF STRUCTURE: Front, 22 ft. Side, 20 ft.; these figures do not include the verandas.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story (kitchen and bedroom) 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, beveled siding; Second Story, shingles; Roof, shingles.

COST: \$600, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—An appropriate design for a fishing camp, a shooting lodge, or a summer residence at the seaside.

The living room is open to the roof, which insures its being cool, as the warm air rises and escapes through the windows in the gable end, thus creating a constant draught through the room.

The stairway goes up to a gallery (suspended from the rafters), from which the two upper bedrooms are entered.

The front bedroom (in the tower) has straight walls the full height, while the walls of the rear bedroom are cut off slightly on one side by the slope of the roof.

The fire-place is made a feature: built of brick, with a wood shelf, after a quaint design, it is quite artistic, and yet so simple that an ordinary mechanic can build it.

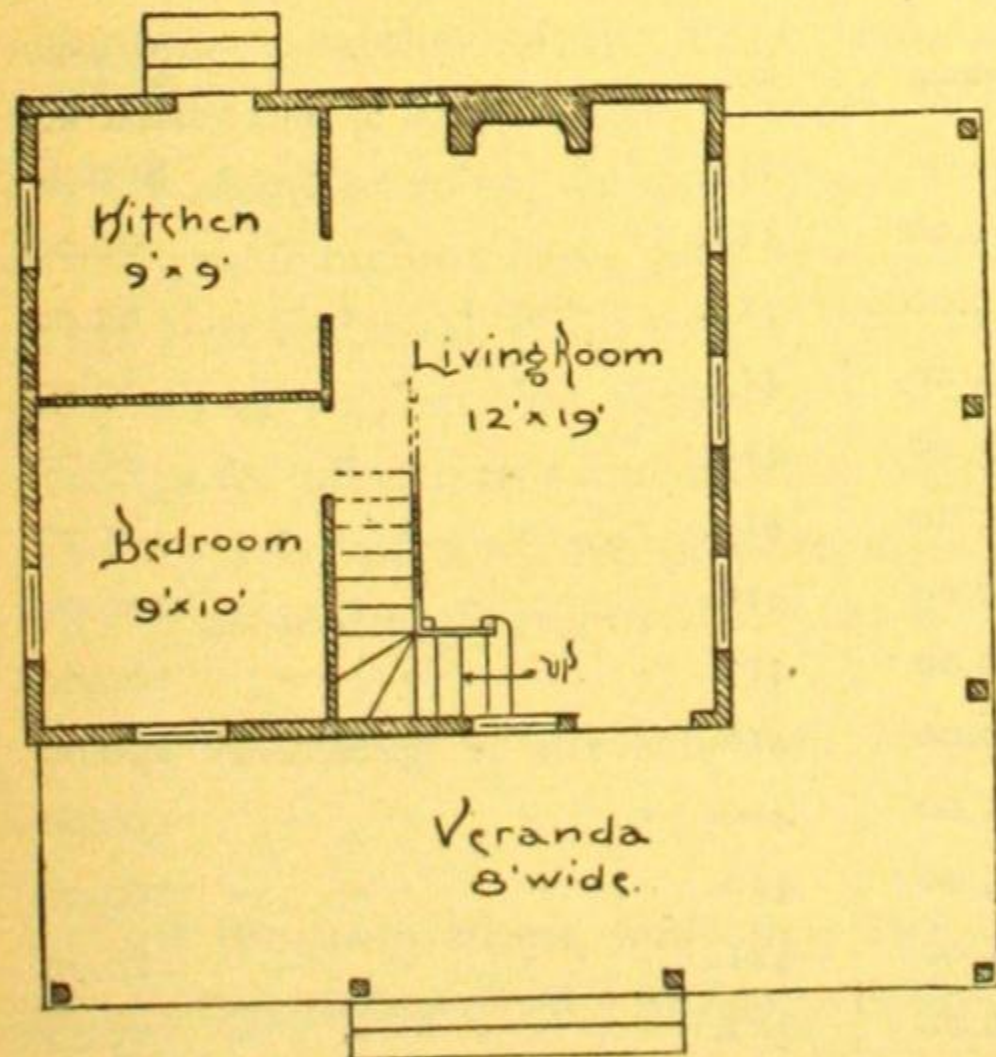
The interior walls are not plastered but are finished with red building paper; the studding and all wood-work is dressed and exposed to view and finished with varnish.

NOTES

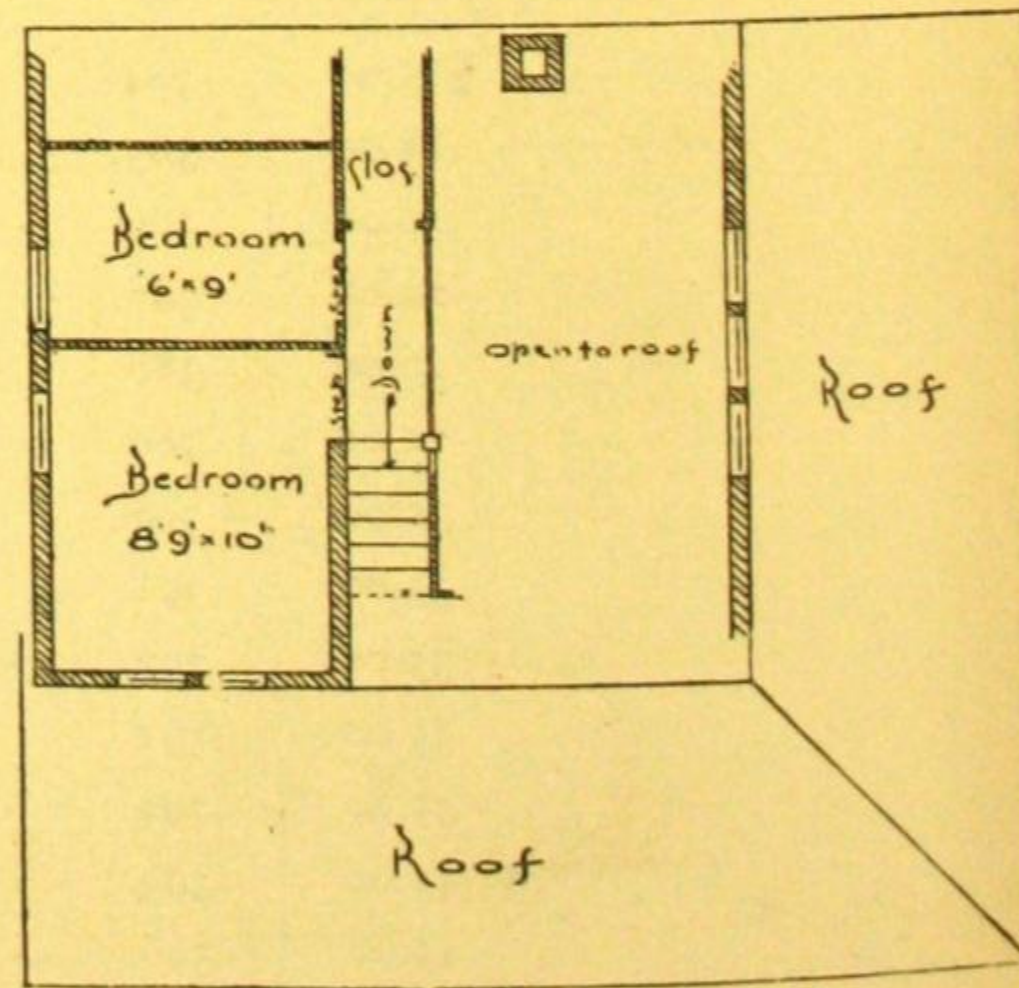
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

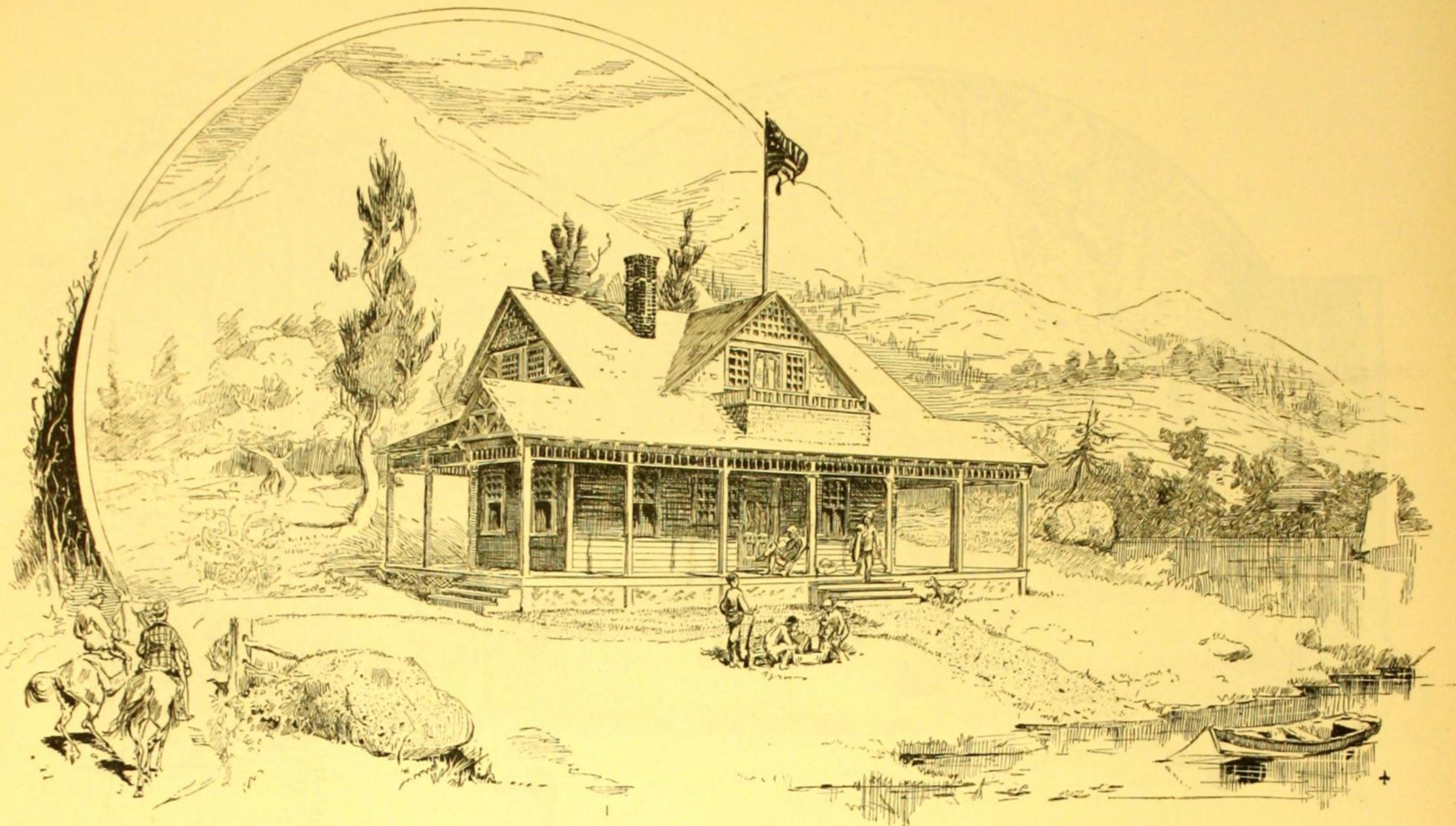
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 370



SECOND FLOOR. NO. 370



DESIGN No. 371. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 371

SIZE OF STRUCTURE: Front, 33 ft. Side, 16 ft.; these figures do not include verandas.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 3 ft. at walls, 9 ft. at centre.

MATERIALS: Foundation, wood posts; First Story, beveled siding; Second Story, beveled siding and shingling; Roof, shingles.

COST: \$800, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

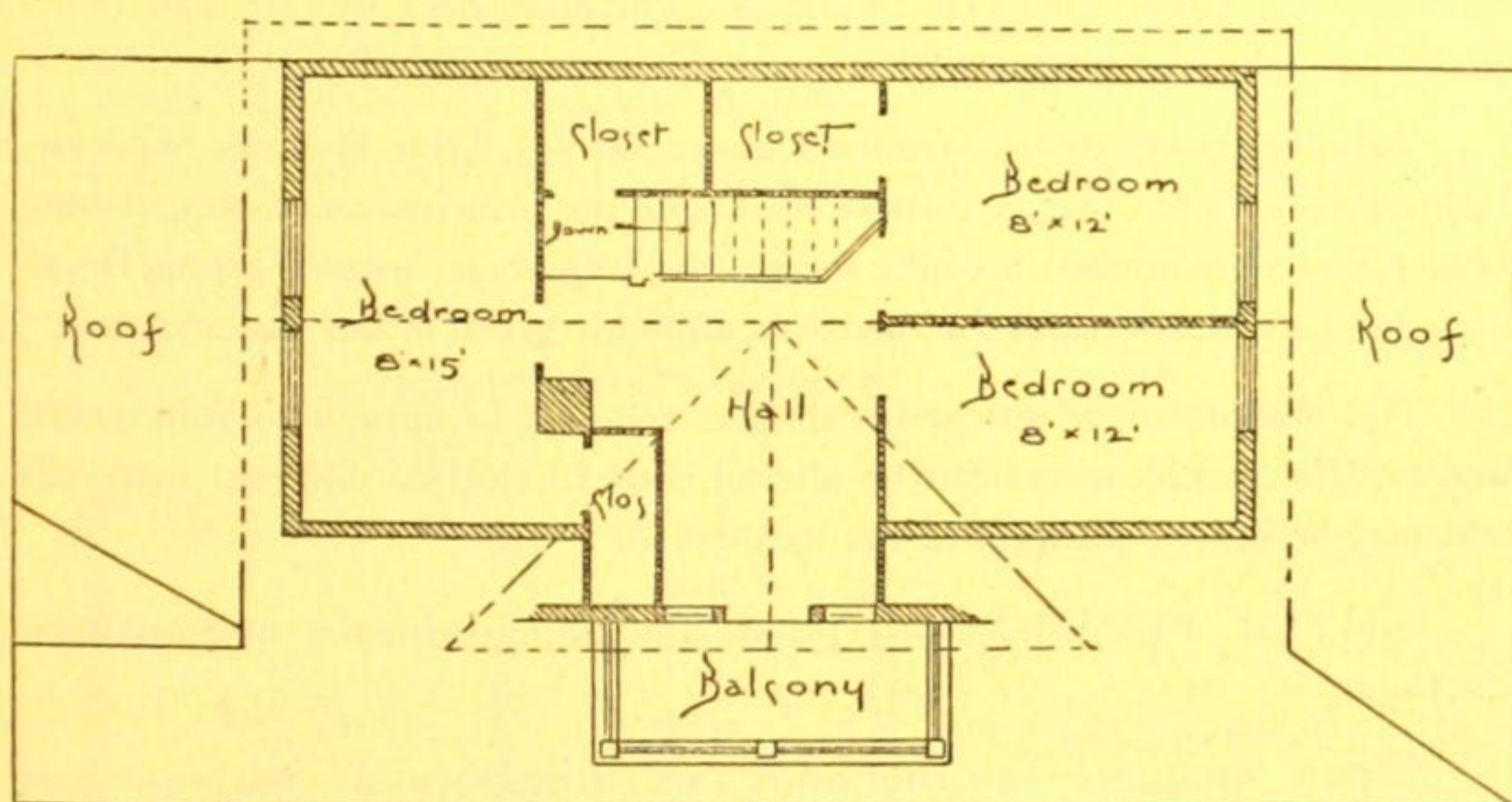
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Designed for a seaside or a mountain cottage; very suitable also for a shooting lodge or "box."

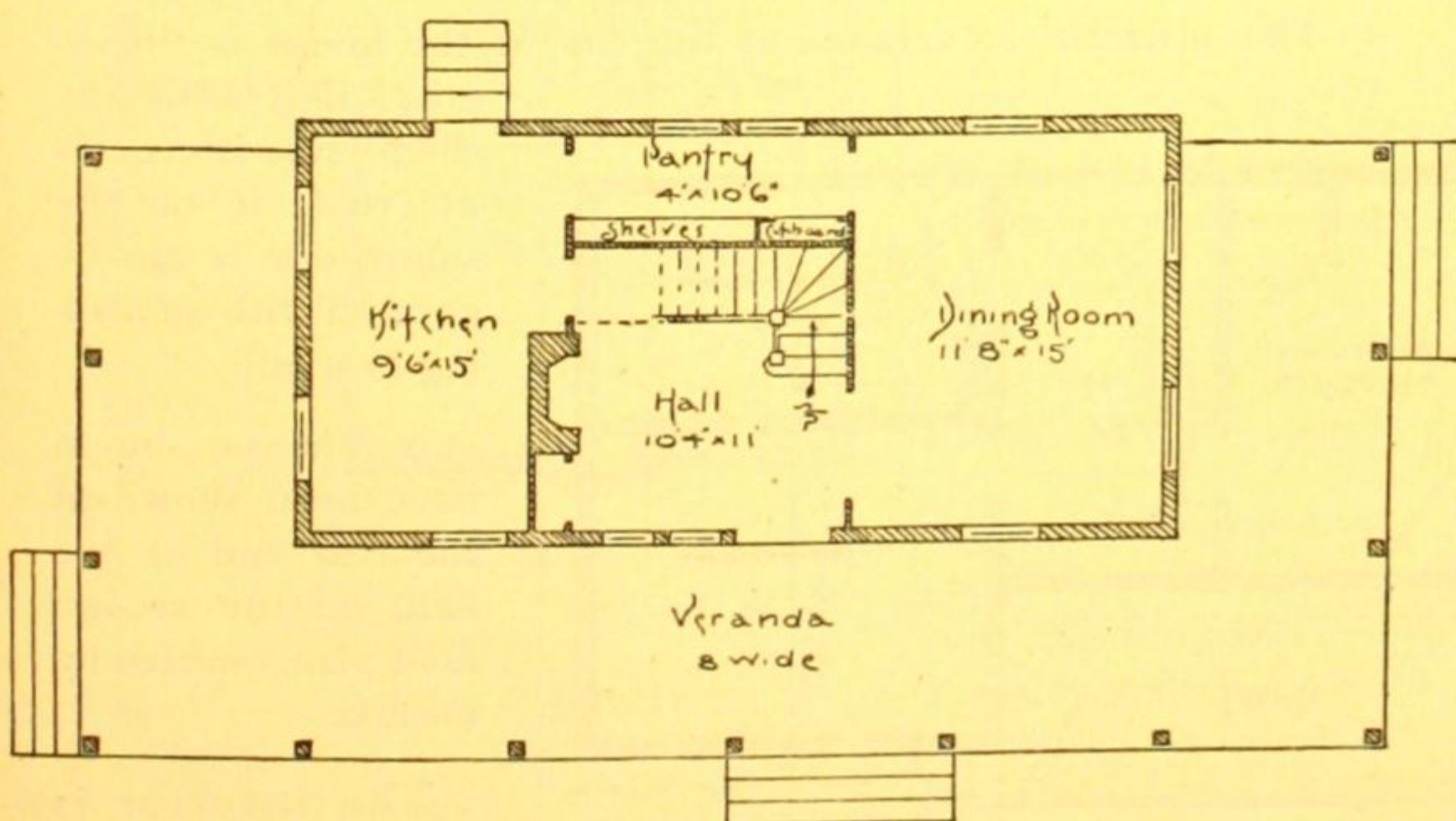
An open fire-place of quaint design in the hall; the same chimney gives a flue for the kitchen.

The hall makes a comfortable sitting-room.

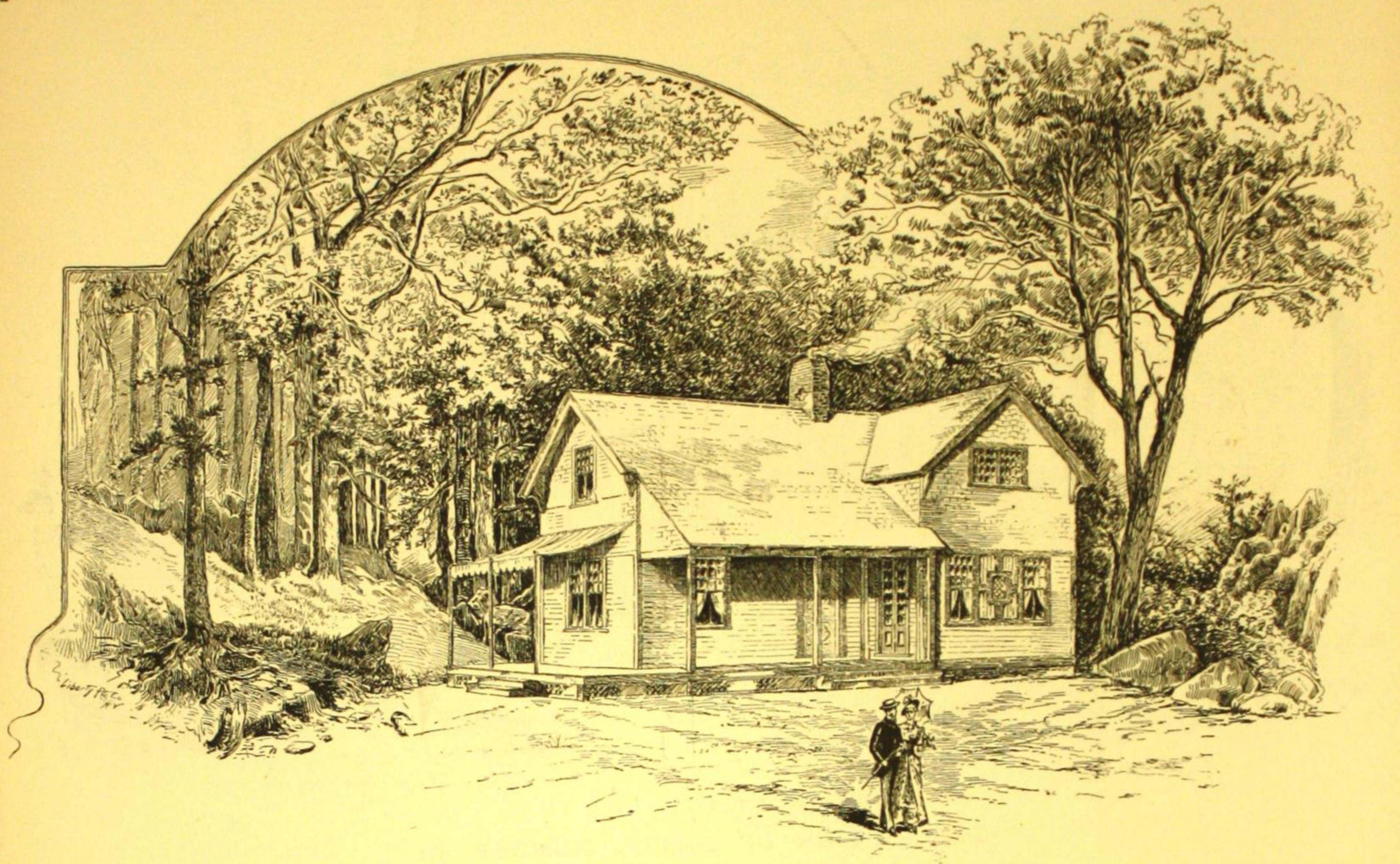
The interior is not plastered; it is finished with heavy red paper and the woodwork of frame is exposed to view and varnished. This finish is very appropriate for a summer cottage, makes a pretty appearance and is inexpensive.



SECOND FLOOR. NO. 371



FIRST FLOOR. NO. 371



DESIGN No. 372. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 372

SIZE OF STRUCTURE: Front, 36 ft. Side, 22 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$900, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different

dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A good seaside, mountain or Southern cottage.

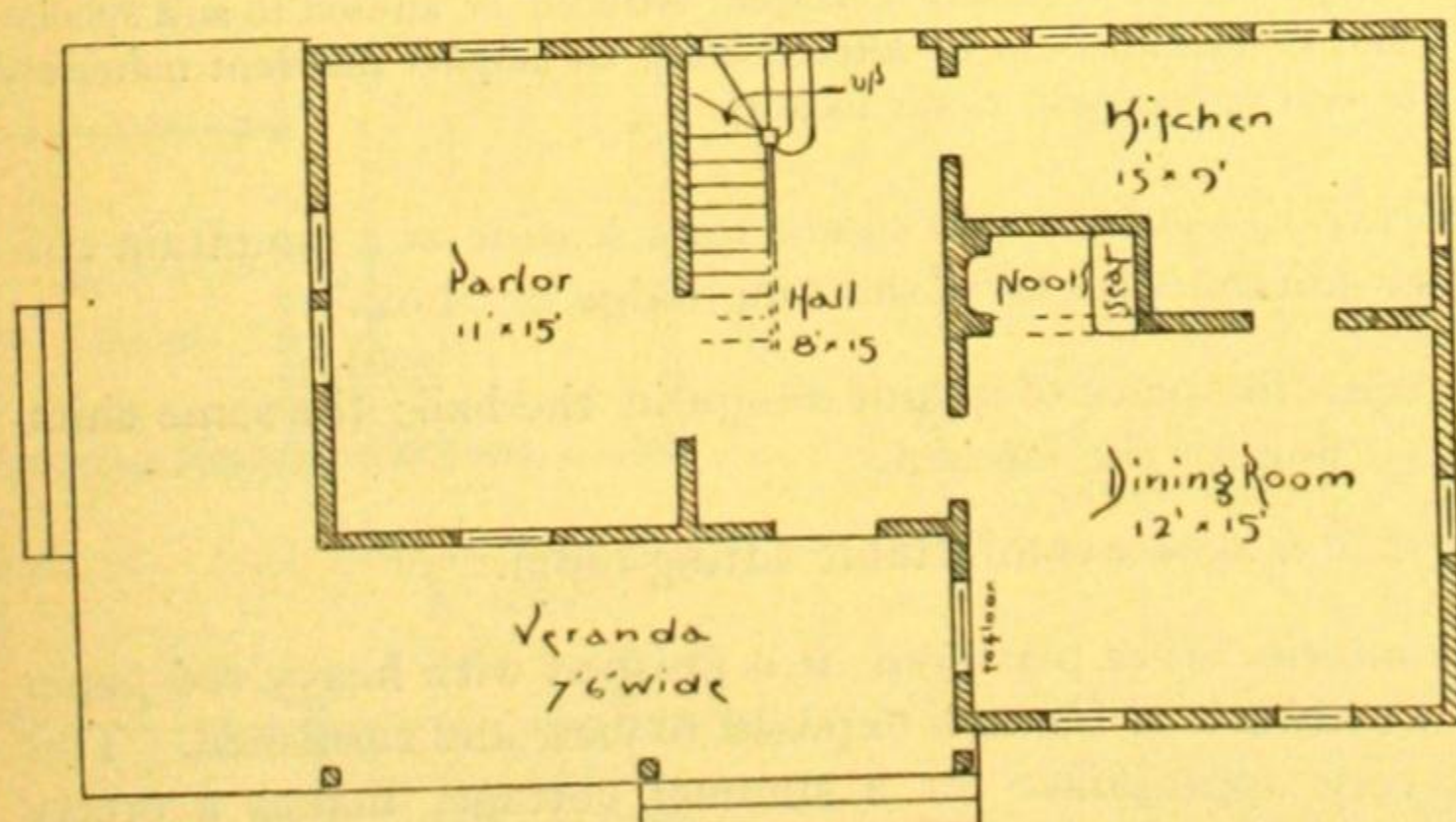
Open fire-place in the nook in dining-room, with a seat opposite it.

The platform or veranda at the end of the house is uncovered; if it is on the

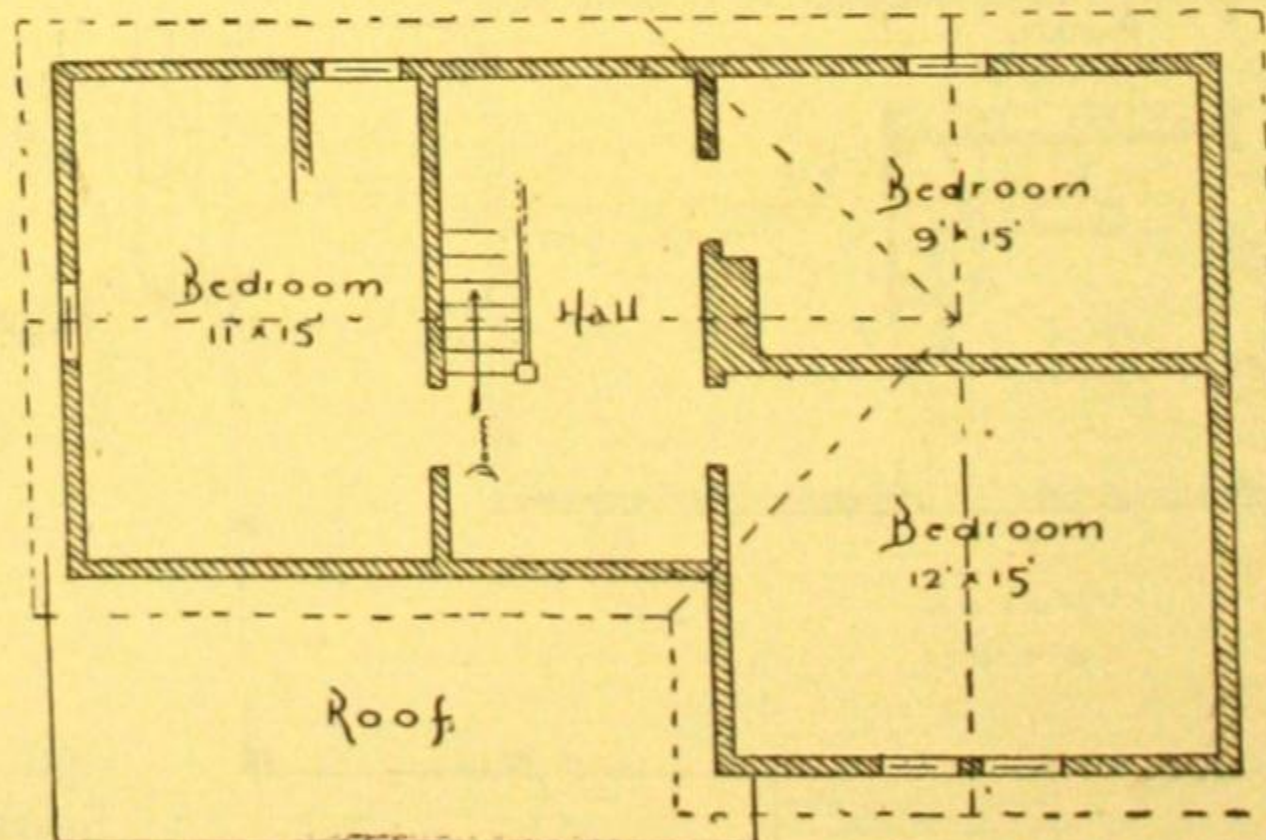
shady side it needs no roof, if on the sunny side it can be covered with an awning or a sail.

A window should have been shown at the rear end of the hall, on the second floor plan, omitted by mistake.

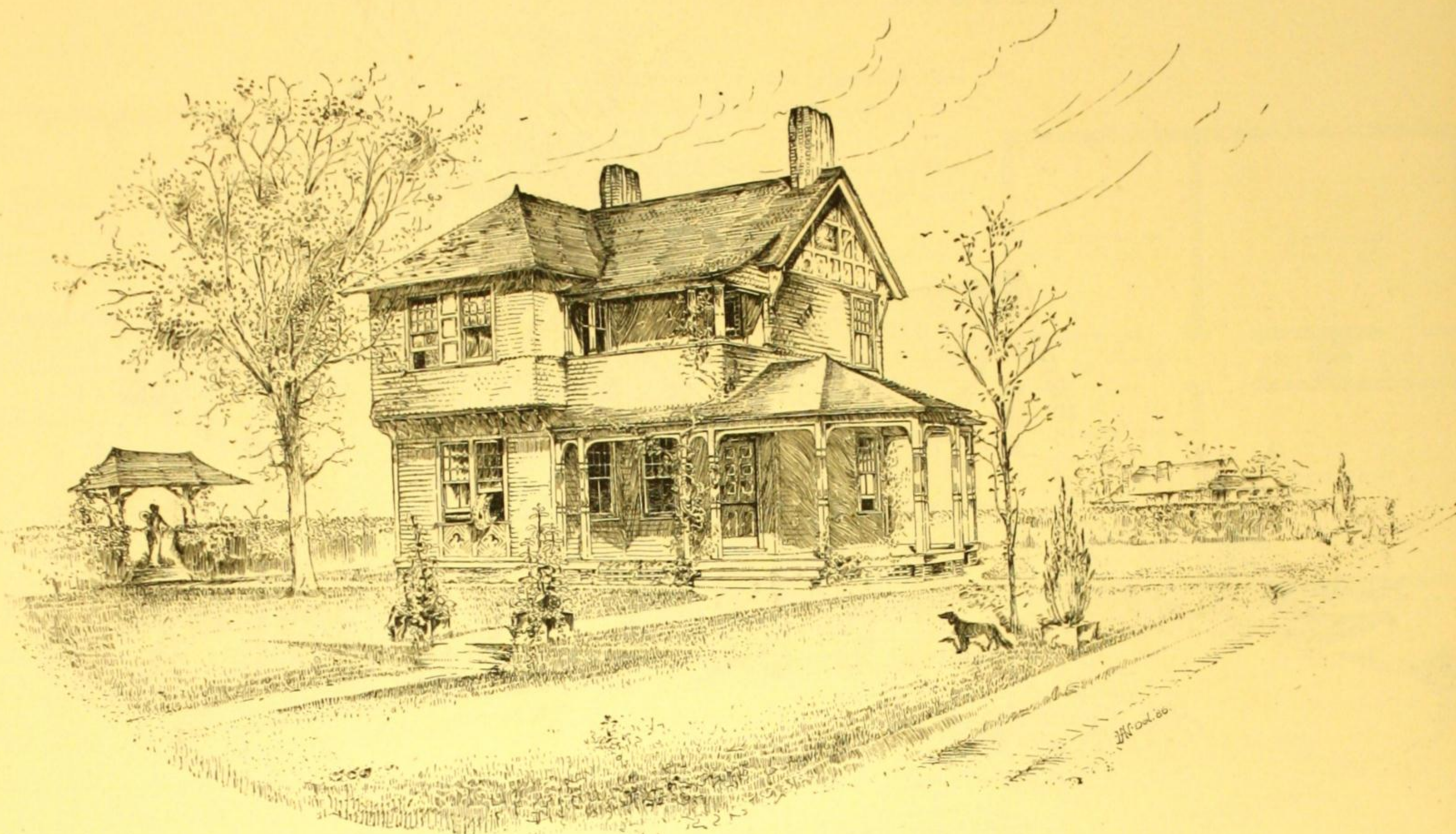
The interior is plastered.



FIRST FLOOR. NO. 372



SECOND FLOOR. NO. 372



DESIGN No. 373. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 373

SIZE OF STRUCTURE: Front, 24 ft., 6 in., including veranda.
Side, 31 ft., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 9 ft.

MATERIALS:

Foundation, brick piers;
First Story, clapboards;
Second Story, shingles;
Gables, panelled; Roof,
shingles.

COST: \$1,500, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities a different cost will be somewhat modified.

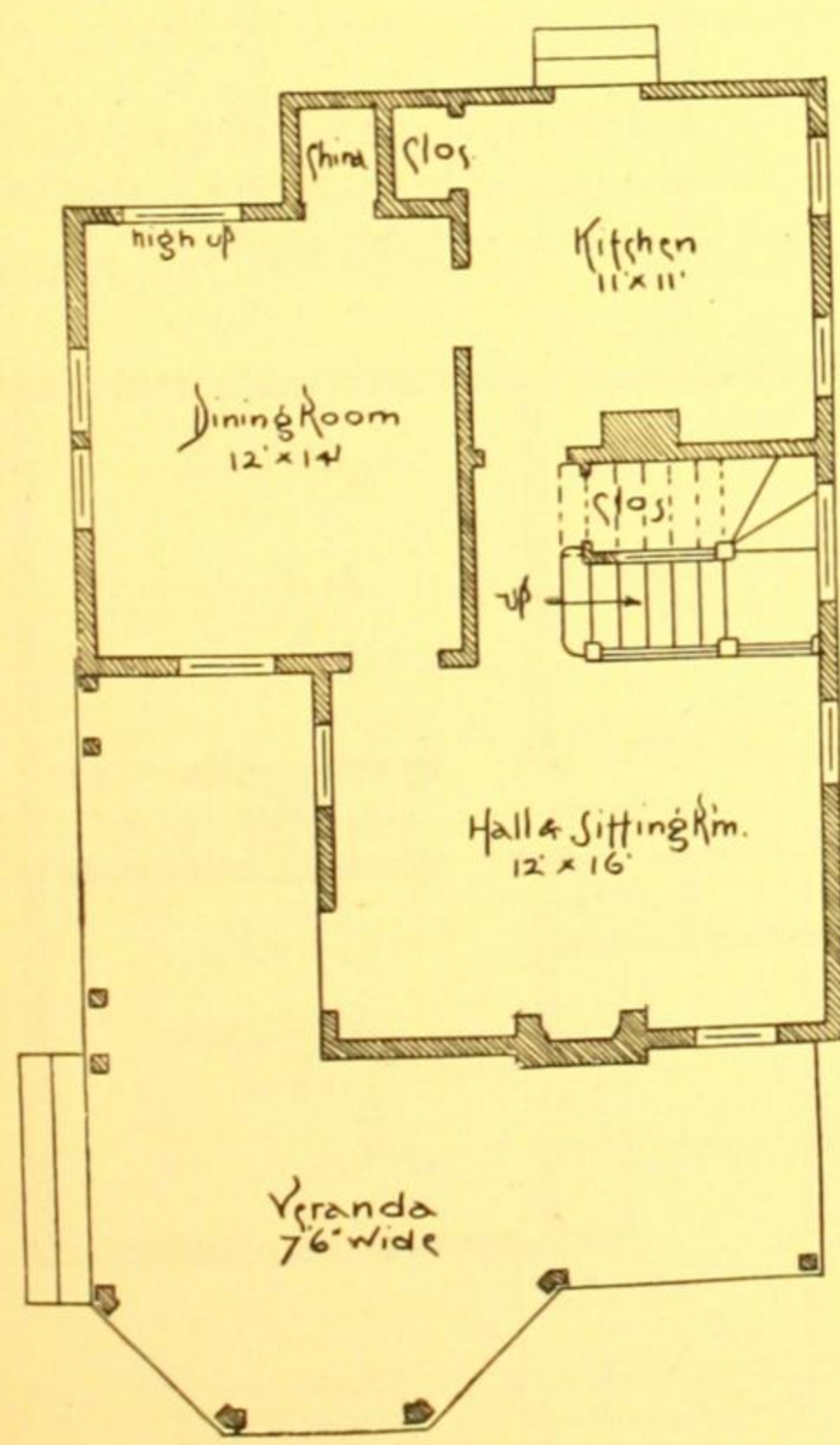
The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

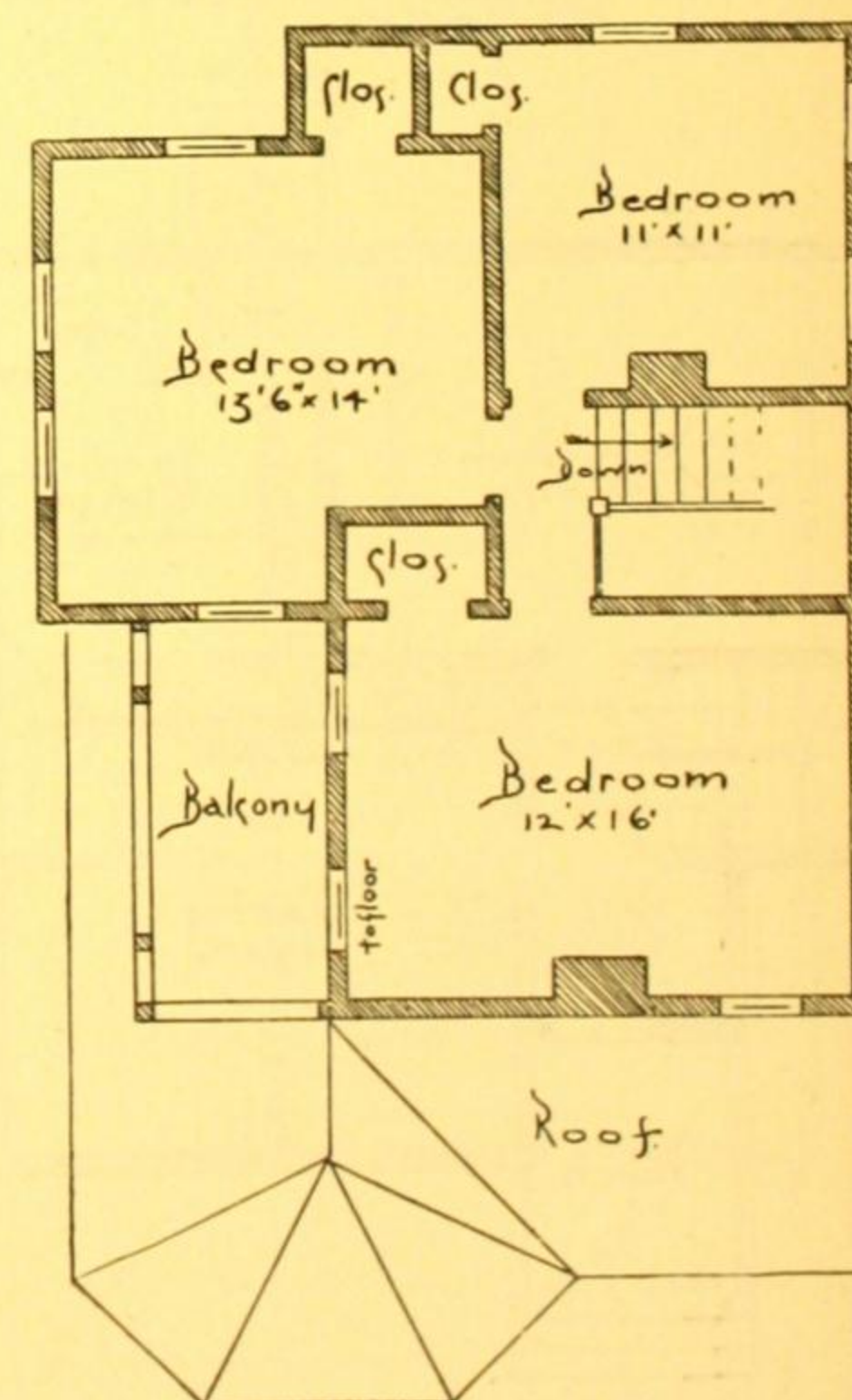
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The staircase is in view from the sitting-room and is made a pretty feature. Large closet under the staircase. Storage-room in the attic.

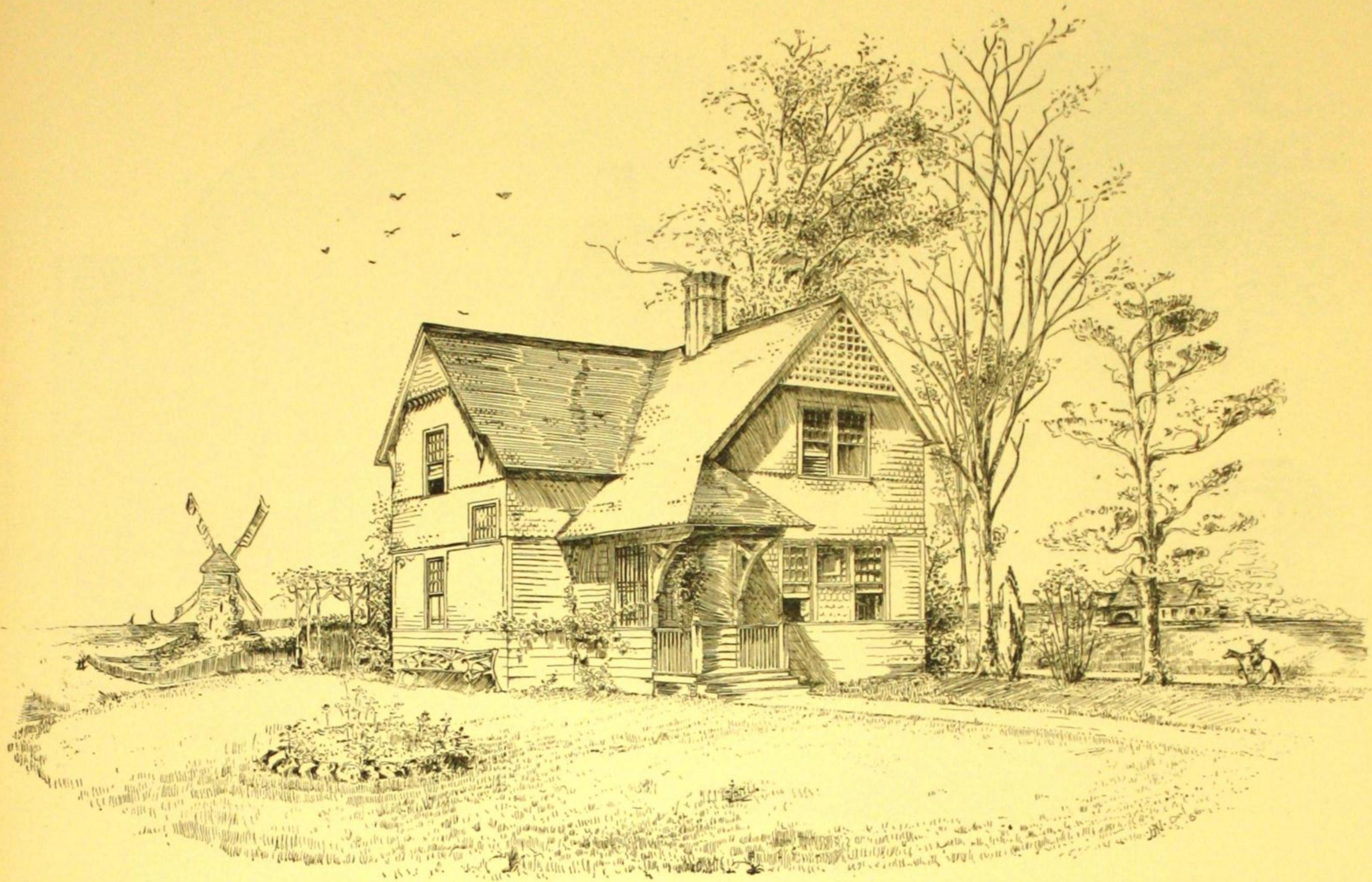
No cellar. The house is set on a foundation of brick piers.



FIRST FLOOR. NO. 373



SECOND FLOOR. NO. 373



DESIGN No. 374. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 374

SIZE OF STRUCTURE: 28 ft., 6 in., extreme width. Side, 28 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles.

Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Parlor and dining-room are of good size. As the dining-room in a small house is generally used as a sitting or living-room it is important that it be made not too small.

COST: \$1,150, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

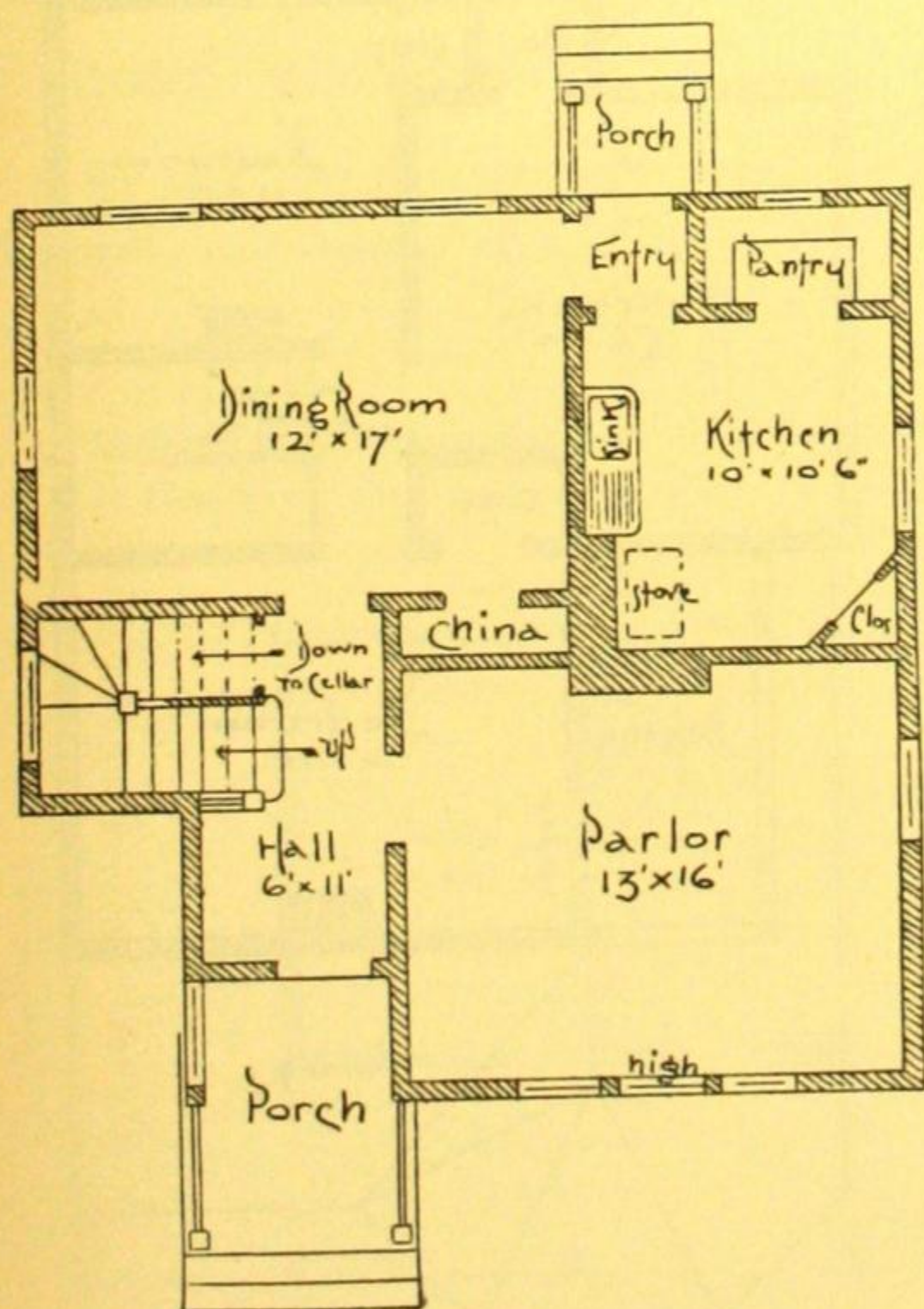
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish,

Three good bedrooms on the second floor.

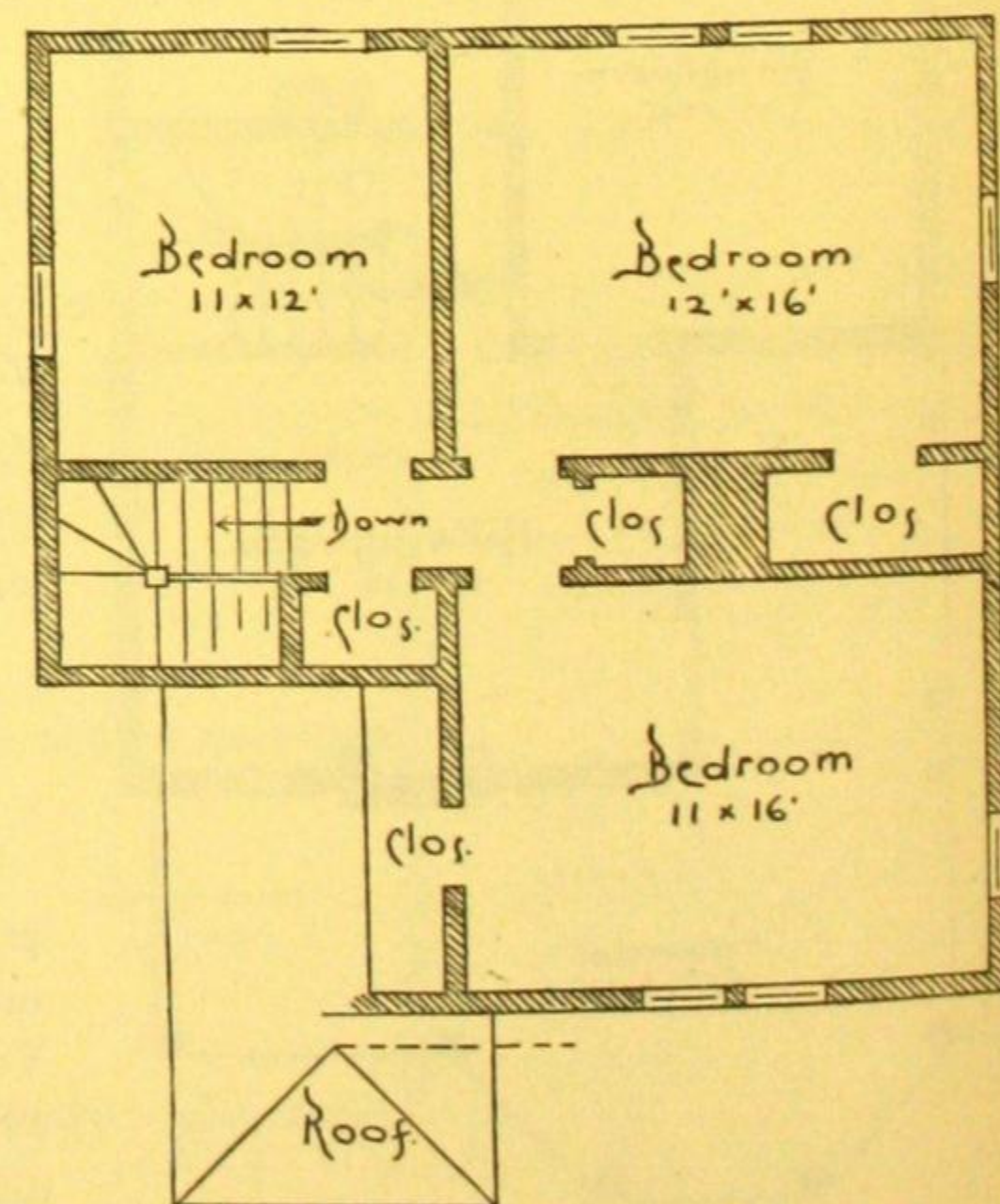
Cellar under the rear portion of house.

The parlor is thoroughly separated from the other parts of the house and can be easily kept very exclusive for the reception of callers and guests.

Properly painted (which our specifications minutely describe) this house presents a very attractive appearance.

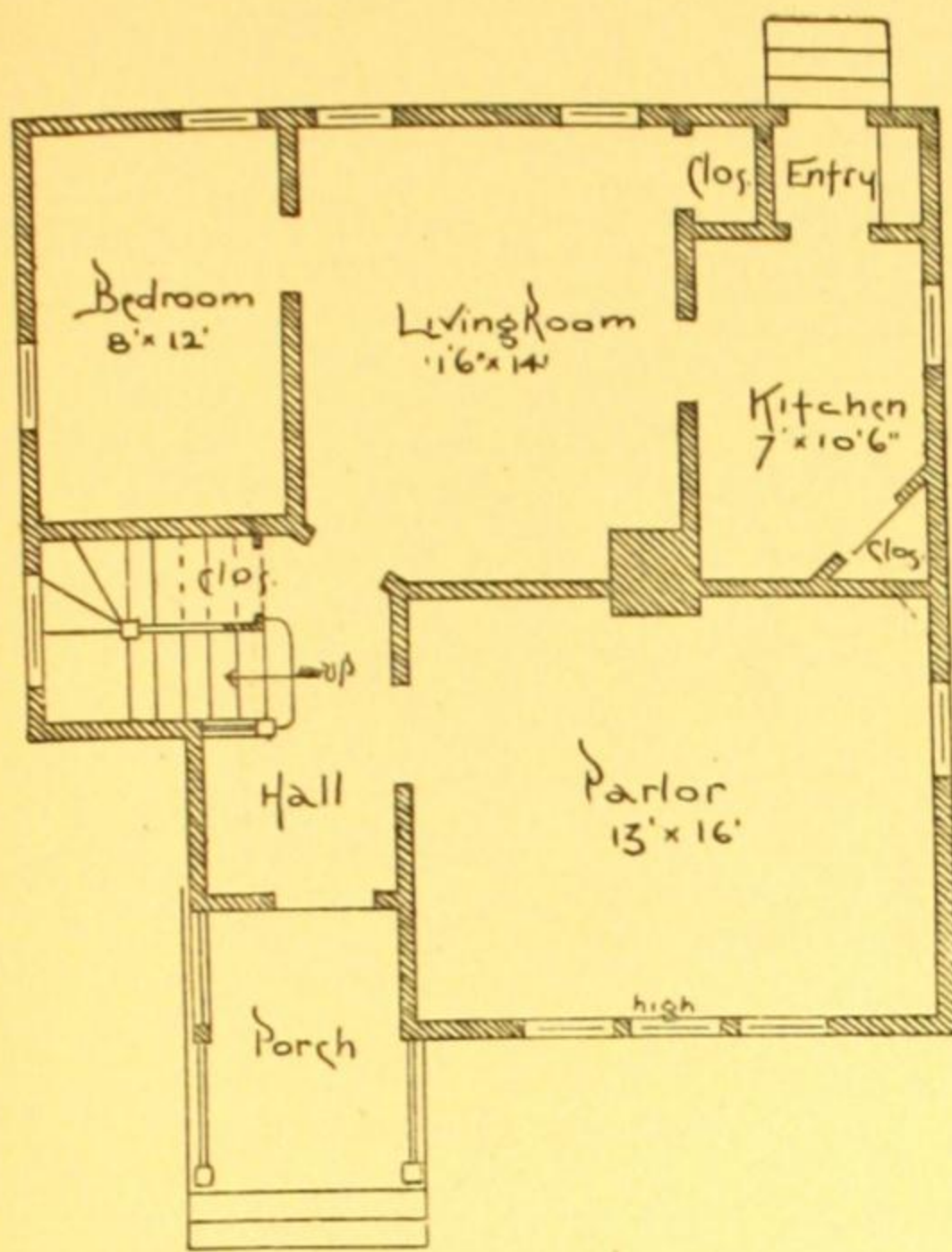


FIRST FLOOR. NO. 374



SECOND FLOOR. NO. 374

DESCRIPTION OF DESIGN NUMBER 375



FIRST FLOOR. NO. 375

Size of house, height of stories, materials and exterior appearance are the same as the preceding design.

The first floor is so arranged as to provide a bedroom, by making the kitchen and dining-room smaller.

No cellar; the foundations are brick piers.

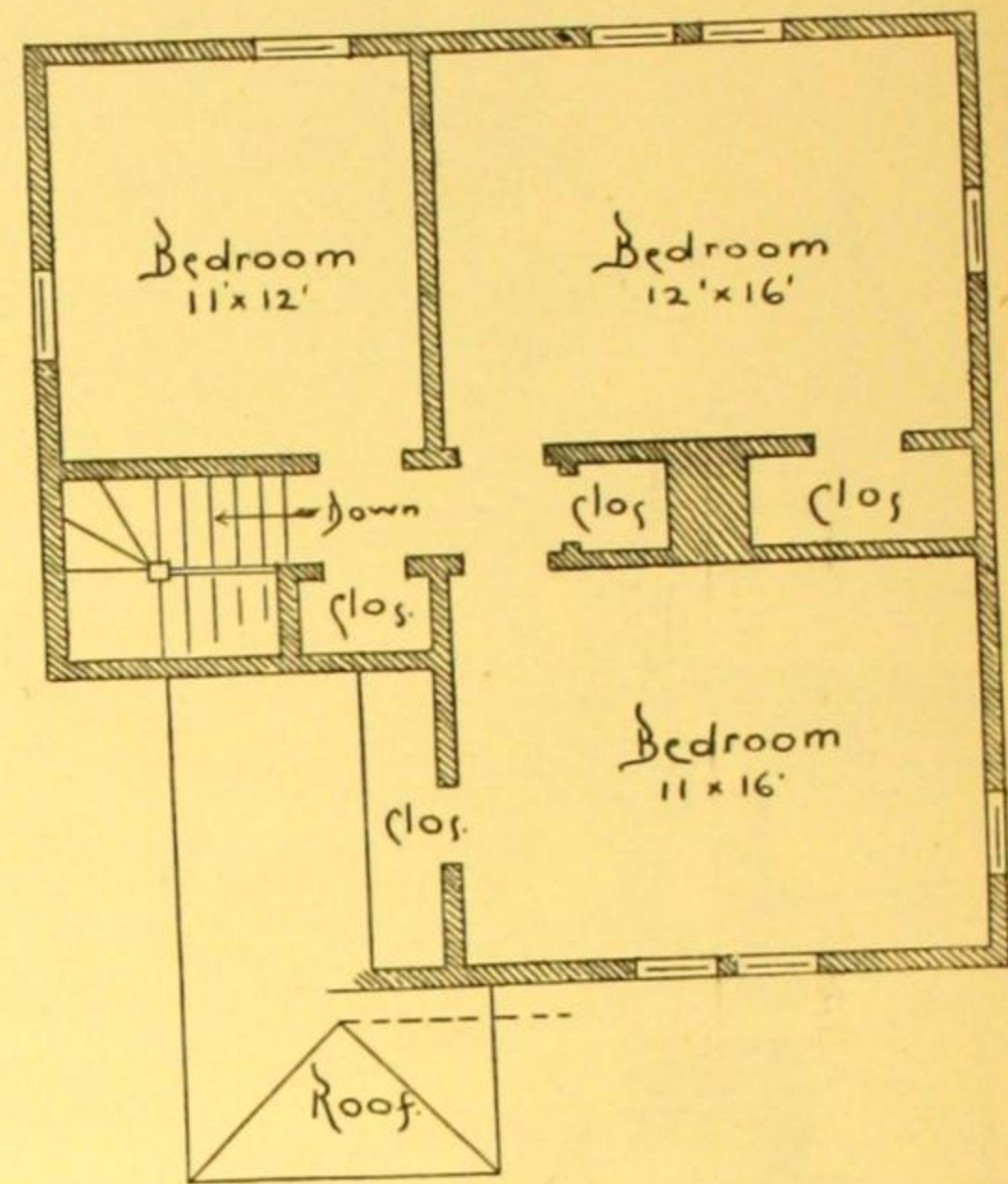
COST: \$1,100, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

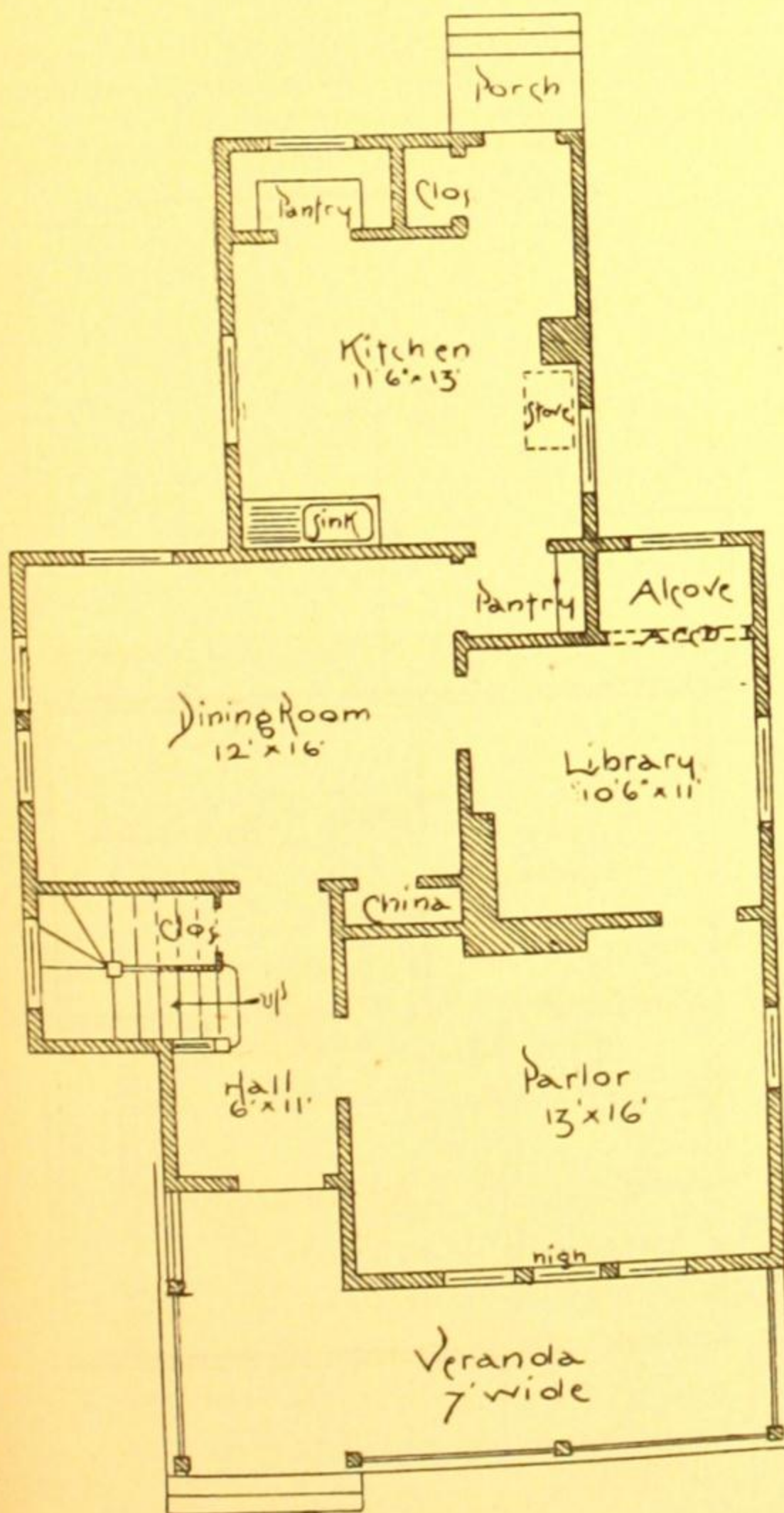
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 375

DESCRIPTION OF DESIGN NUMBER 375 (A)



FIRST FLOOR. NO. 375 (A)

Similar in height of stories, materials and exterior appearance to design No. 374. A kitchen extension 14 by 16 ft. is added, giving a library with an alcove, and a pantry between the kitchen and the dining-room.

The extension is carried high enough to give a large bath-room over it.

No cellar, the house being set on a foundation of brick piers, boarded over so as to make the house warm.

COST: \$1,600, complete, except range.

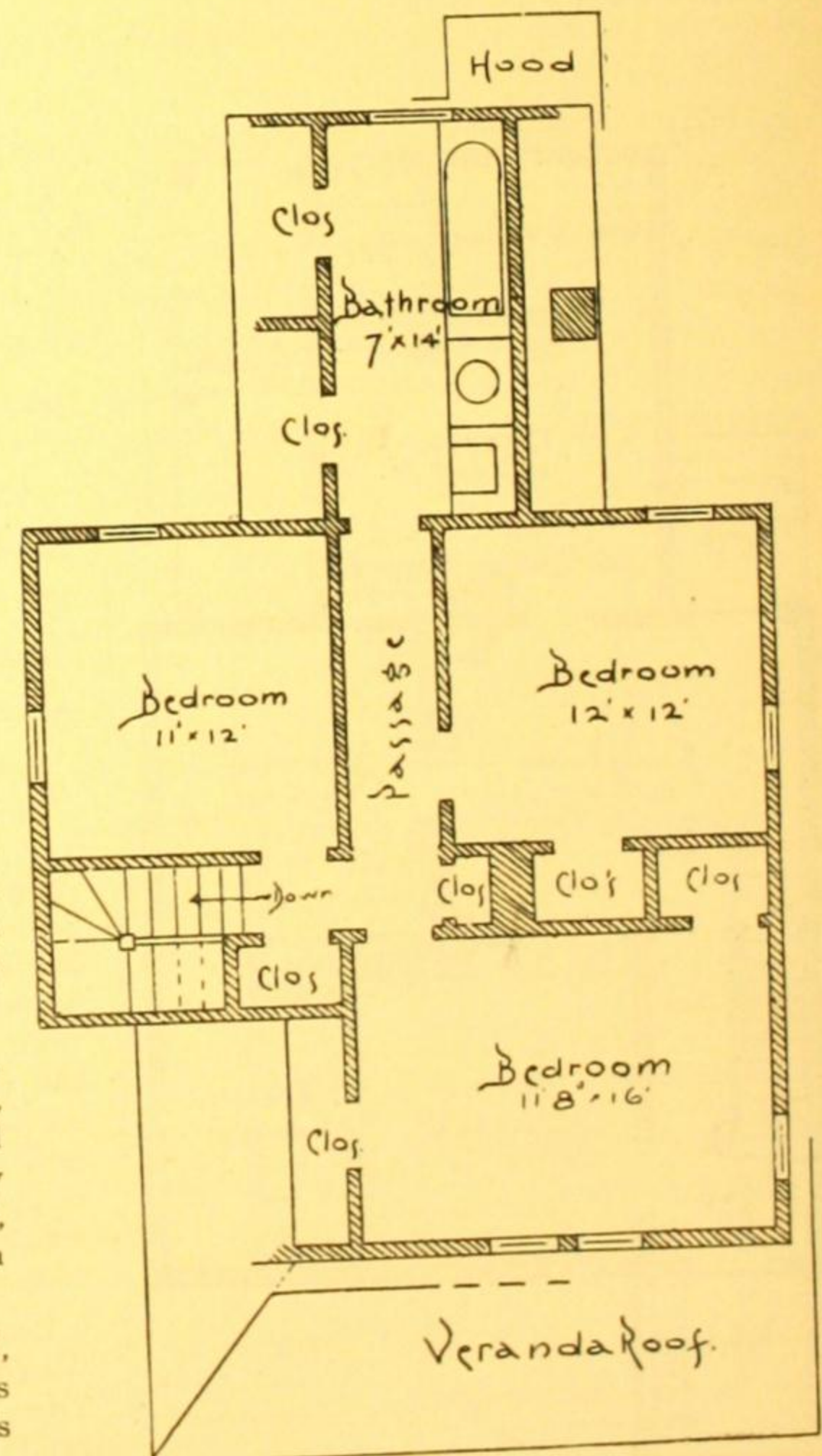
[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

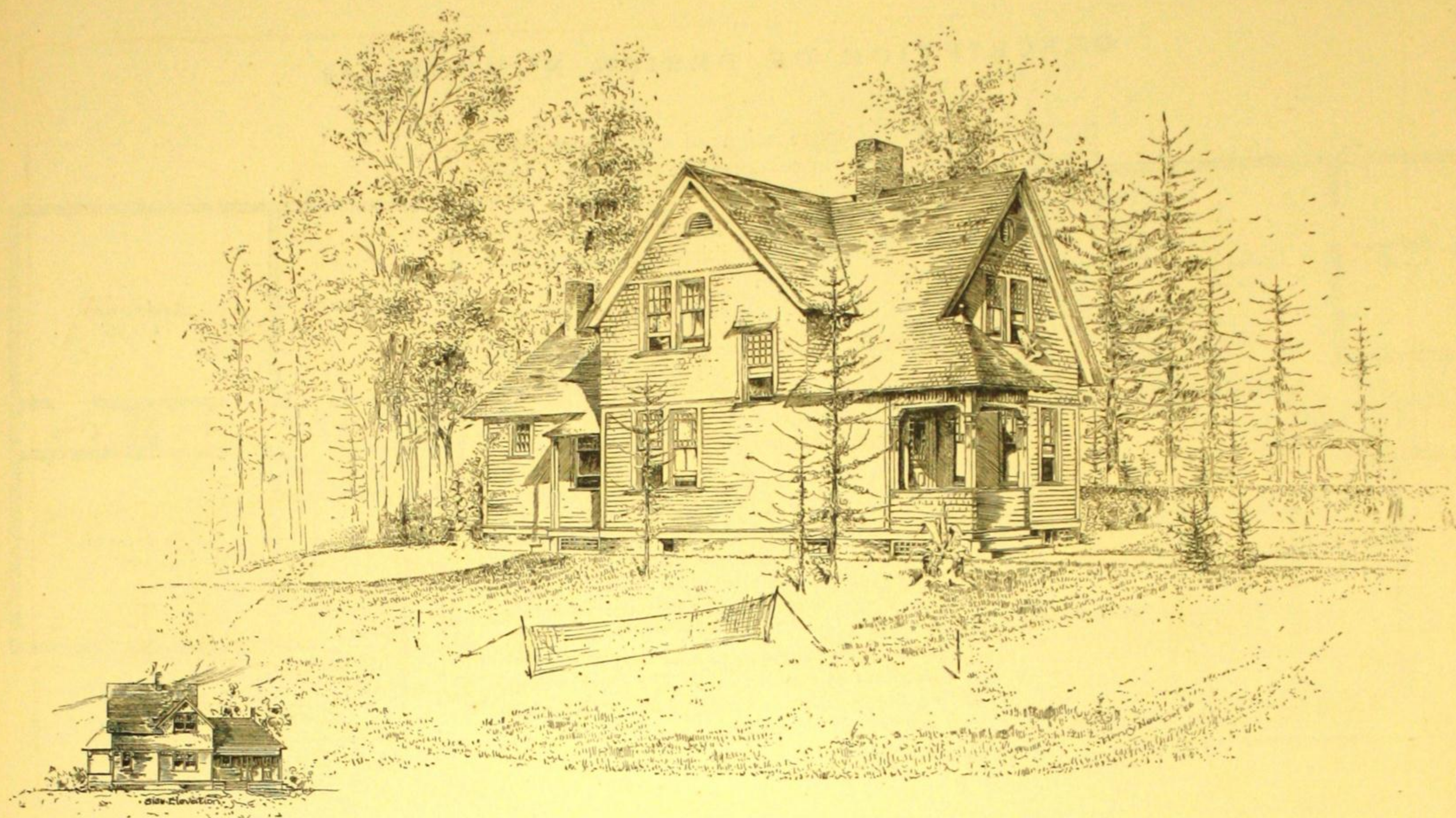
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 375 (A)



DESIGN No. 376. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 376

SIZE OF STRUCTURE: Front, 26 ft. Side, 44 ft.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.;
 Second Story, 8 ft., 4 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,200, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, Sept., 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguish-

ing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—

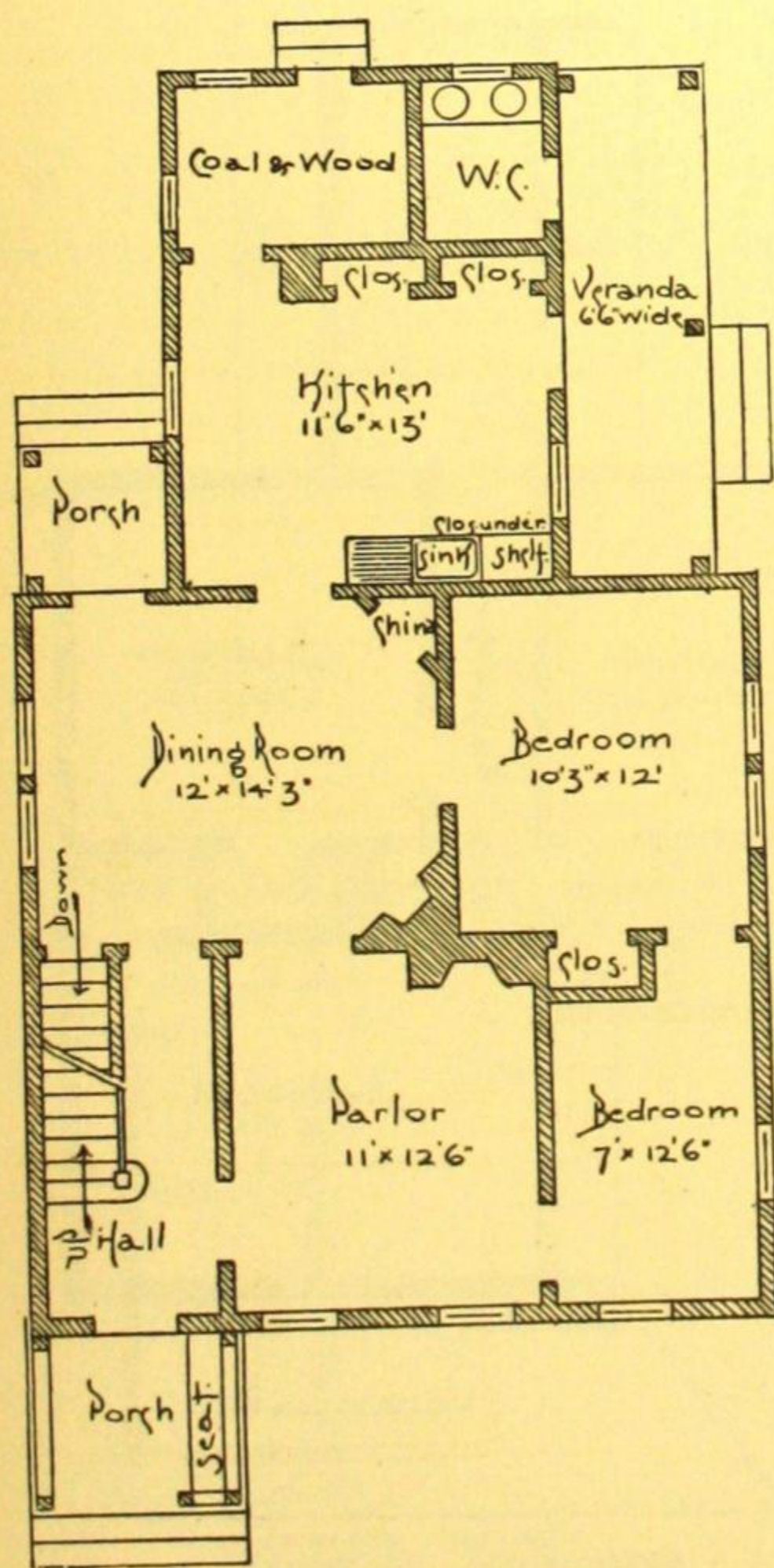
Two bedrooms on the first floor. If preferred, the parlor and small bedroom can be combined to make one room 12 ft., 6 in. by 18 ft., 6 in.

Open fire-places in the parlor and in the dining-room. Flue connections for the bedrooms.

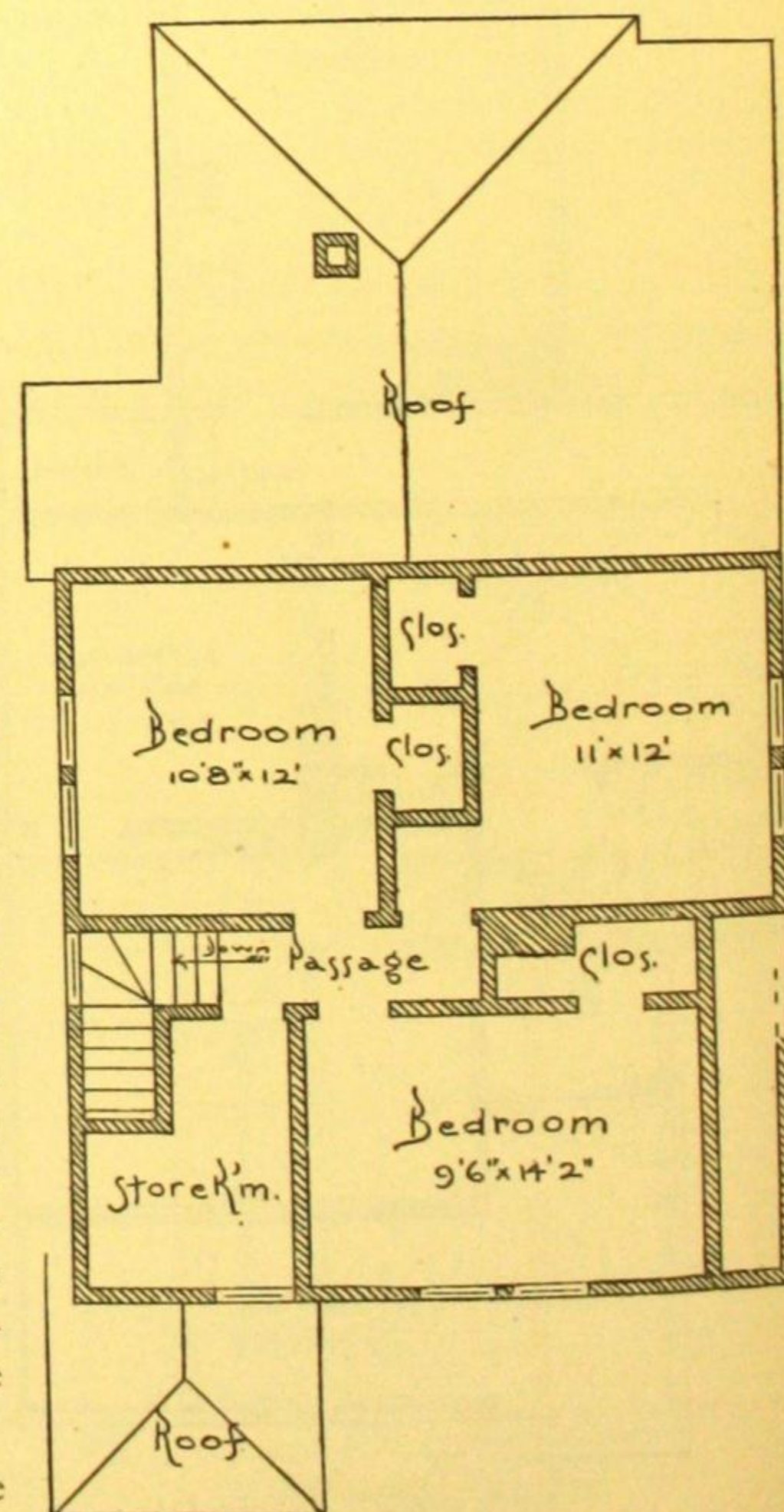
An earth closet is provided, entered from the side porch.

The bedrooms of the second floor are slightly cut by the roof; the rooms are cooled by a current of air which is allowed to pass from the outside through openings under the eaves, between the plastering and the rafters, and out through the attic windows.

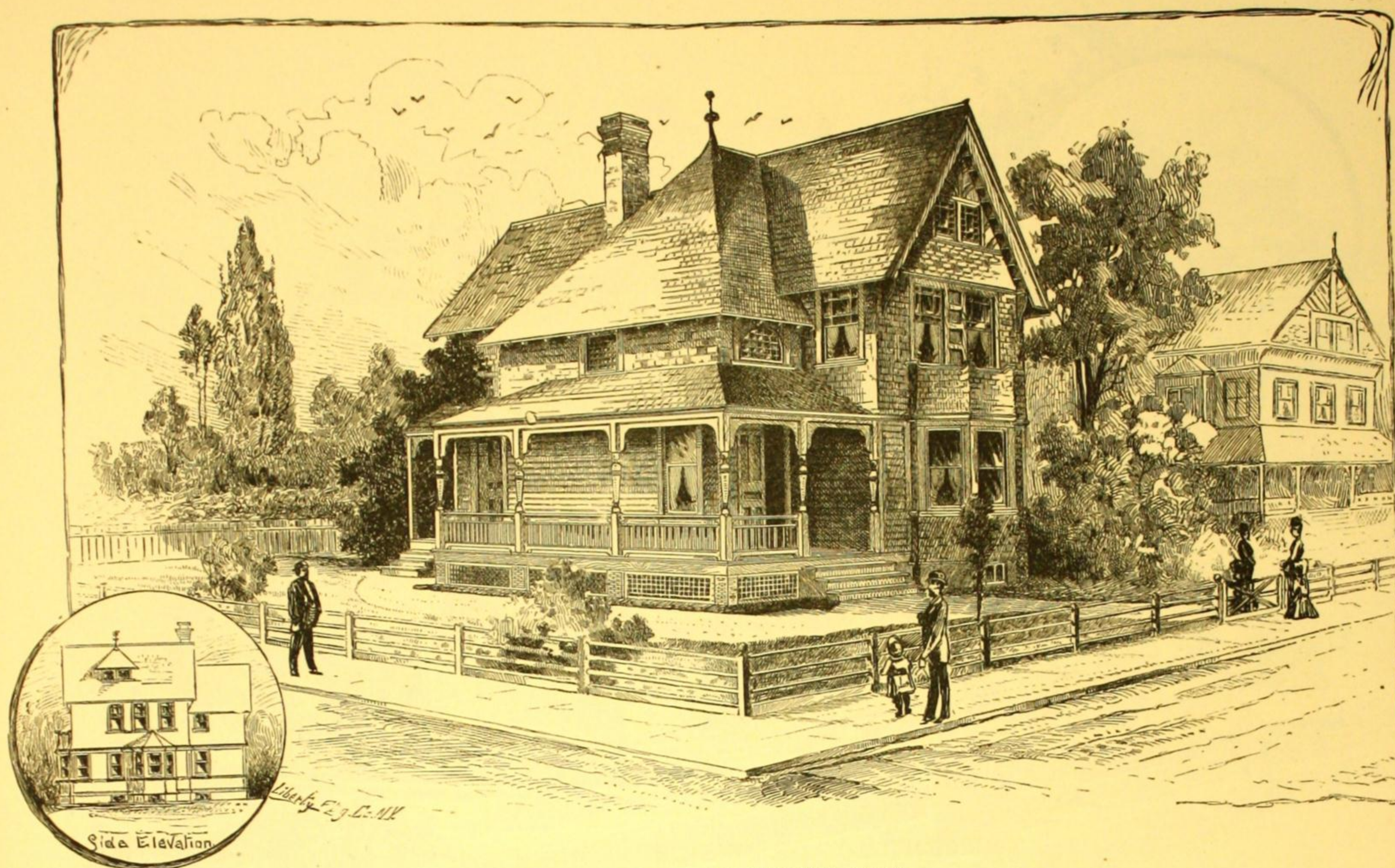
Cellar under the whole house.



FIRST FLOOR. NO. 376



SECOND FLOOR. NO. 376



DESIGN No. 377. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 377

SIZE OF STRUCTURE: Front, 23 ft., 6 in., not including veranda.
Side, 40 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,500, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be revised, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Ample veranda. Parlor and dining-room are connected by sliding doors.

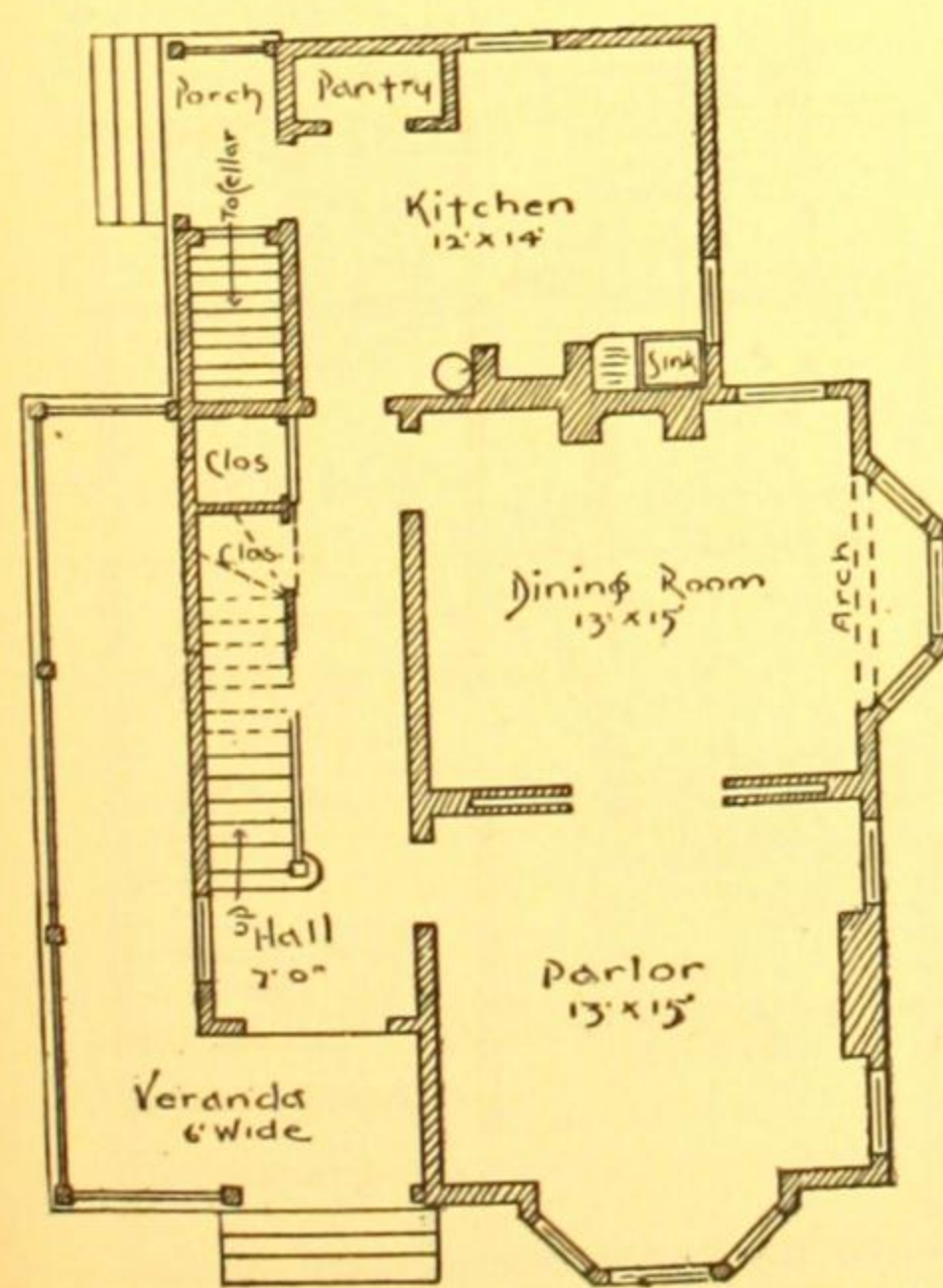
An open fire-place in the dining-room; false chimney breast in the parlor.

Cellar under the whole house with 8 in. brick walls. Attic, unfinished.

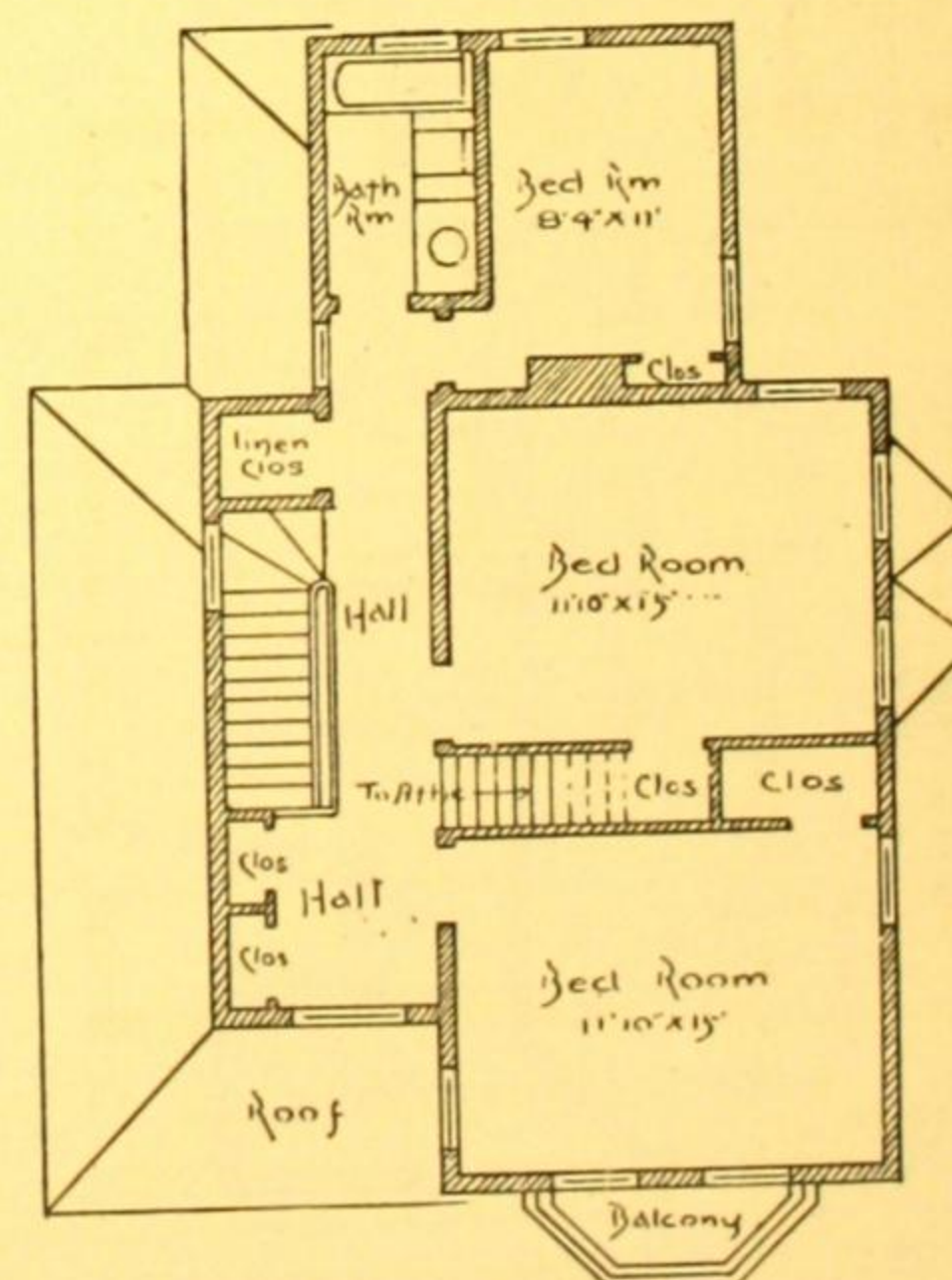
Cottages like this should recommend themselves to rising young men. Its accommodations are ample for a small family. Its appearance should satisfy the most cultured taste. There is a nice appropriateness in a young man of moderate means owning and occupying a house that meets the approval of the community as well as of himself.

Neighbors will talk, and a new house affords a fine subject. All they can say of this is that it is a credit and an ornament to the neighborhood, and (probably) that it is well within the means of the owner.

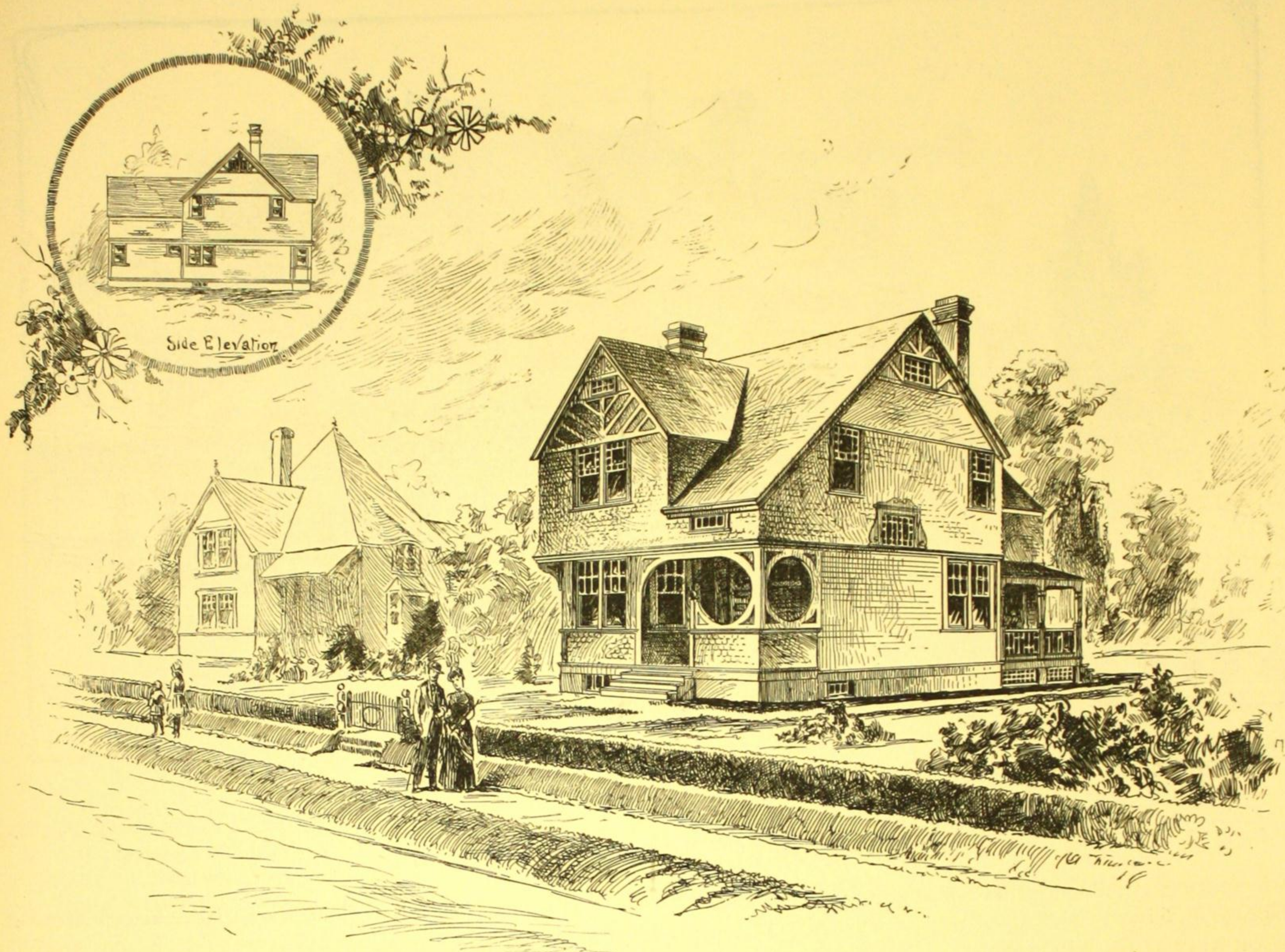
In after years when ampler means and a larger family warrant and require it, this structure can be moved back on the plot (an easy matter with a small house) and a larger and more pretentious dwelling can be erected on the same site.



FIRST FLOOR. NO. 377



SECOND FLOOR. NO. 377



DESIGN No. 378. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 378

SIZE OF STRUCTURE: Front, 23 ft., 6 in. Side, 43 ft., 6 in.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.;
 Second Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story,
 clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,400, complete, except mantels and heater.

[See page 219 for information about details, specifications,
 bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

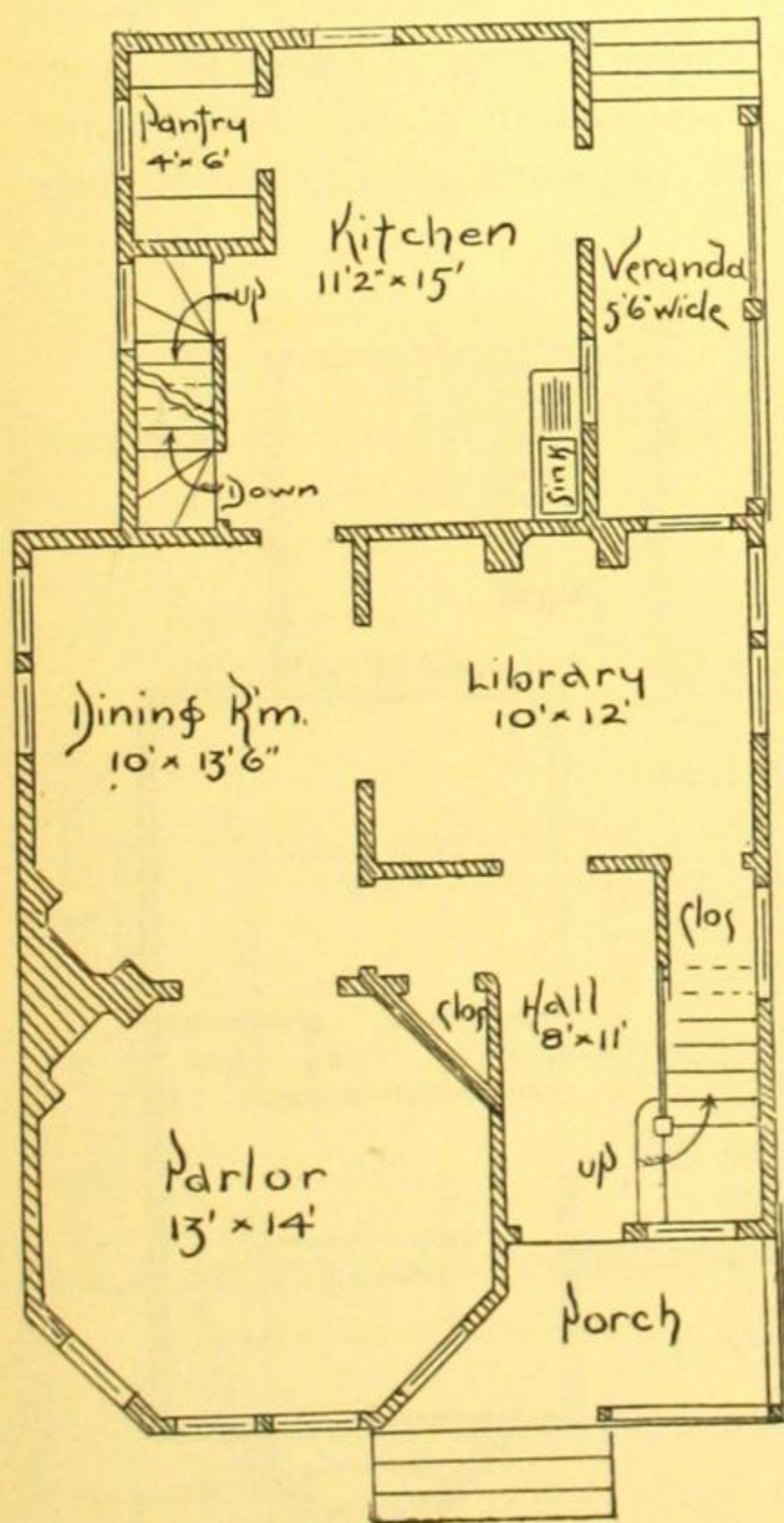
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A compactly arranged plan.

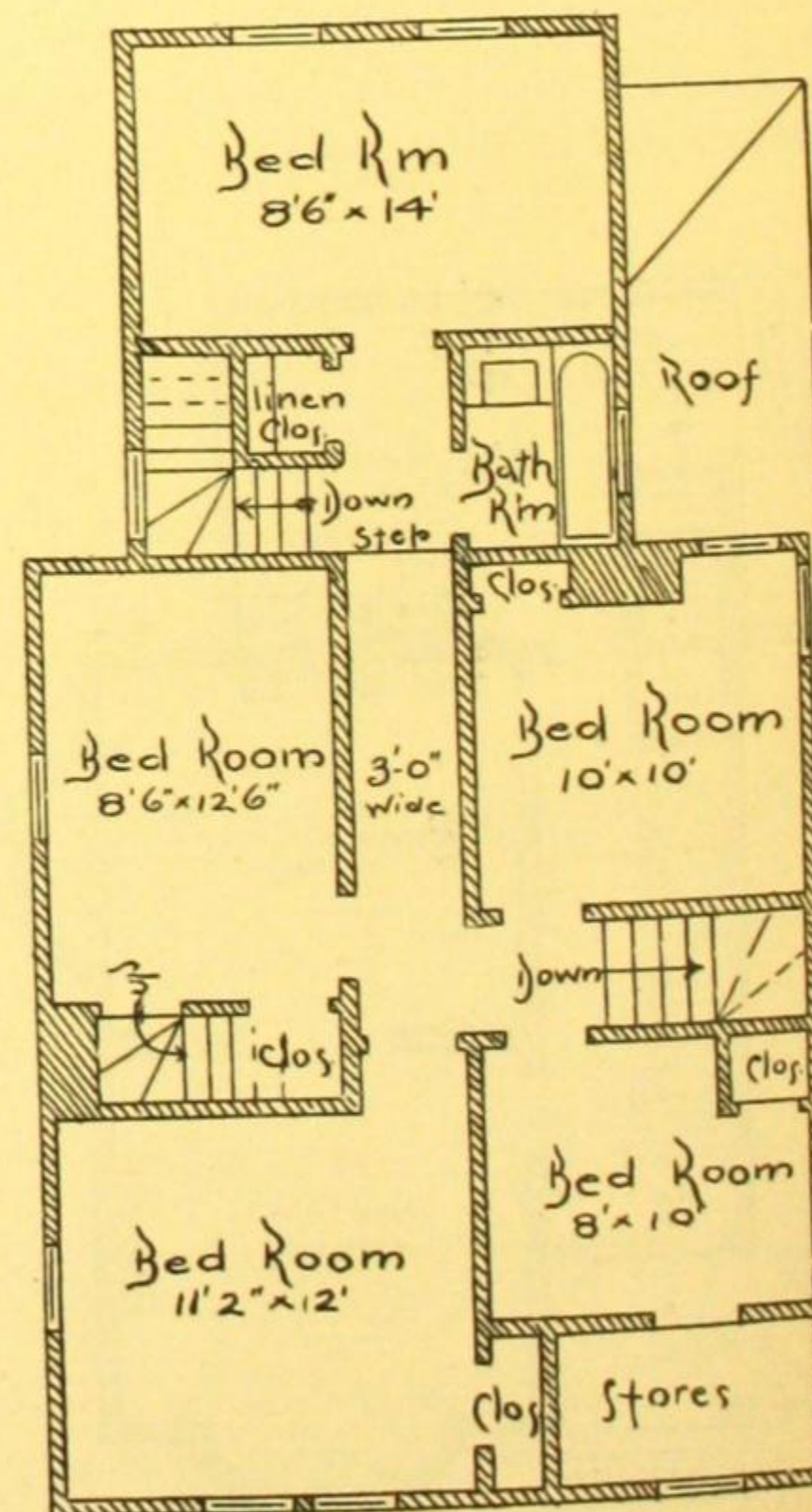
Open fire-places in the parlor, dining-room and library.

Five bedrooms and a bath-room on the second floor. The attic is unfinished.

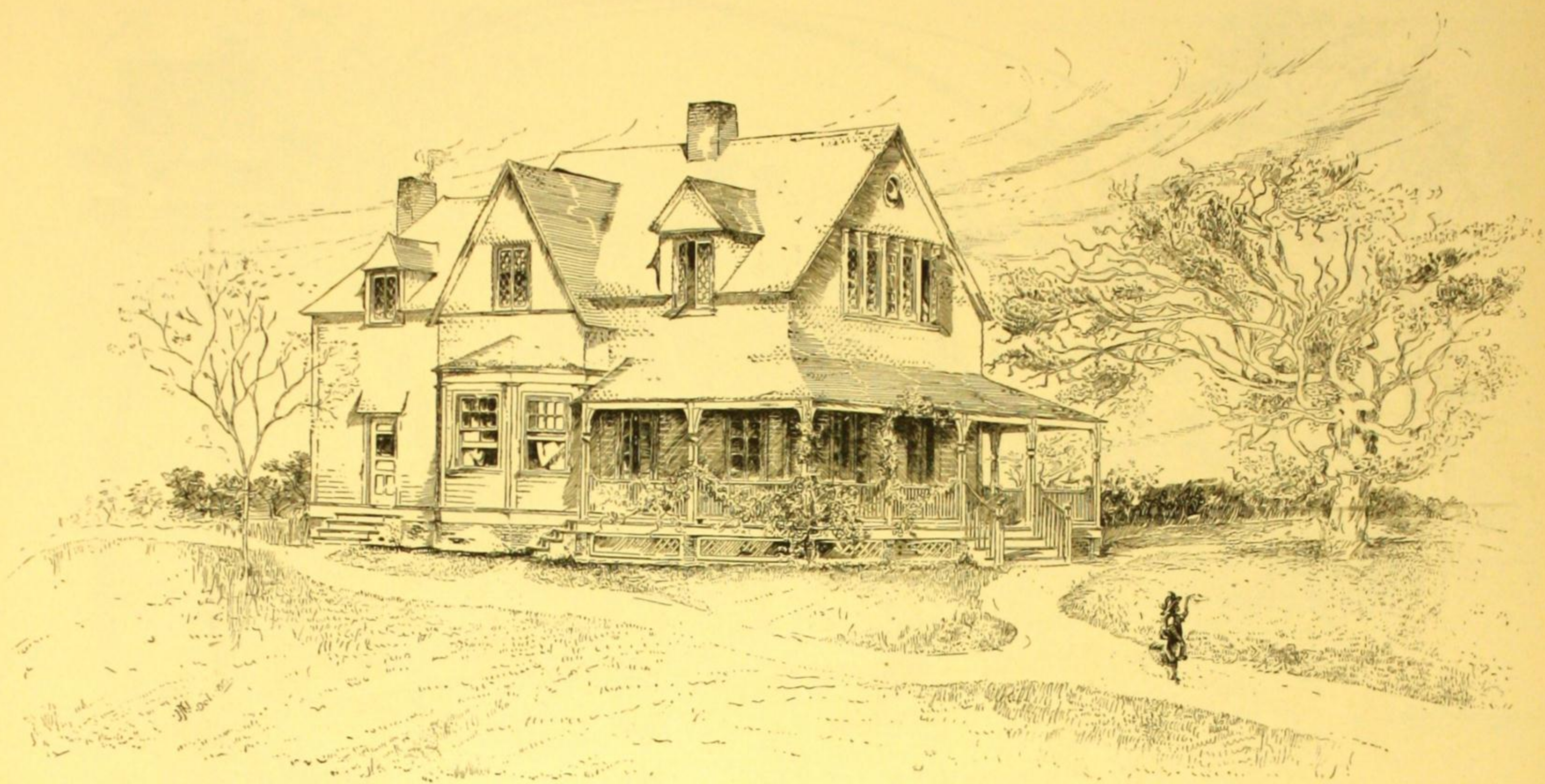
Cellar under the whole house. Heater pipes and registers are provided, ready for connection with a furnace.



FIRST FLOOR. NO. 378



SECOND FLOOR. NO. 378



DESIGN No. 379. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 379

SIZE OF STRUCTURE: Front, 23 ft., 4 in.; including verandas, 35 ft., 6 in. Side, 43 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 10 in.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,500, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The staircase hall is 10 x 11 ft.

Open fire-places in the parlor, the sitting-room and the dining-room.

The vestibule door is made to slide so as not to interfere with the passage to the stairway.

Five good bedrooms on the second floor. The attic is only available for storage purposes.

Well ventilated, so as to make the rooms of second floor comfortable in warm weather.

Back stairway from the kitchen to the second floor.

Sliding doors between the sitting and the dining-rooms.

The side walls of the second story, where cut by the roof, are 4 ft high to the point where the slant of roof begins.

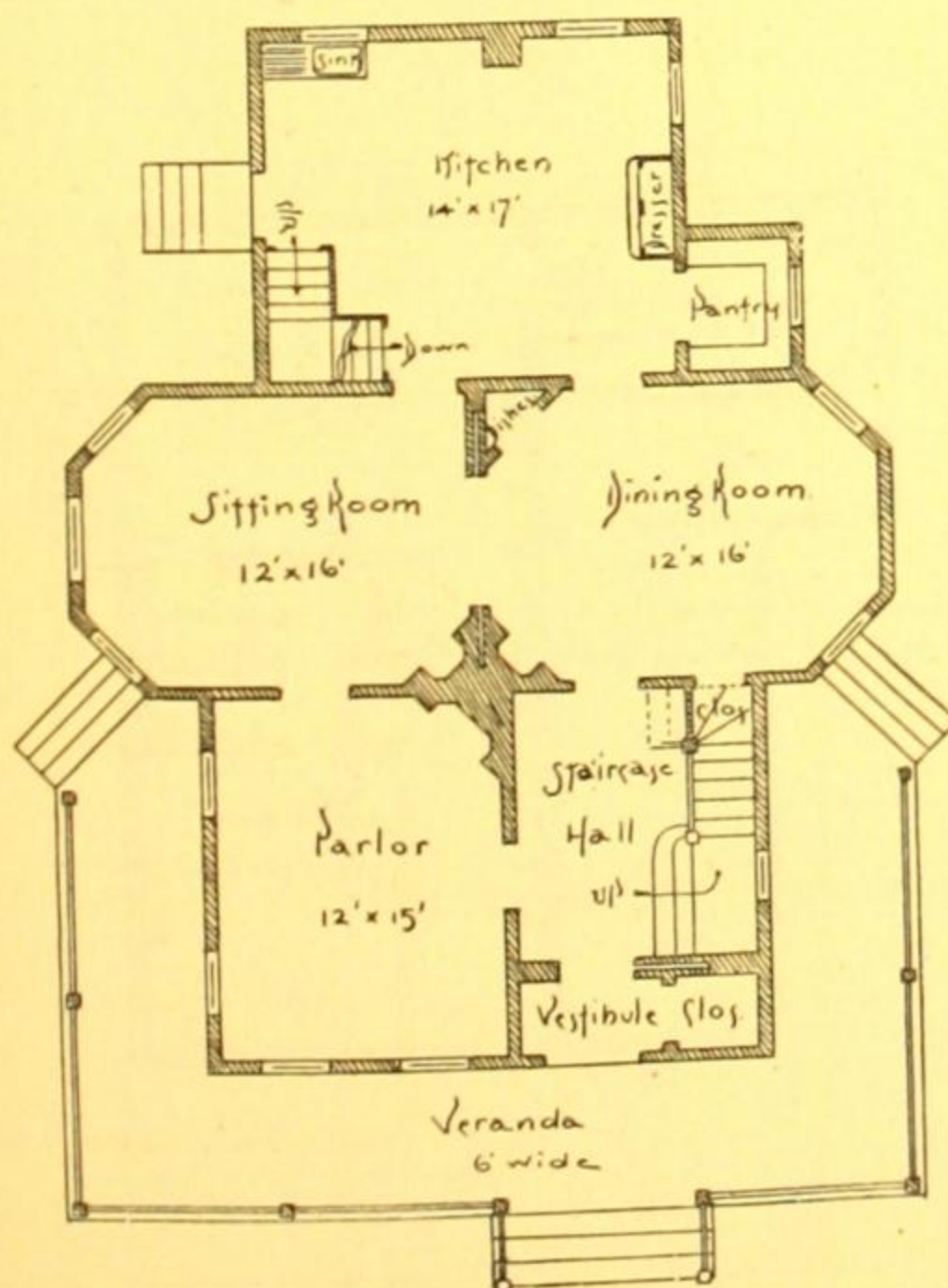
Cellar under the kitchen only, but there are brick walls under the whole house.

NOTES

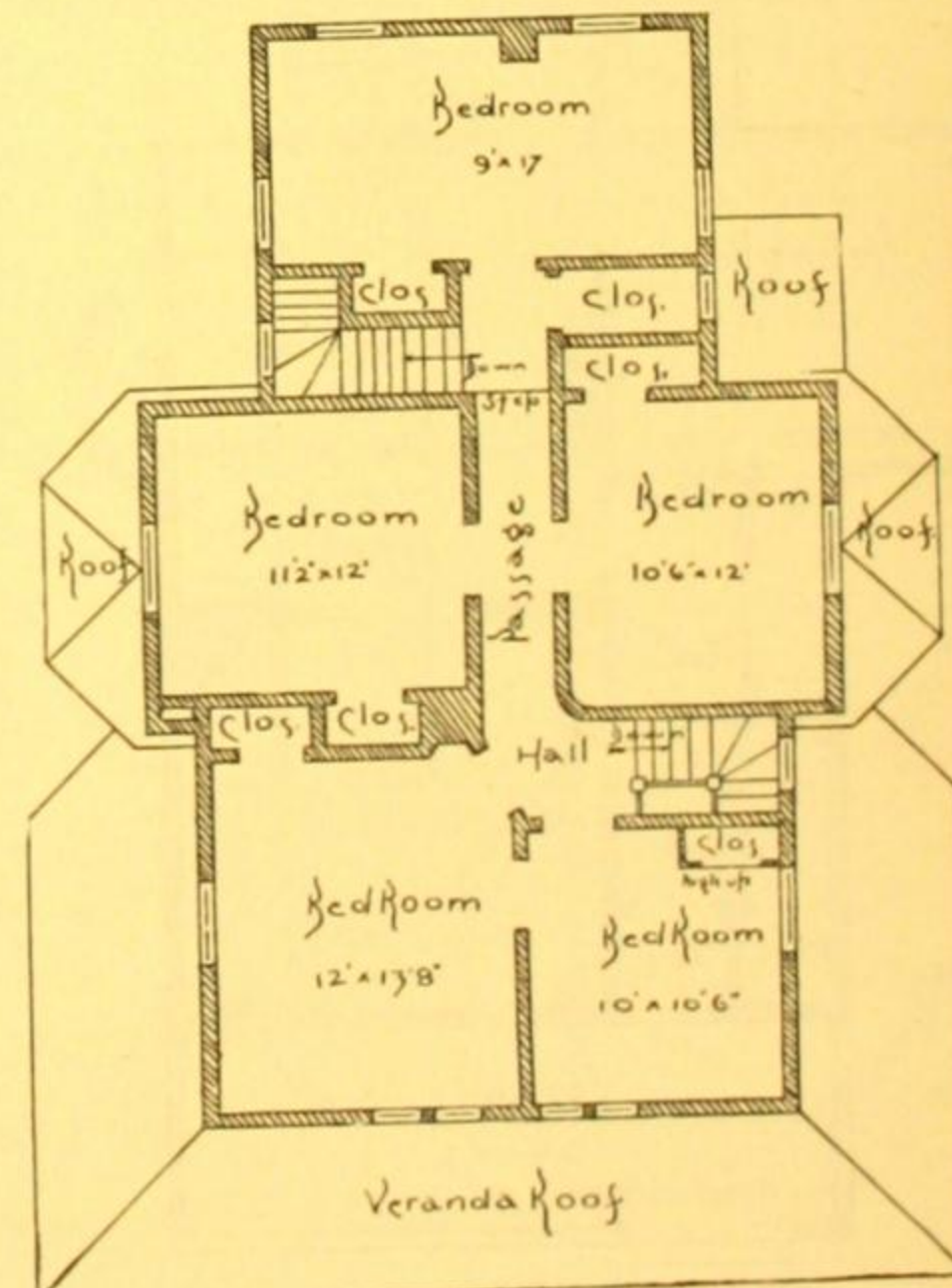
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

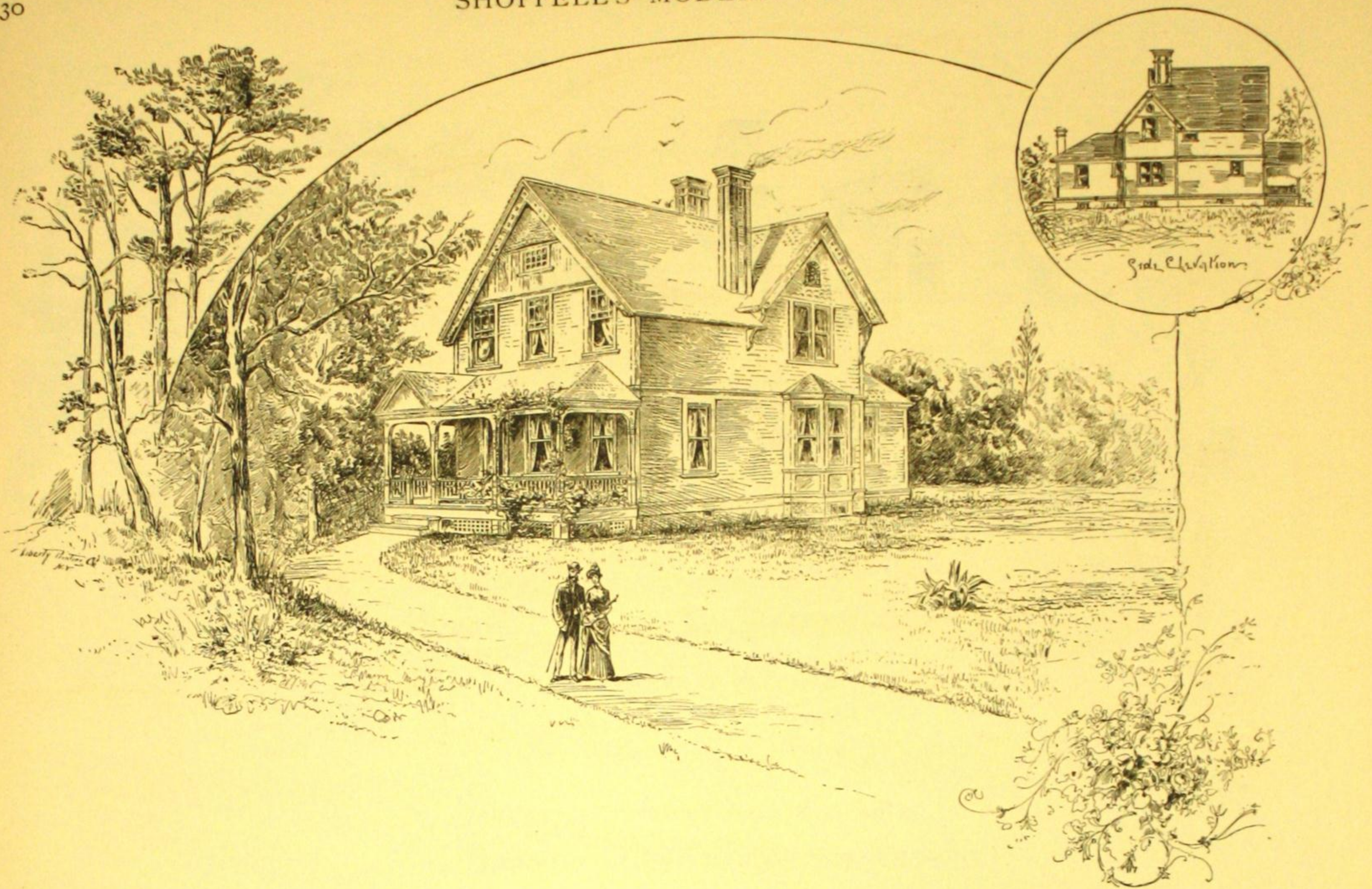
This design can be reversed, enlarged, reduced or



FIRST FLOOR. NO. 379



SECOND FLOOR. NO. 379



DESIGN No. 380. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 380

SIZE OF STRUCTURE: Front, 24 ft. Width over all, 32 ft. Side, 47 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, clapboards; Gables, shingles and panelling; Roof, shingles.

COST: \$2,600, complete, except mantels and range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be

somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES. Simple and conveniently arranged floor plan.

Sliding doors connect the parlor and the dining-room.

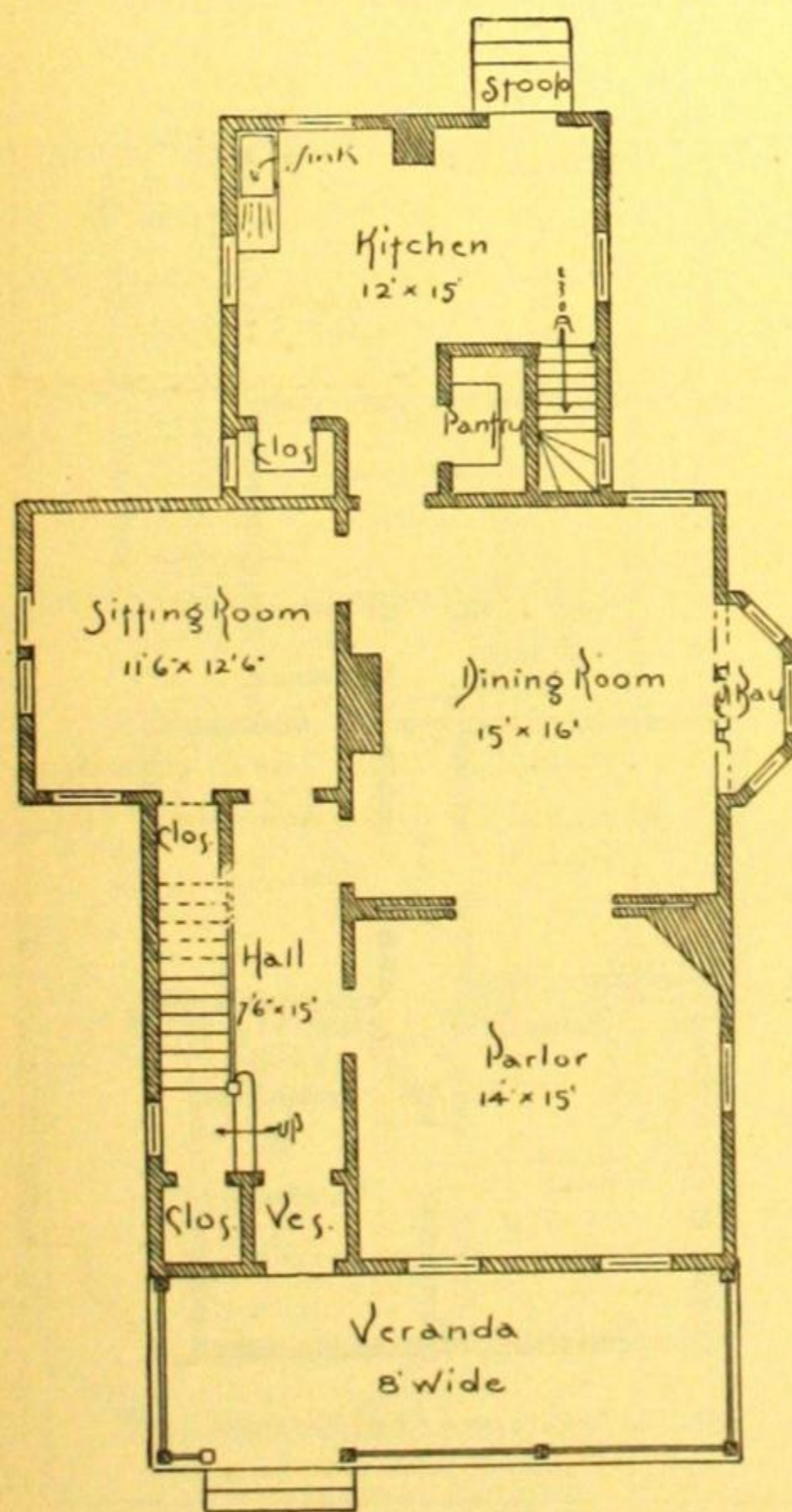
No open fire-places, but there are chimney breasts for mantels in the parlor and the dining-room.

Easy staircase, with a closet opening off the lower platform, convenient for keeping hats, coats and umbrellas.

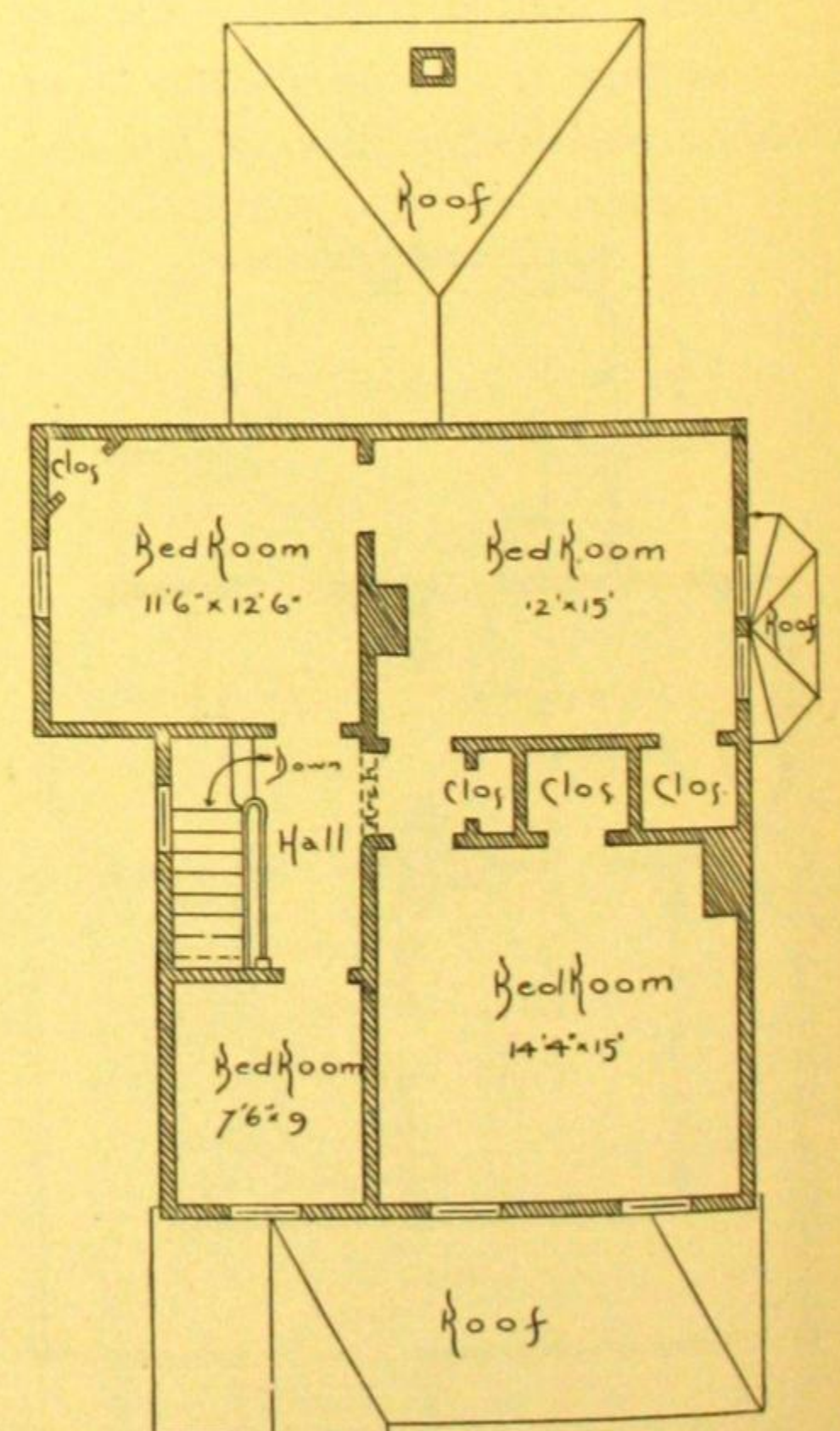
Good storage-room in the attic, which is well lighted and well ventilated

Walls of the second story are 6 ft., 6 in. high at the point where the slant of the roof begins.

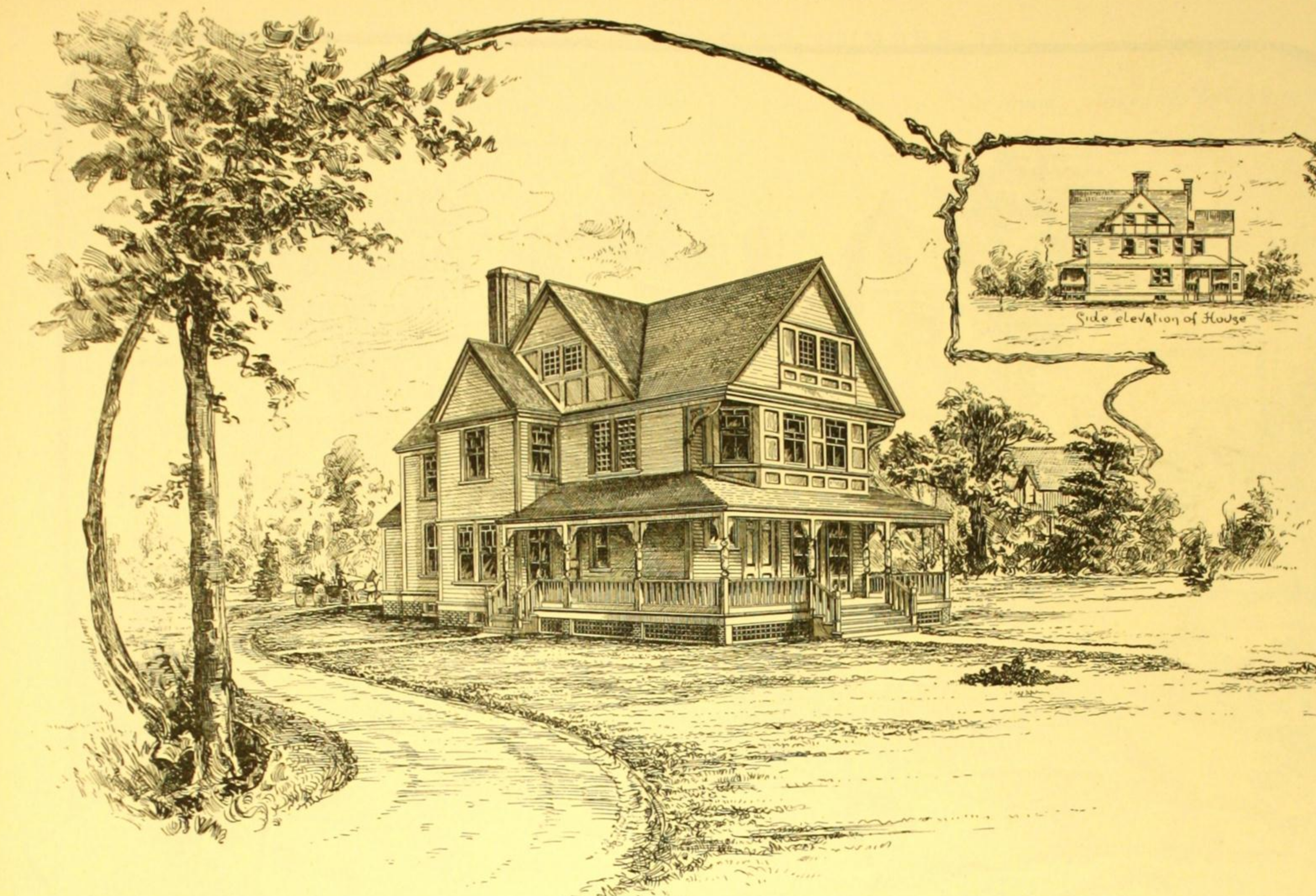
Cellar under the kitchen, dining and sitting-rooms.



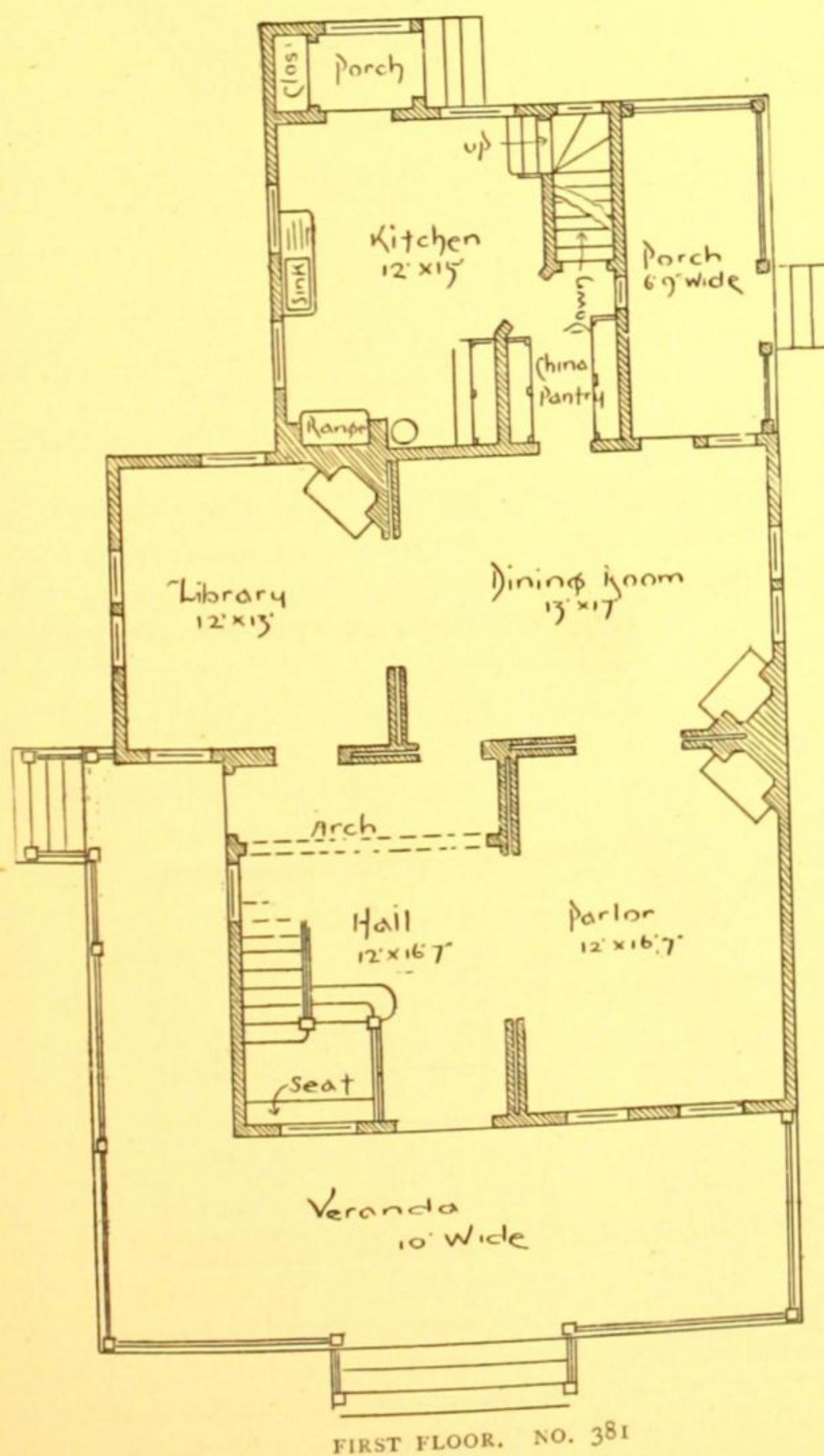
FIRST FLOOR. NO. 380



SECOND FLOOR. NO. 380



DESIGN No. 381. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 381



FIRST FLOOR. NO. 381

SIZE OF STRUCTURE: Front, 26 ft.; including veranda, 32 ft., 6 in. Side, 48 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, wood panels; Roof, slate.

COST: \$3,500, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Large hall and hardwood staircase.

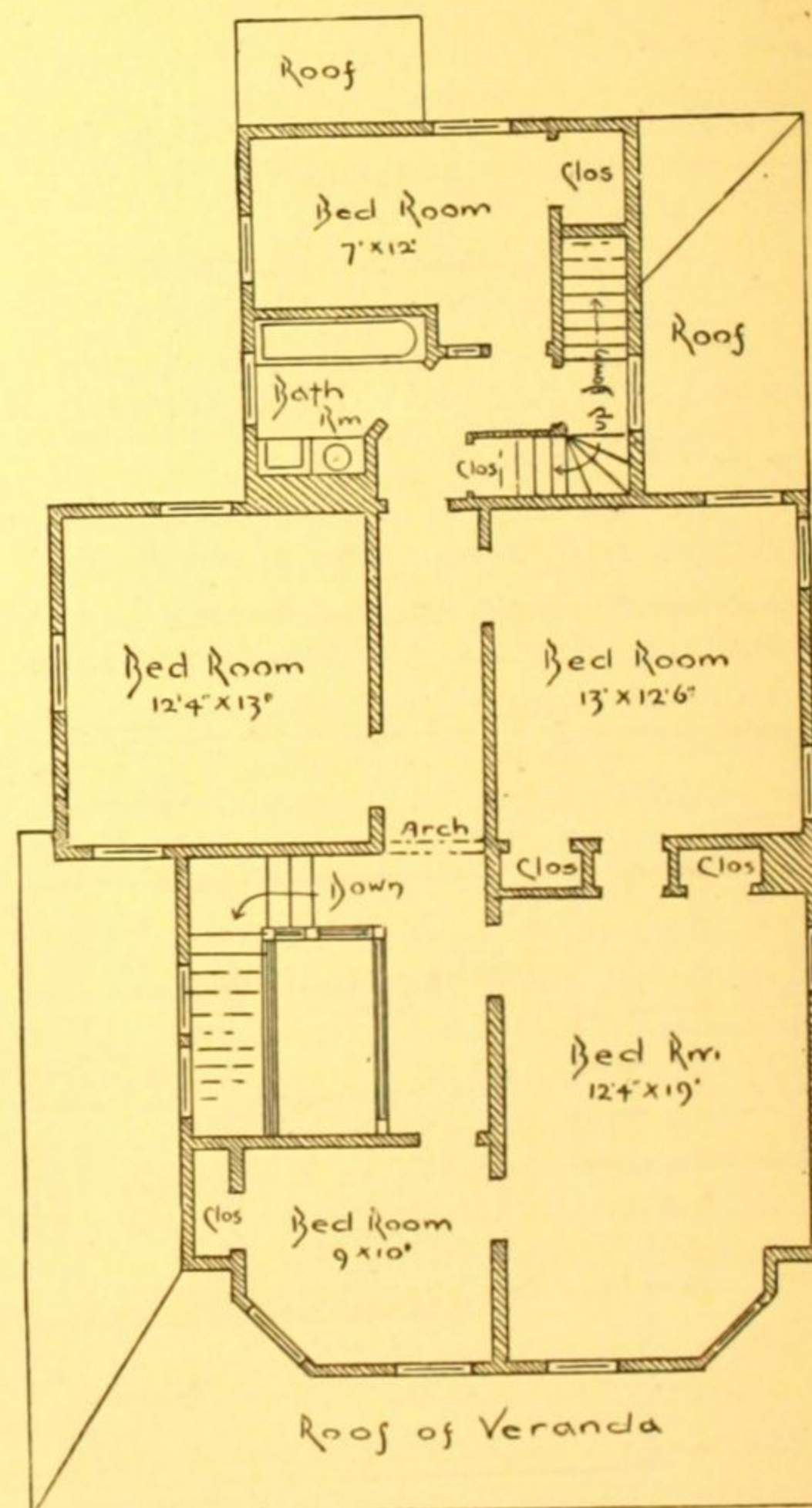
Rooms of the first story connected by wide sliding doors.

Pipes and registers for the furnace are provided.

Cellar under kitchen, library and dining-room.

Open fire-places in parlor, dining-room and library.

Three good bedrooms are finished in the attic.



SECOND FLOOR. NO. 381



DESIGN No. 382. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 382

SIZE OF STRUCTURE: Front, 40 ft.; extreme width including side verandas and kitchen "L," 65 ft. Side, 25 ft.; including verandas, 42 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,500, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Suitable for a Southern climate or for a summer residence at the seashore or in the mountains. Verandas

on three sides protect the lower rooms from the heat and glare of the sun. Covered balconies on the second story.

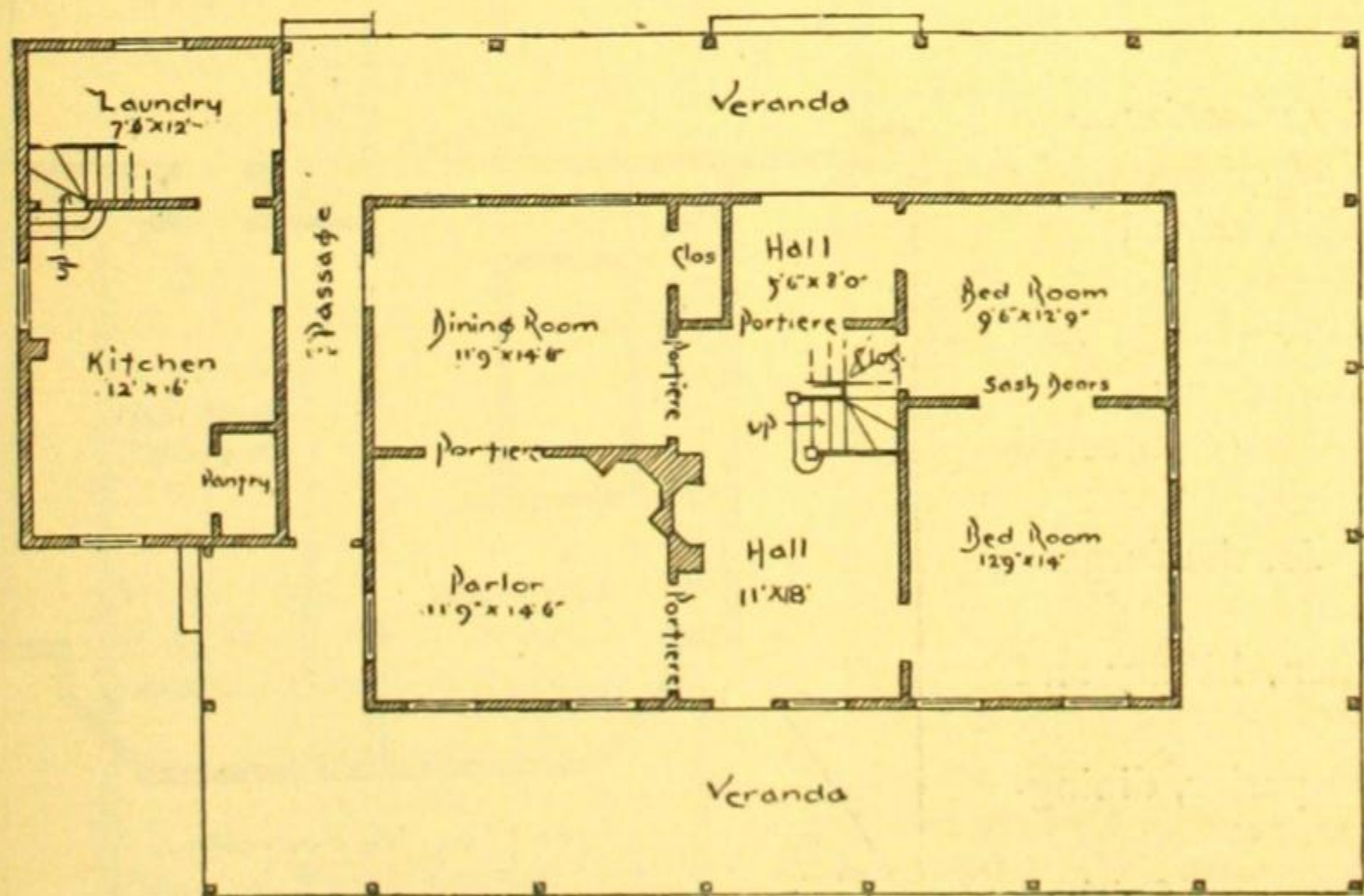
The tower can be entered from the attic.

No doors between the hall and the parlor, the hall and the dining-room, nor between the parlor and the dining-room. Large openings are left where curtains can be hung, if desired.

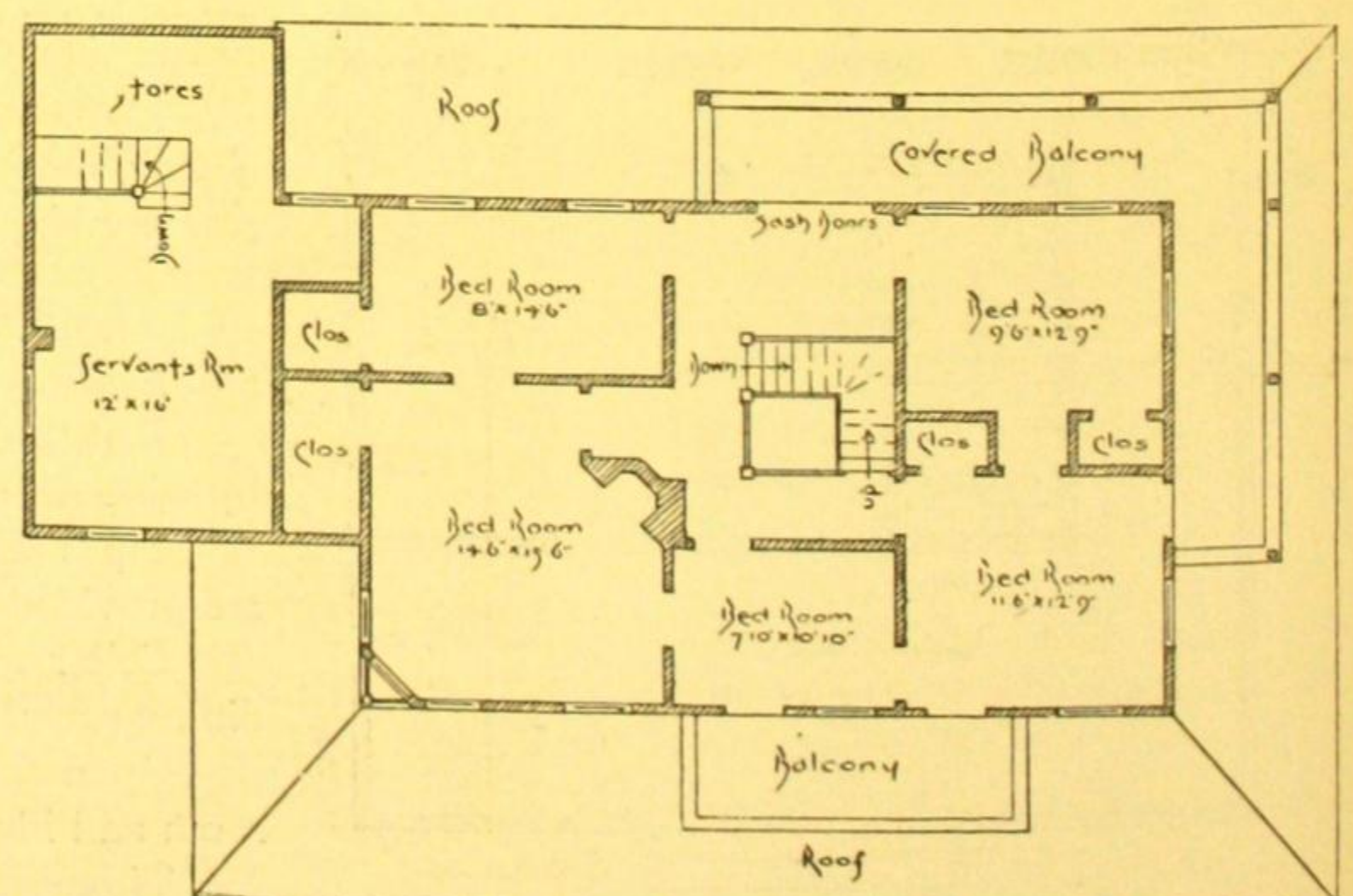
The interior is finished with two coats of plaster, sand finish. Open fire-places. No cellar.

The kitchen being separated from the main building by an open passage, the heat and odors are completely cut off from the house.

The servant's room is above the kitchen and not connected with the rest of the house. On the next page will be found a cheaper modification of this plan.



FIRST FLOOR. NO. 382

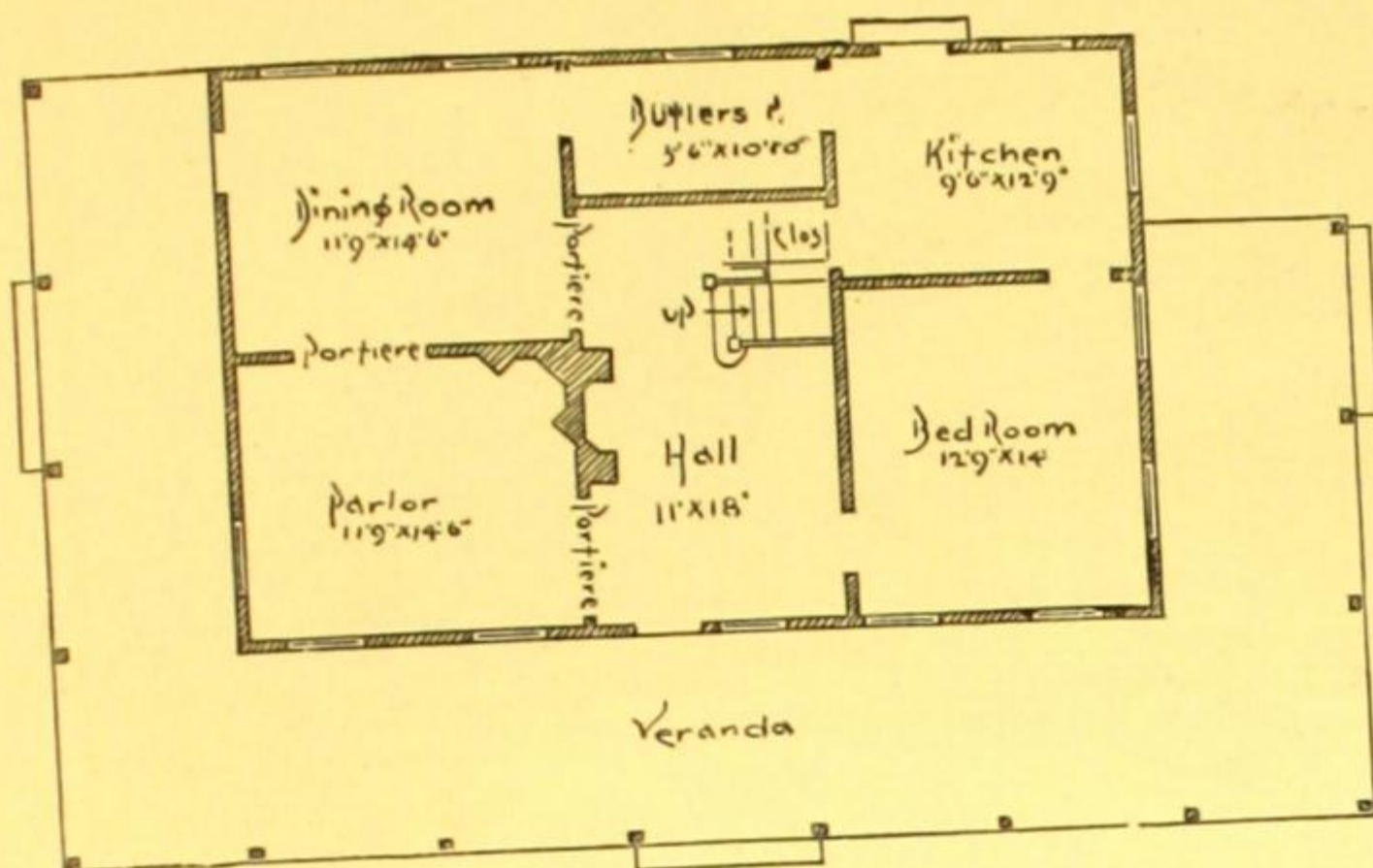


SECOND FLOOR. NO. 382

DESCRIPTION OF DESIGN NUMBER 383

A modification of the preceding design, the general appearance, heights of stories, materials, &c., being the same.

Size of the house is 40 feet front, 25 feet side: these figures do not include the verandas, which are 9 feet wide on the front and 8 feet wide elsewhere.



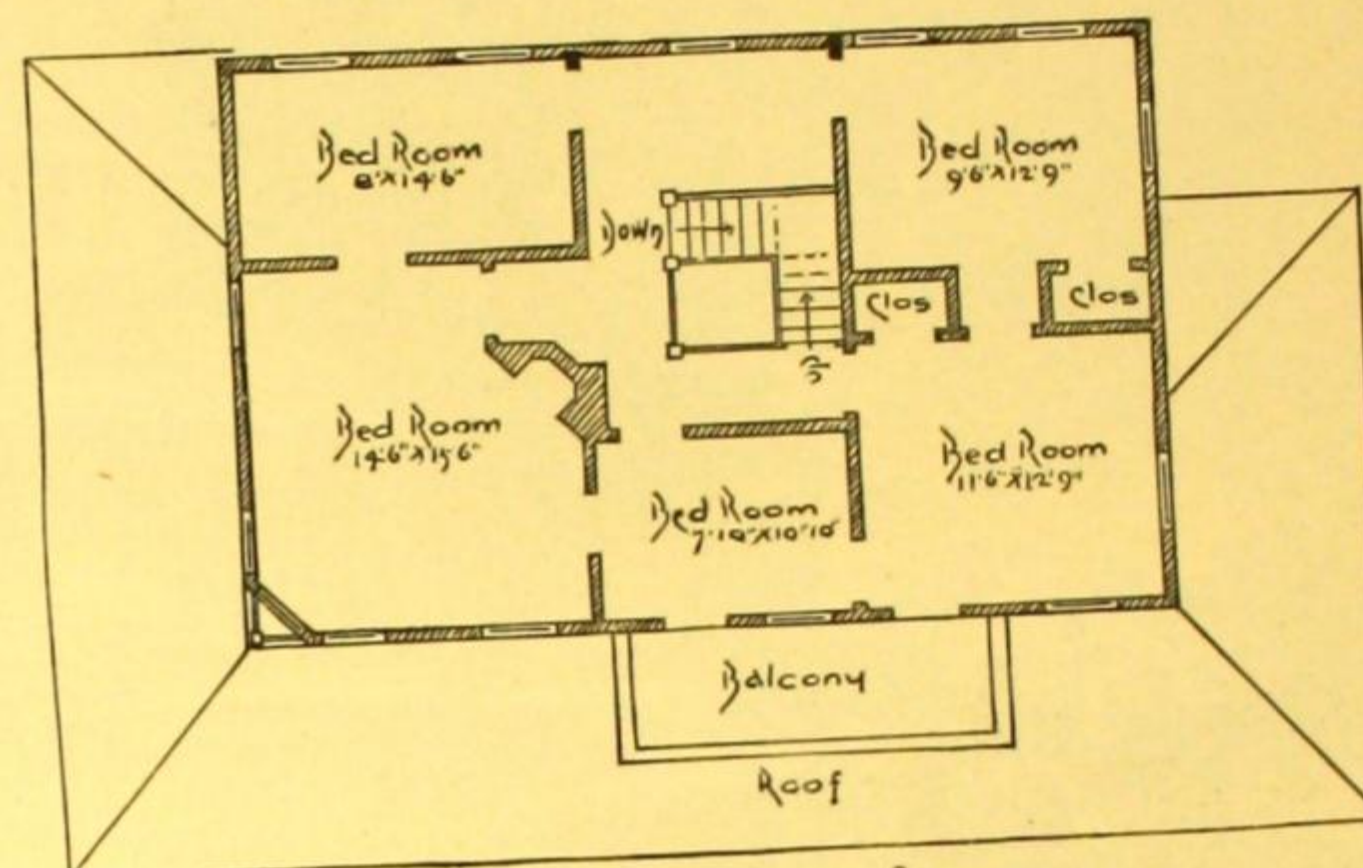
FIRST FLOOR. NO. 383

Cellar under the whole house. No rooms finished in the attic.

A cement chimney to be used for the kitchen.

COST: \$2,800, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]



SECOND FLOOR. NO. 383

OVERMANTELS

TIMES have changed since the Middle Ages, when the court of Burgundy prescribed the number of shelves or steps one might use in his "dressoir" or sideboard, which was the remote ancestor of the modern overmantel. Five steps or shelves were allowed for the use of the queen during meals, four for princesses or duchesses, three for their children and for countesses or "grand dames," and other noble ladies had to be contented with two. These ancient sideboards were ornamented with elaborate carvings, and the shelves covered with napkins of silk or linen, the borders embroidered in openwork, or edged with point lace. Subsequently they took the shape either of etageres or of small cupboards, with drawers half way down, and rows of shelves on the top, on which ornamental plate, metal-work, Venetian glass, majolica, etc., were set out. Some of these dressers were placed against the wall; others were made movable, to permit circulation round them for the convenience of the attendants; and etiquette determined the number of stages for occasions of state and routine.

During the seventeenth and eighteenth centuries paneled cabinets of exquisite workmanship became the vogue for the arrangement of knick-knack collections, while hanging brackets, as well as the mantel-shelf and console tables, served for the open display of decorative specimens. The hanging brackets especially were a prominent item of ornamental furniture, in Louis XIV.'s time, for the support of buhl clocks, busts, small bronzes, and porcelain vases.

Cabinets with glass fronts appeared early in the eighteenth century for the purpose of display, and have stood their ground ever since, supplemented by open wall and corner etageres. The modern overmantels are but modifications of

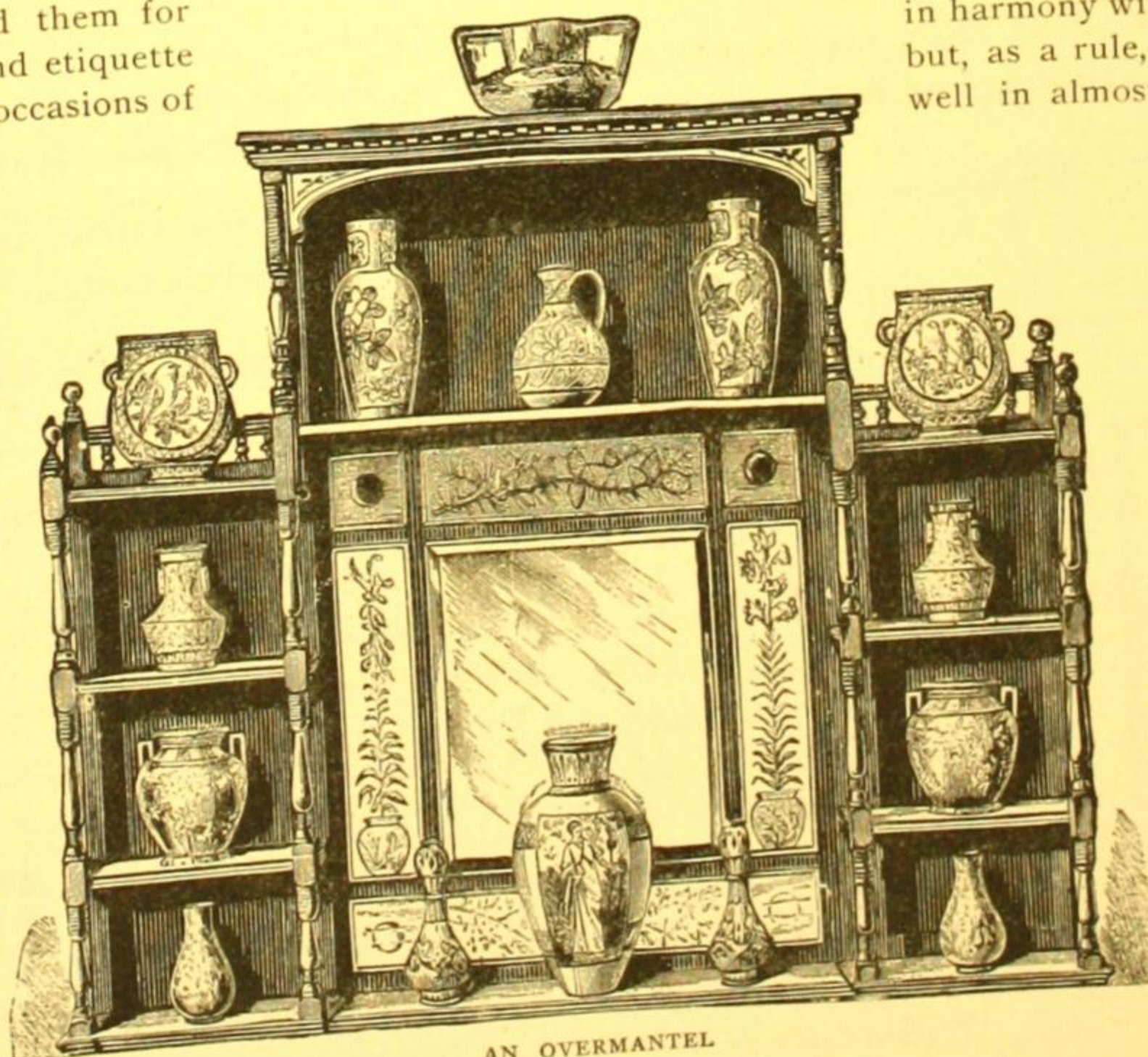
the ancient shelf-stages placed on the mantelpiece. The orthodox chimney-glass, for centuries considered as indispensable, has been, if not altogether discarded, reduced to the size of a small Venetian mirror with beveled edges, framed in, flanked or topped, in etagere fashion, by shelves and compartments. For a picturesque display of artistic porcelain, pottery and glass, of bronzes and knick-knack of any kind, overmantels are certainly the most suitable arrangement. They bring the ornaments in a convenient line with the eye, and avoid the marring effect of mirage from the glass panes of a cabinet.

A small-sized Venetian mirror with beveled edges should occupy the centre or part of the lower stage; well-chosen colored pieces of paper, leather, or velvet, silvered glass, painted tiles, or plain gilding will do duty for the paneling out of the various compartments. The color of the wood-work should be in harmony with the furniture and the wall-paper, but, as a rule, black picked out with gold looks well in almost every case.

As to the architectural character of the superstructure, straight lines are preferable to curves, and a top, slightly overhanging in the form of a cove or arch, can be introduced with advantage. The specimen of overmantels represented in our illustration may serve as a guide in this respect.

When the shape of an overmantel has been decided upon, the selection of the ornaments for its decoration has to be considered. Much of the ultimate effect depends upon the variety of colors and forms introduced, and upon their harmonious distribution over the various shelves and compartments.

Overdoors, which of late have likewise been utilized for the display of china, are constructed on the same principle as overmantels.



AN OVERMANTEL



DESIGN No. 384. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 384

SIZE OF STRUCTURE: Front, 32 ft. Side, 26 ft., 6 in.; verandas, 7 ft. on each side.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Third Story, 8 ft., 4 in.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, panels and shingles; Roof, shingles.

COST: \$2,800, complete, except mantels.

will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

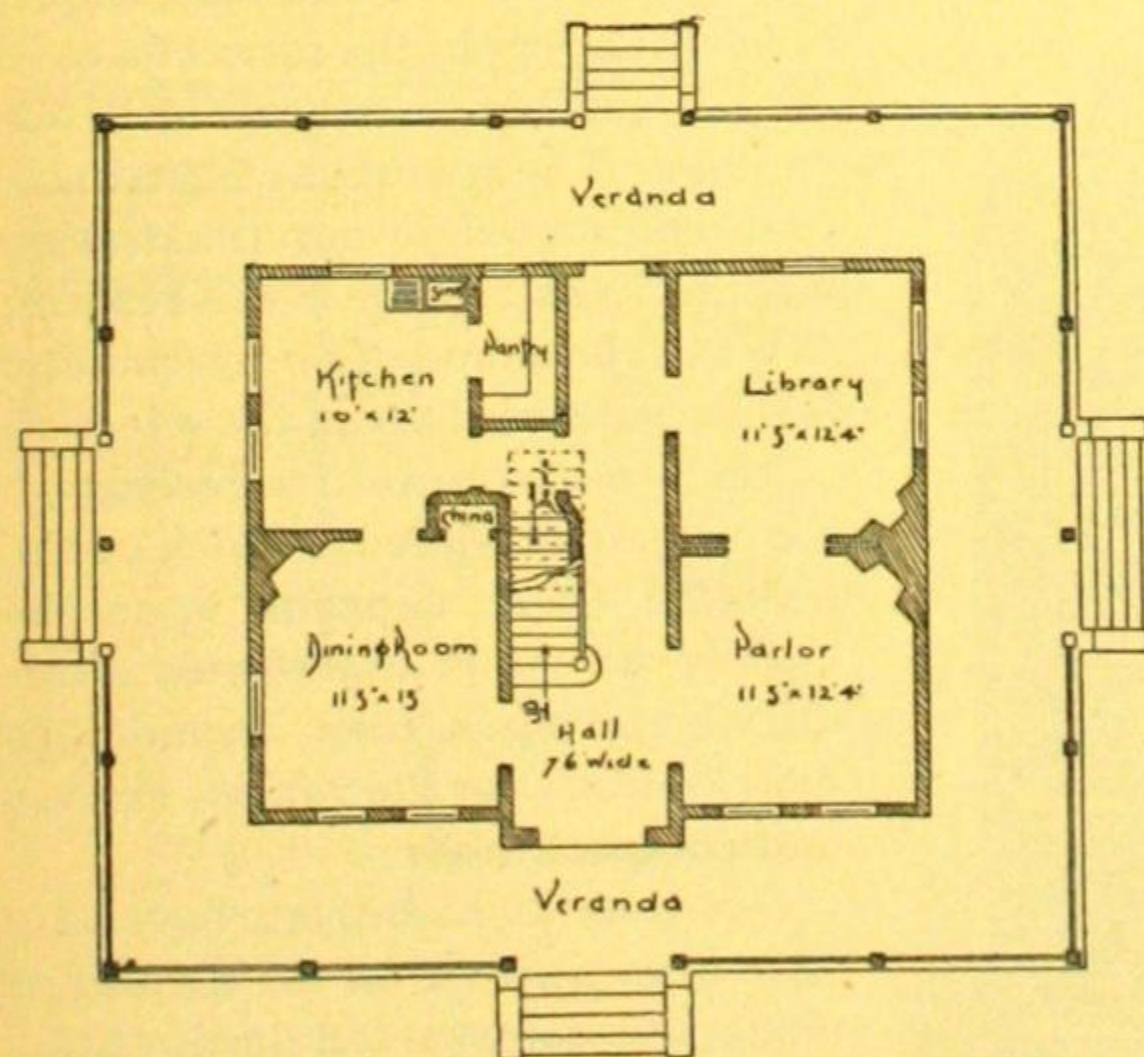
SPECIAL FEATURES.—Designed for a seaside house, as the extensive veranda indicates.

Open fire-places in the first story rooms.

Sliding doors between parlor and library.

Four bedrooms on the second floor. Three good rooms, a large hall and storage space in the attic.

Cellar under the whole house, with brick walls. For a summer residence the cellar need not be built—a saving of about \$150.

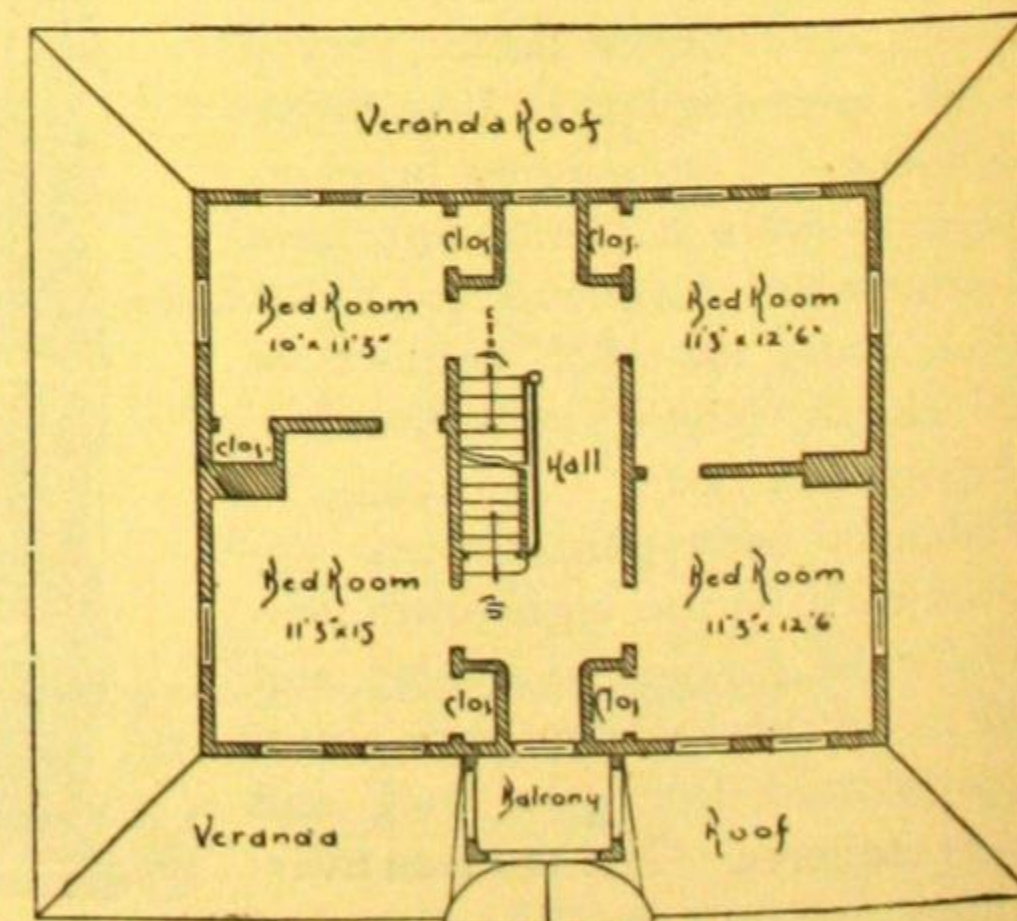


FIRST FLOOR. NO. 384

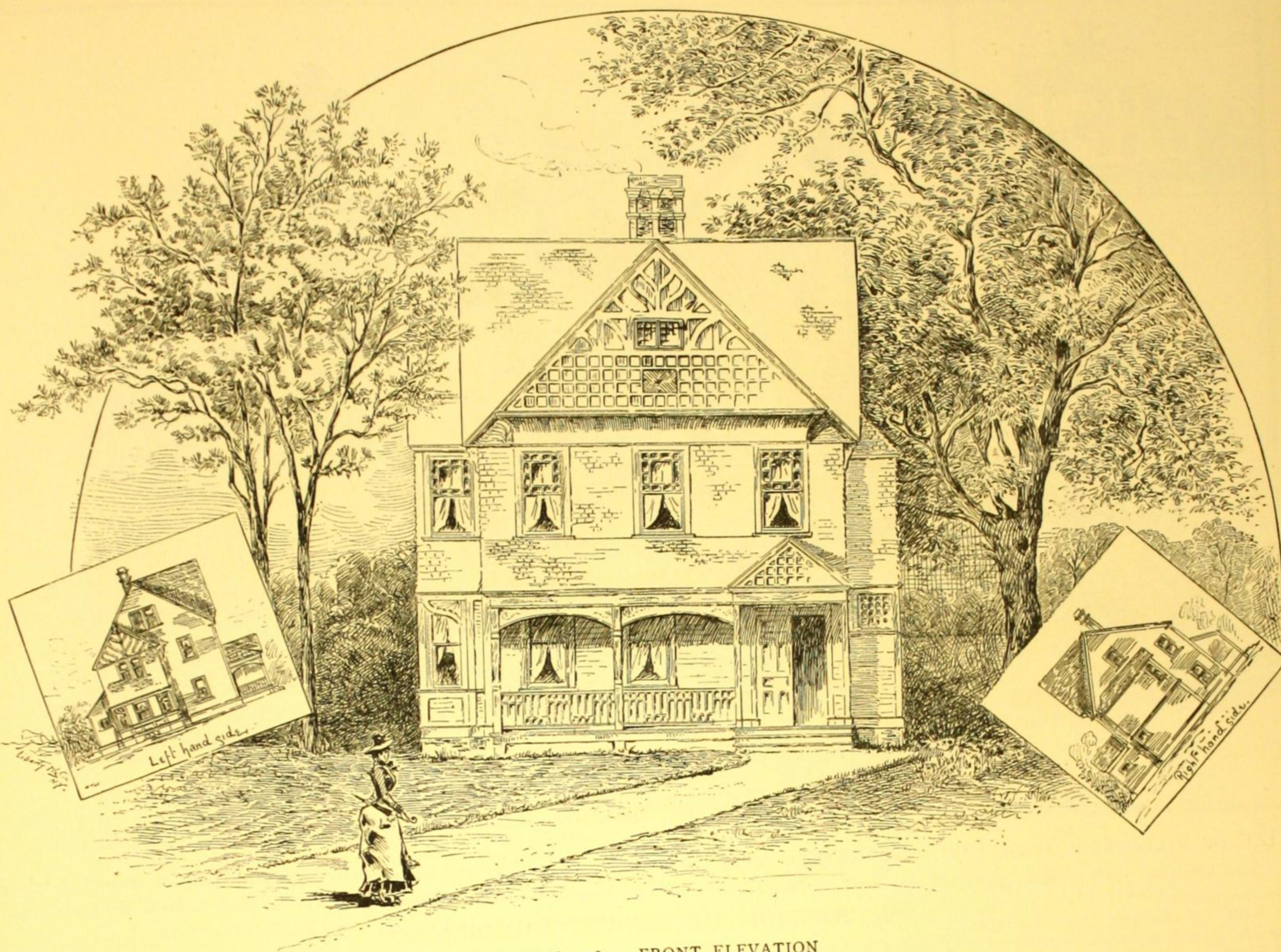
[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost



SECOND FLOOR. NO. 384



DESIGN No. 385. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 385

SIZE OF STRUCTURE: Front, 23 ft. Extreme width, 30 ft.,
6 in. Side, 40 ft., 6 in.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.;
Second Story, 8 ft.

MATERIALS: Foundation, brick;
First Story, clapboards; Second Story,
clapboards and shingles; Roof, shingles.

COST: \$2,200, complete, except
mantels and range.

[See page 219 for information about de-
tails, specifications, bill of quantities and
working plans of this design.]

SPECIAL FEATURES.—The large hall
makes a good sitting-room.

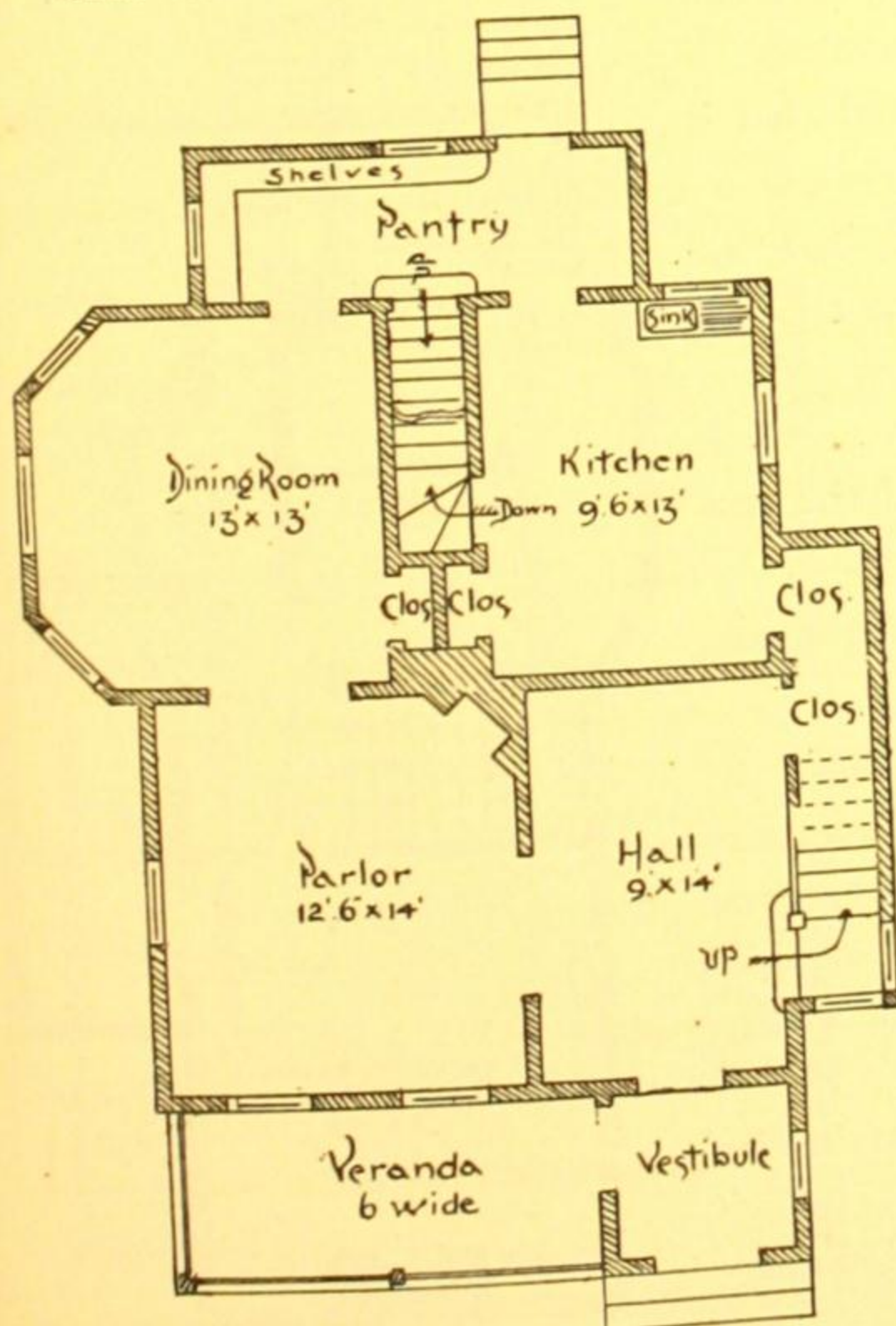
Wide openings for double doors or
curtains connect the hall, parlor and dining-
room.

A vestibule protects the entrance from
cold winds and storms.

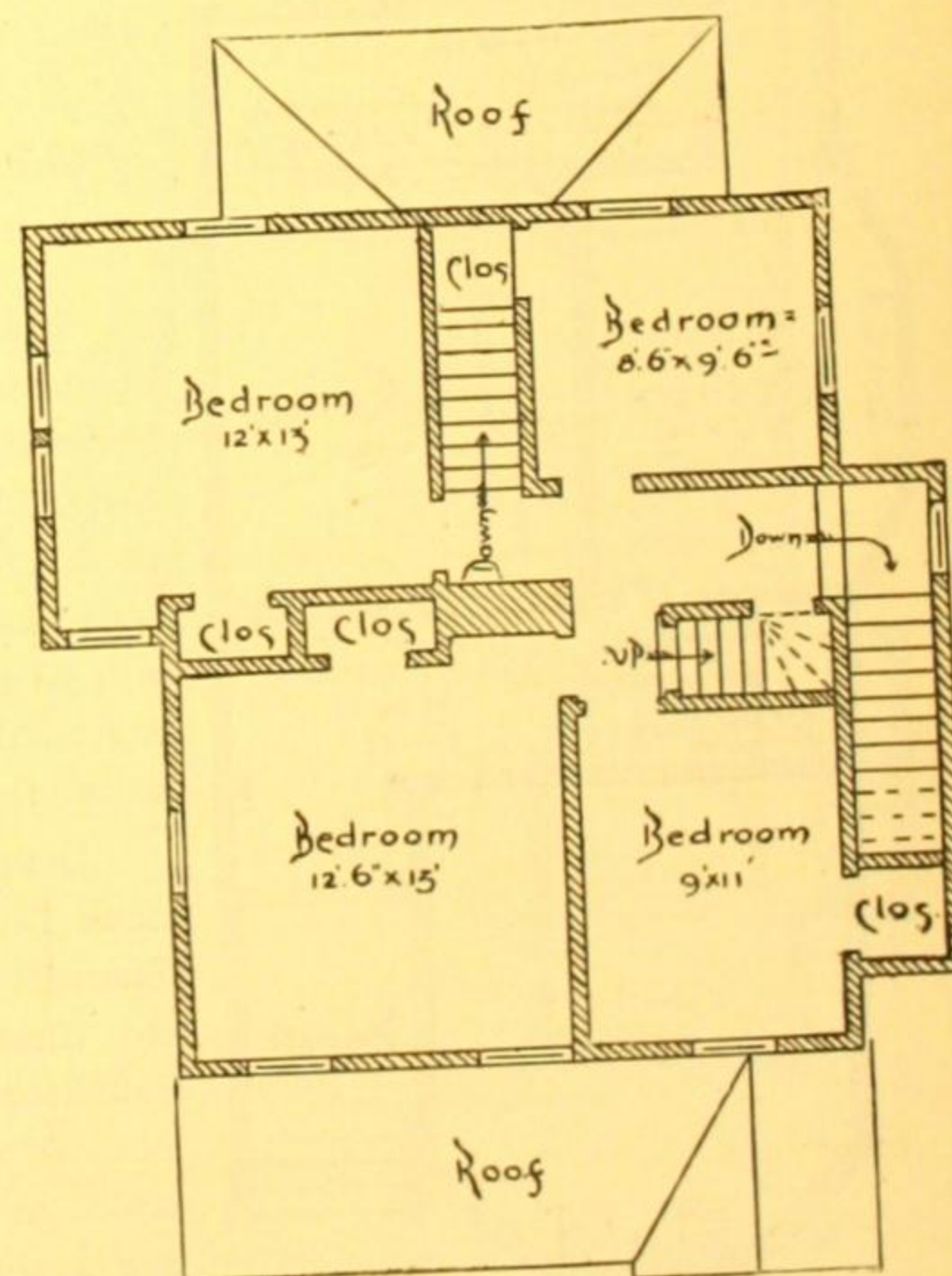
To reach the front hall from the kitchen,
the servant passes through the closets under
the stairs. These closets can be fully occu-
pied, and by keeping a very small space
clear, serve as a passage, as shown by the
plans.

The small rear bedroom can be made
a bath-room for an additional \$150 to \$200,
to cover the plumbing.

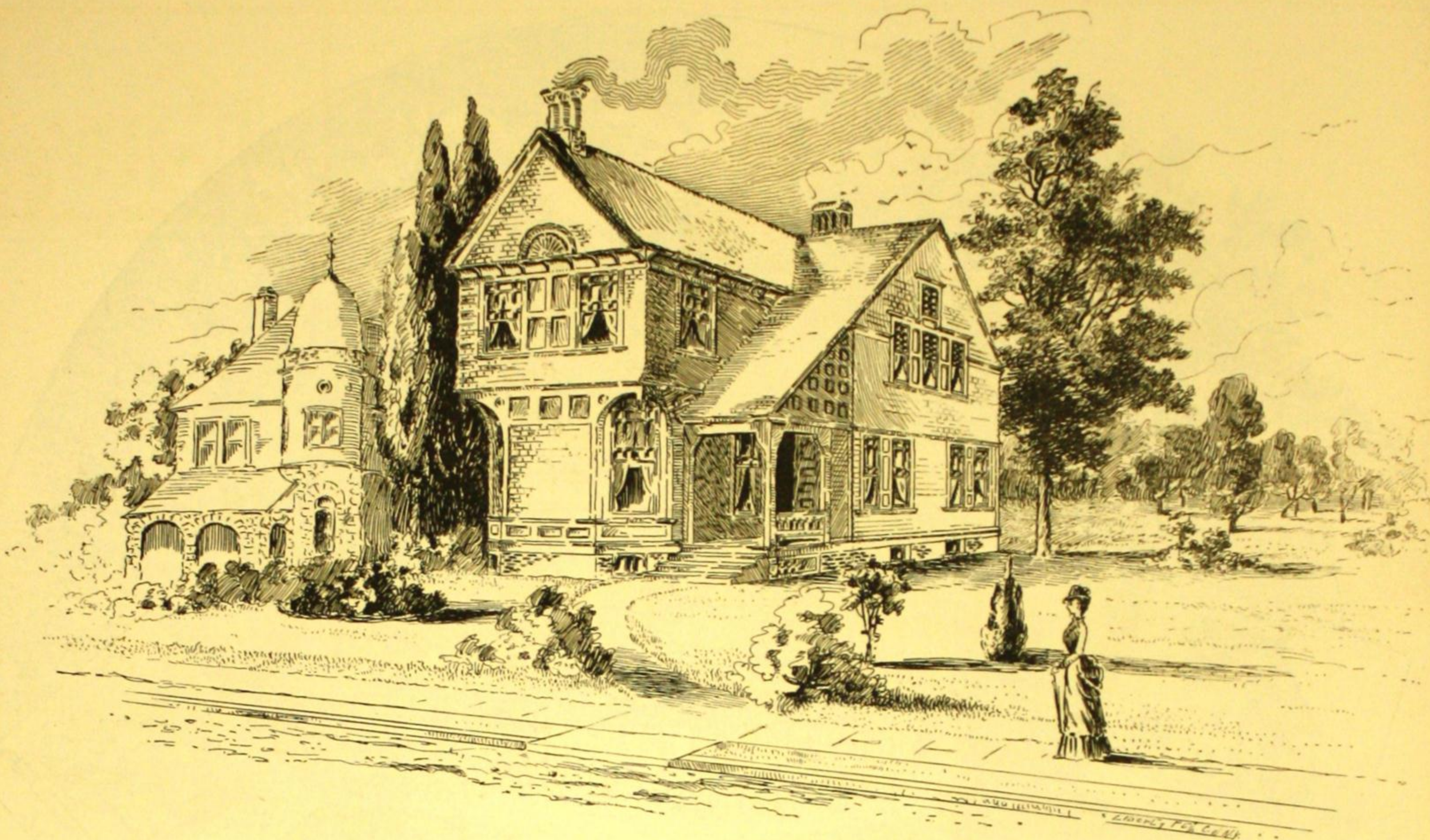
One bedroom finished in the attic.
Cellar under the dining-room



FIRST FLOOR. NO. 385



SECOND FLOOR. NO. 385



DESIGN No. 386. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 386

SIZE OF STRUCTURE: Front, 20 ft.; width through dining-room and kitchen, 22 ft. Side, 40 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,300, complete, except mantels and range.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A suitable design for a 25 ft. village lot.

The hall is practically a part of the dining-room, made so by the wide opening between them, where curtains can be hung. When an extra large table is required at any time, a part of the hall can be brought into service.

The dining-room alcove can be used as a conservatory, if the house is so located that it will get the sunlight.

The front hall can be reached directly from the kitchen.

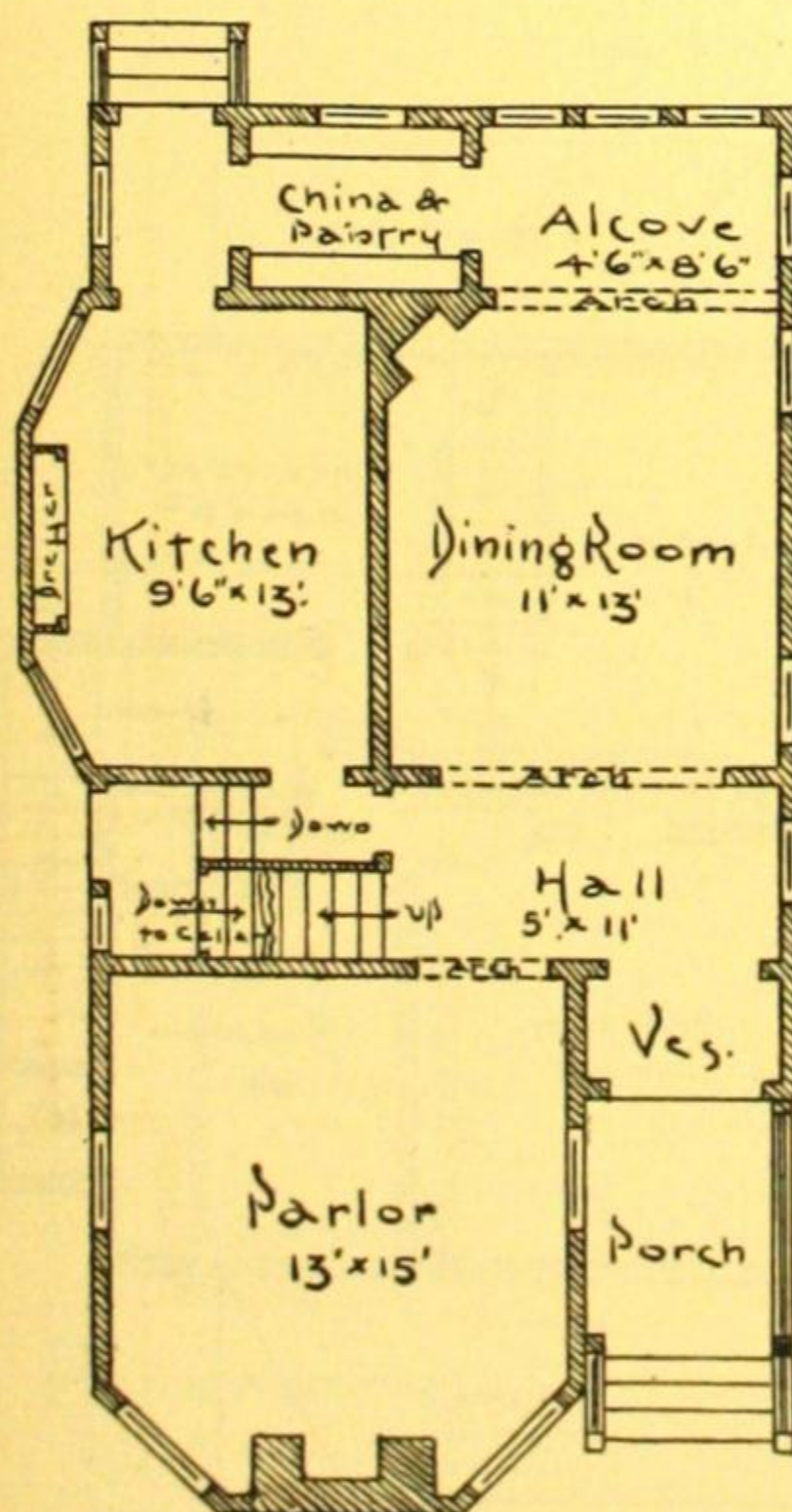
A door is not required between the hall and the parlor; a curtain is preferable.

Open fire-places in the parlor and dining-room.

The three steps down to the platform of the cellar stairs bring us down to within one step of the grade level outside, so that a stoop is not necessary to the side entrance.

Good storage room in the attic.

Cellar under the hall, dining-room and kitchen.



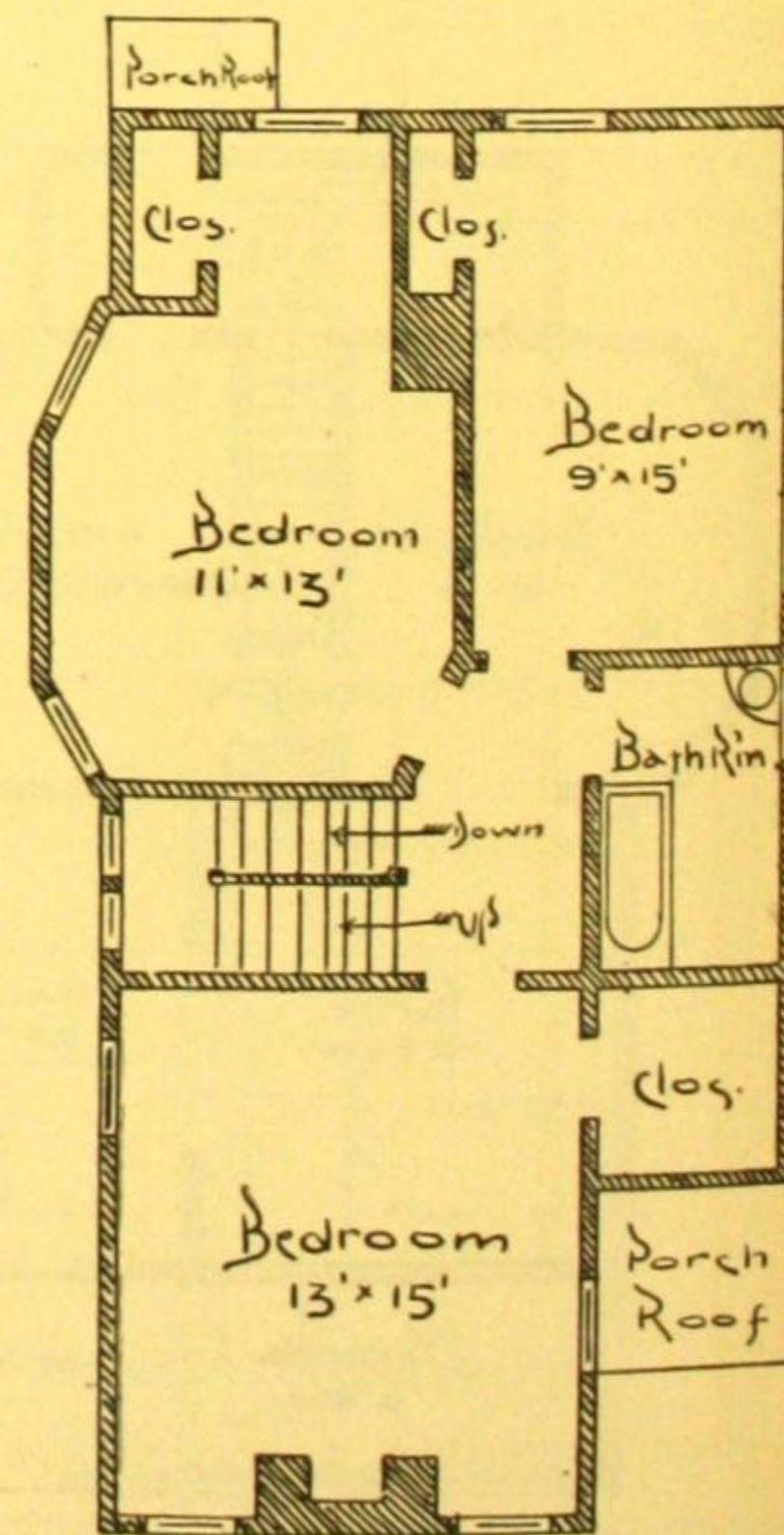
FIRST FLOOR. NO. 386

[See page 219 for information about details, specifications, bill of quantities, and working plans of this design.]

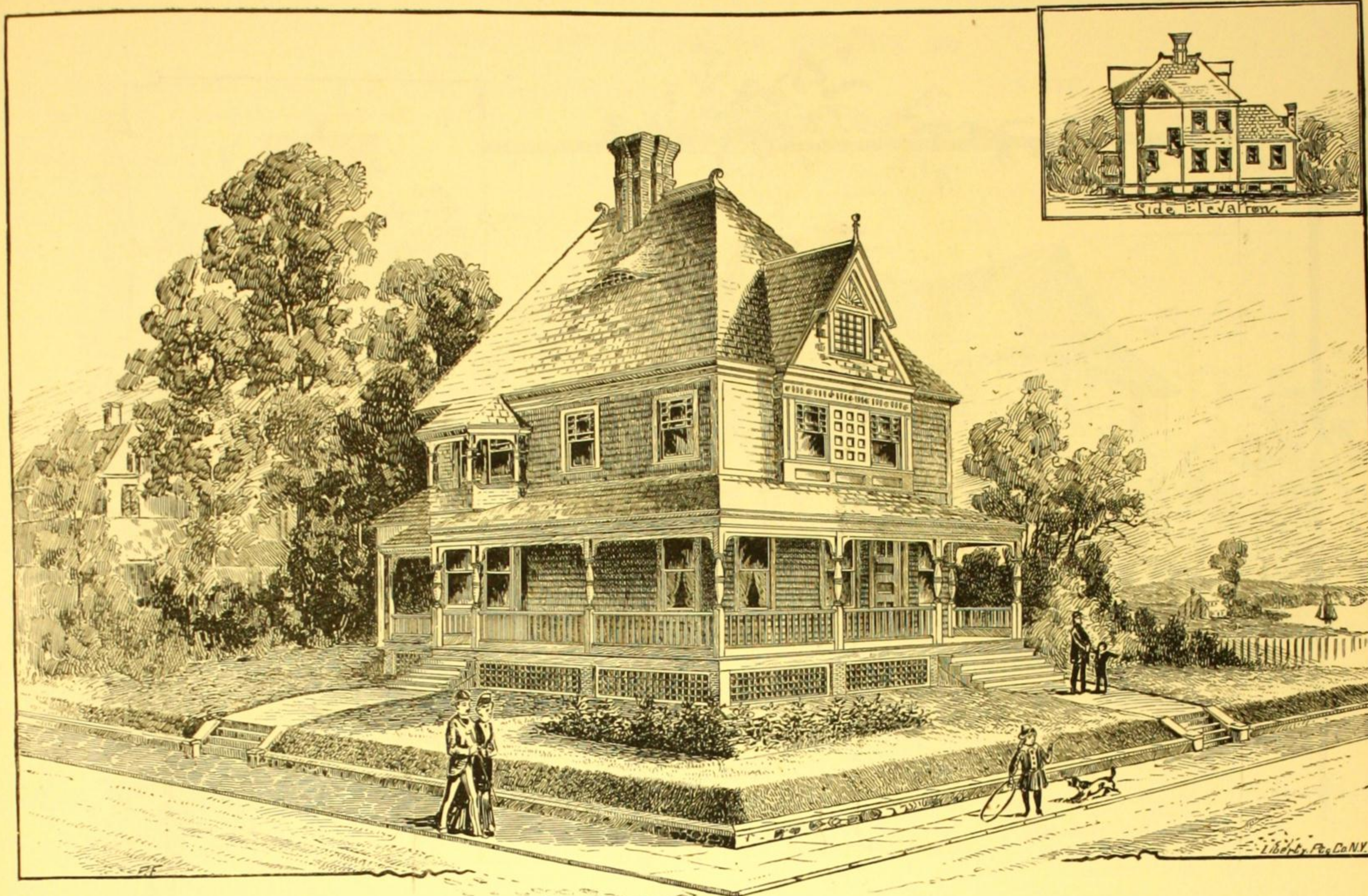
NOTES

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Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.



SECOND FLOOR. NO. 386

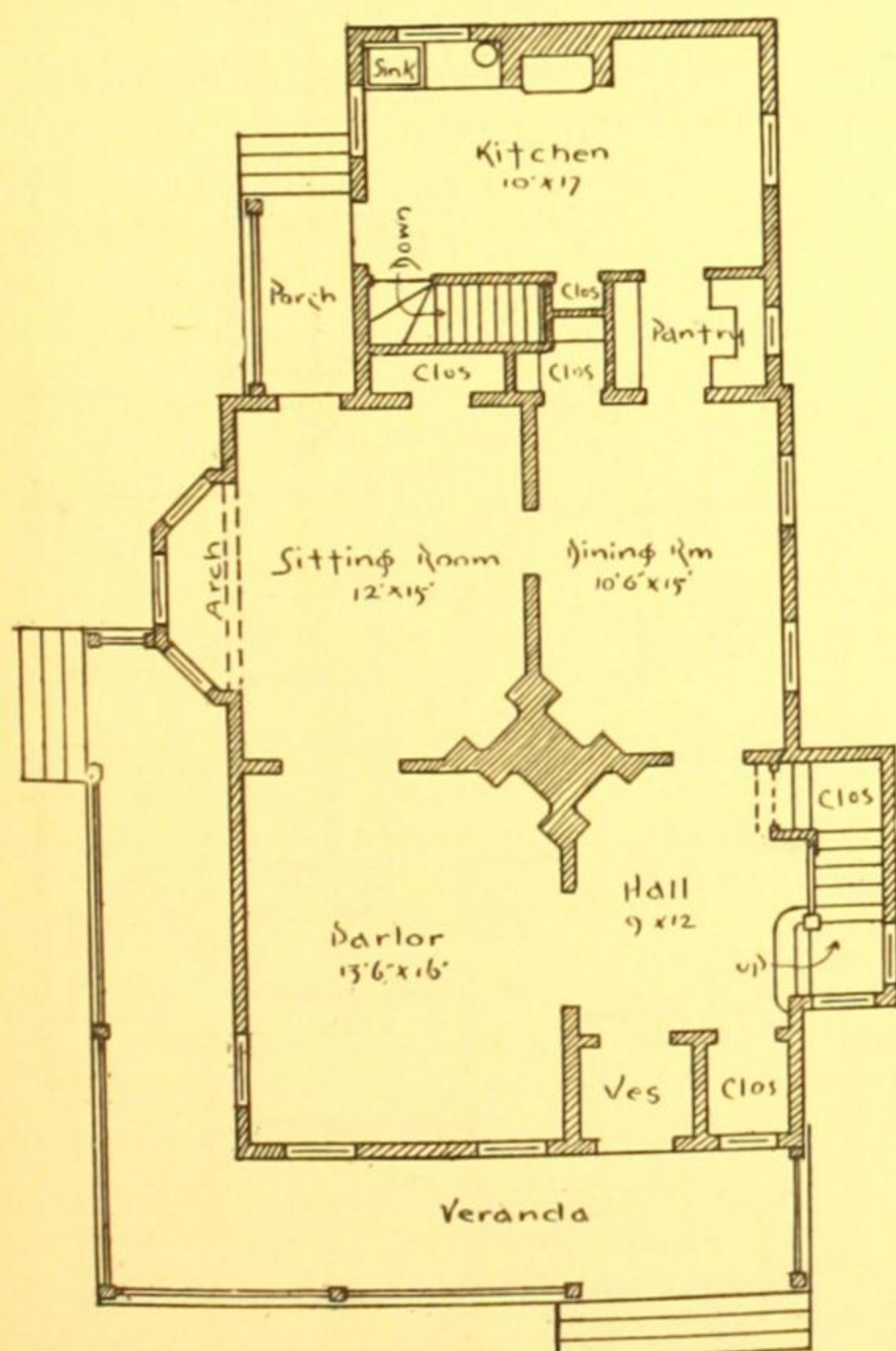


DESIGN No. 387. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 387

SIZE OF STRUCTURE: Front, 24 ft. Side, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.



FIRST FLOOR. NO. 387

MATERIALS:
Foundation, stone;
First Story, clapboards;
Second Story, clapboards
and shingles; Roof,
shingles.

COST: \$3,000,
complete, except
mantels, range and
furnace.

[See page 219 for
information about
details, specifica-
tions, bill of quanti-
ties and working
plans of this de-
sign.]

NOTES

The cost is figured
from prices of material
and labor in the neigh-
borhood of New York
City, September, 1886.
In other localities and
at different dates the
cost will be somewhat

modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings and careful directions for their execution are given in our Specifications.

This design can be re-versed, enlarged, reduced or altered to suit special wants.

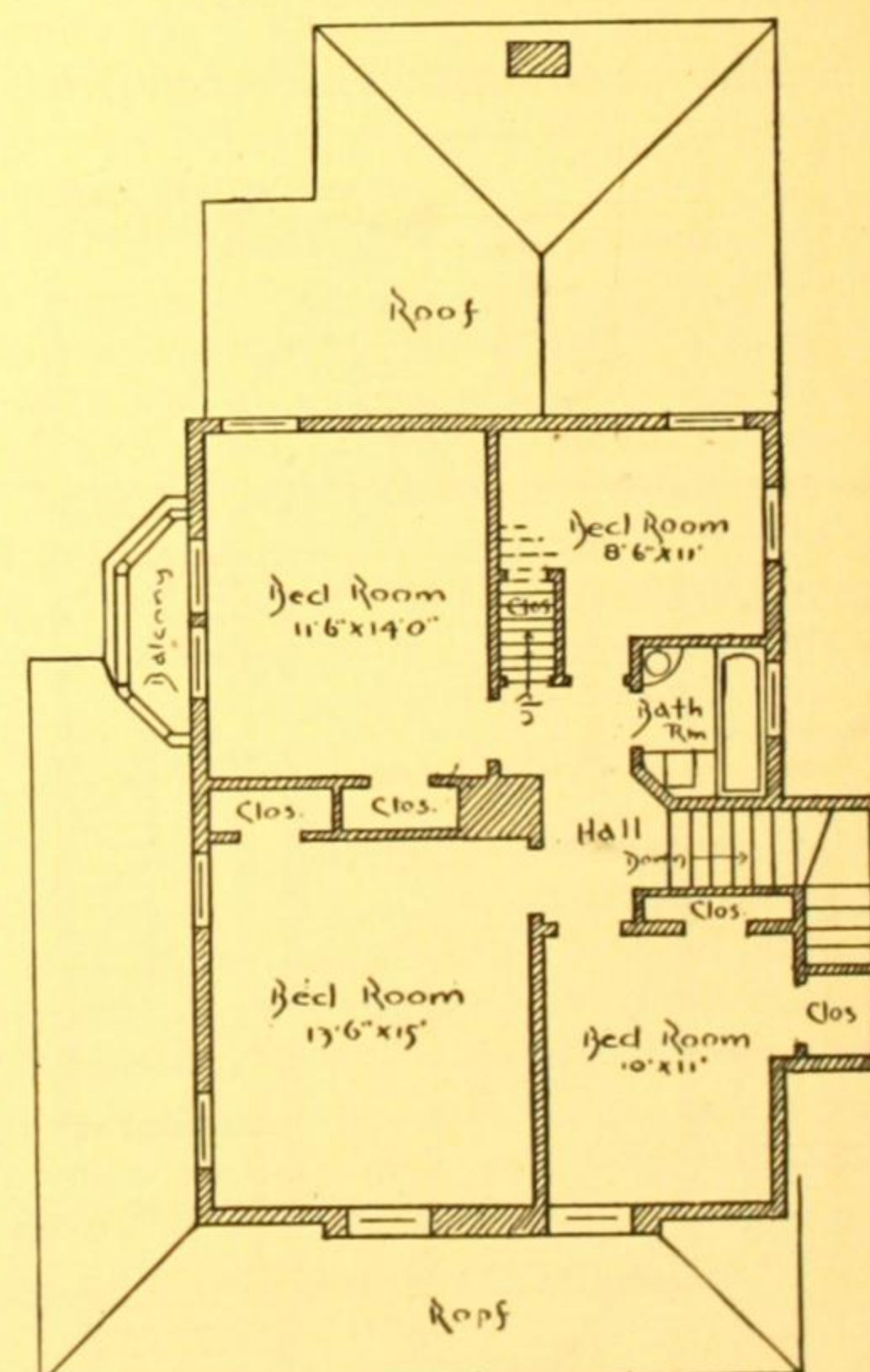
The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES: Large veranda and a convenient arrangement of rooms.

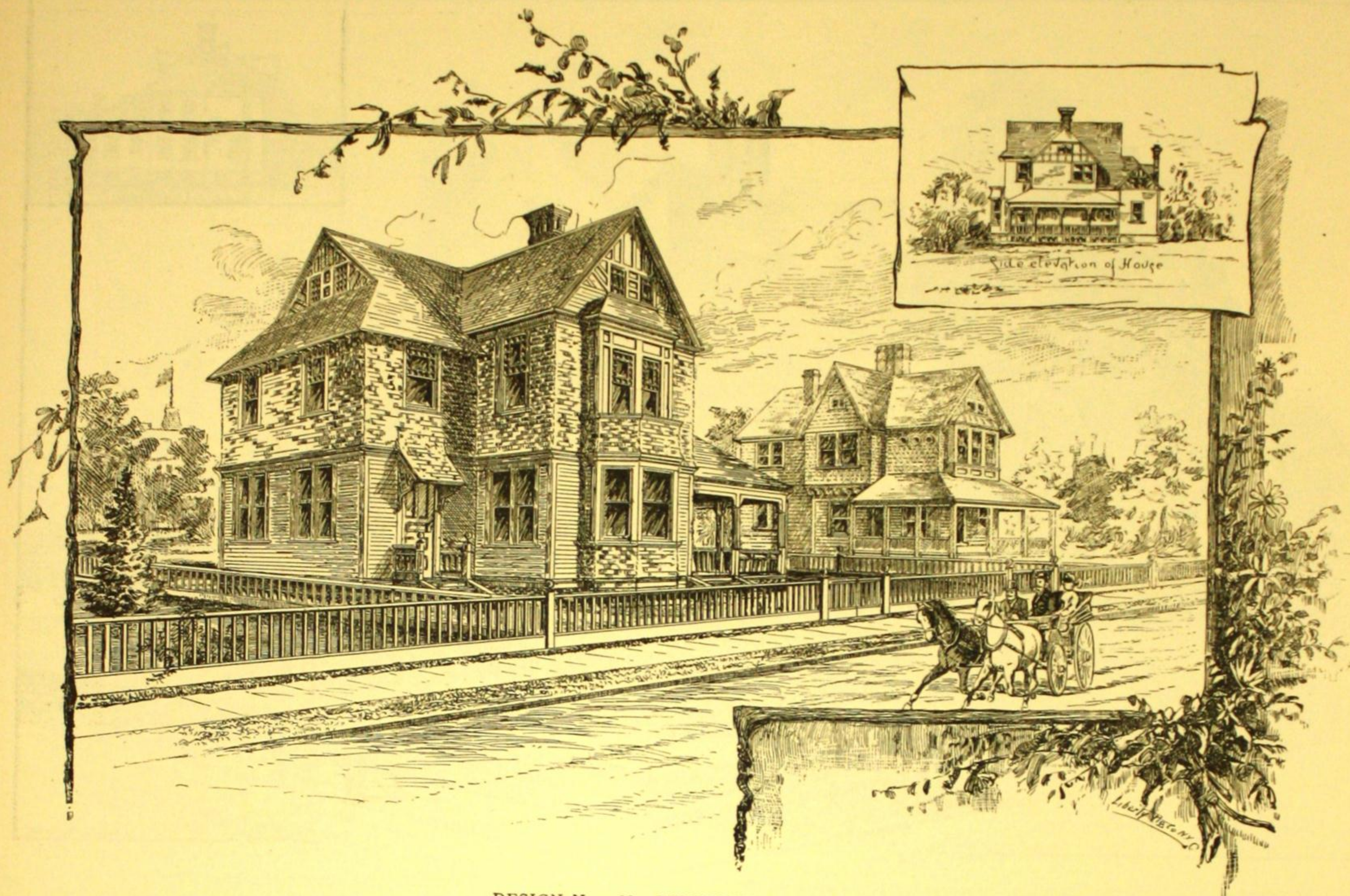
Open fire-places in all rooms of first story.

The attic is floored, but not finished. Cellar under the whole house.

Heater pipes and registers are provided.



SECOND FLOOR. NO. 387



DESIGN No. 388. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 388

SIZE OF STRUCTURE: Front, 44 ft., including veranda. Side, 46 ft., 6 in.

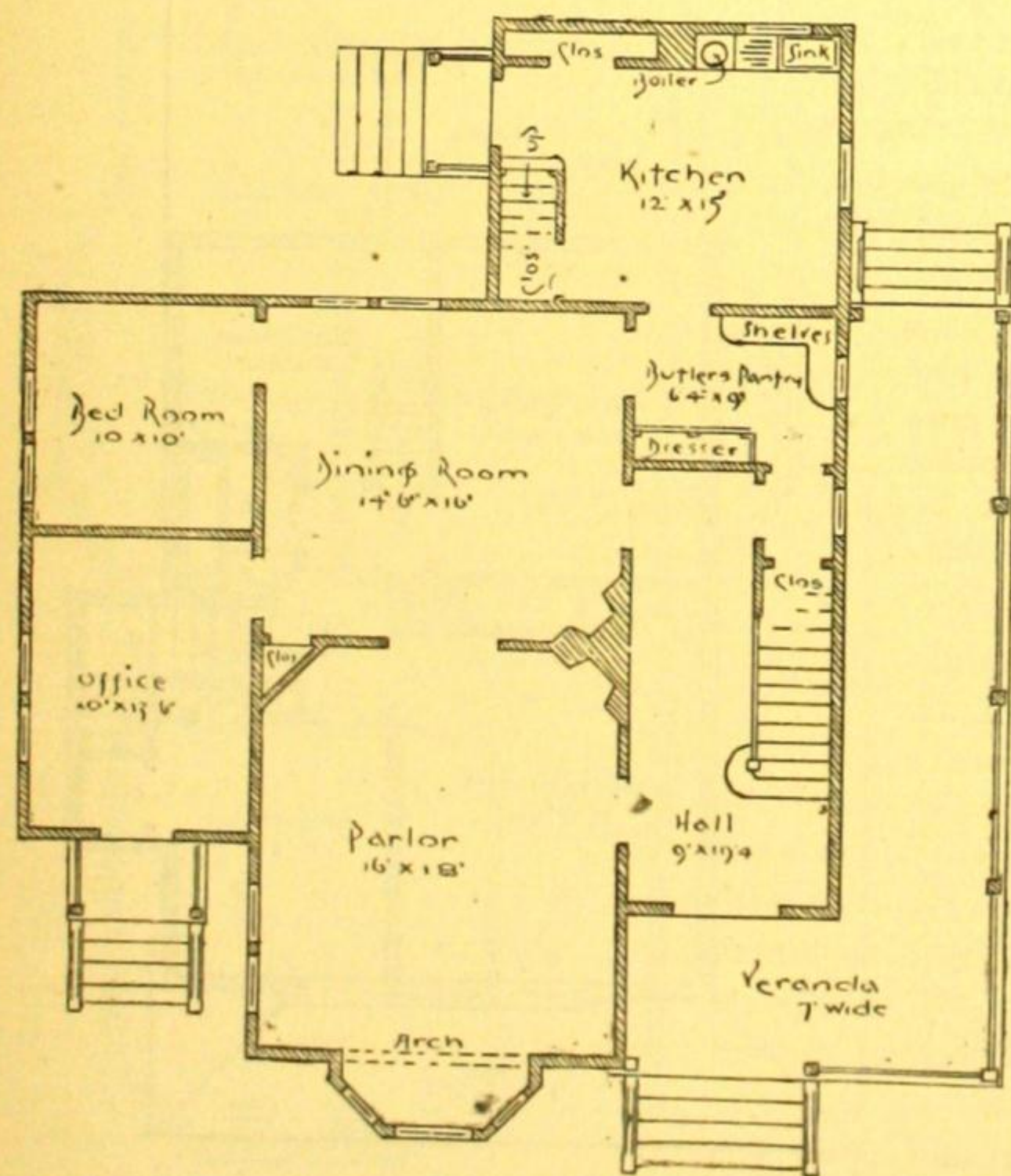
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Second Story, 10 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,800, complete, except mantels and kitchen range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]



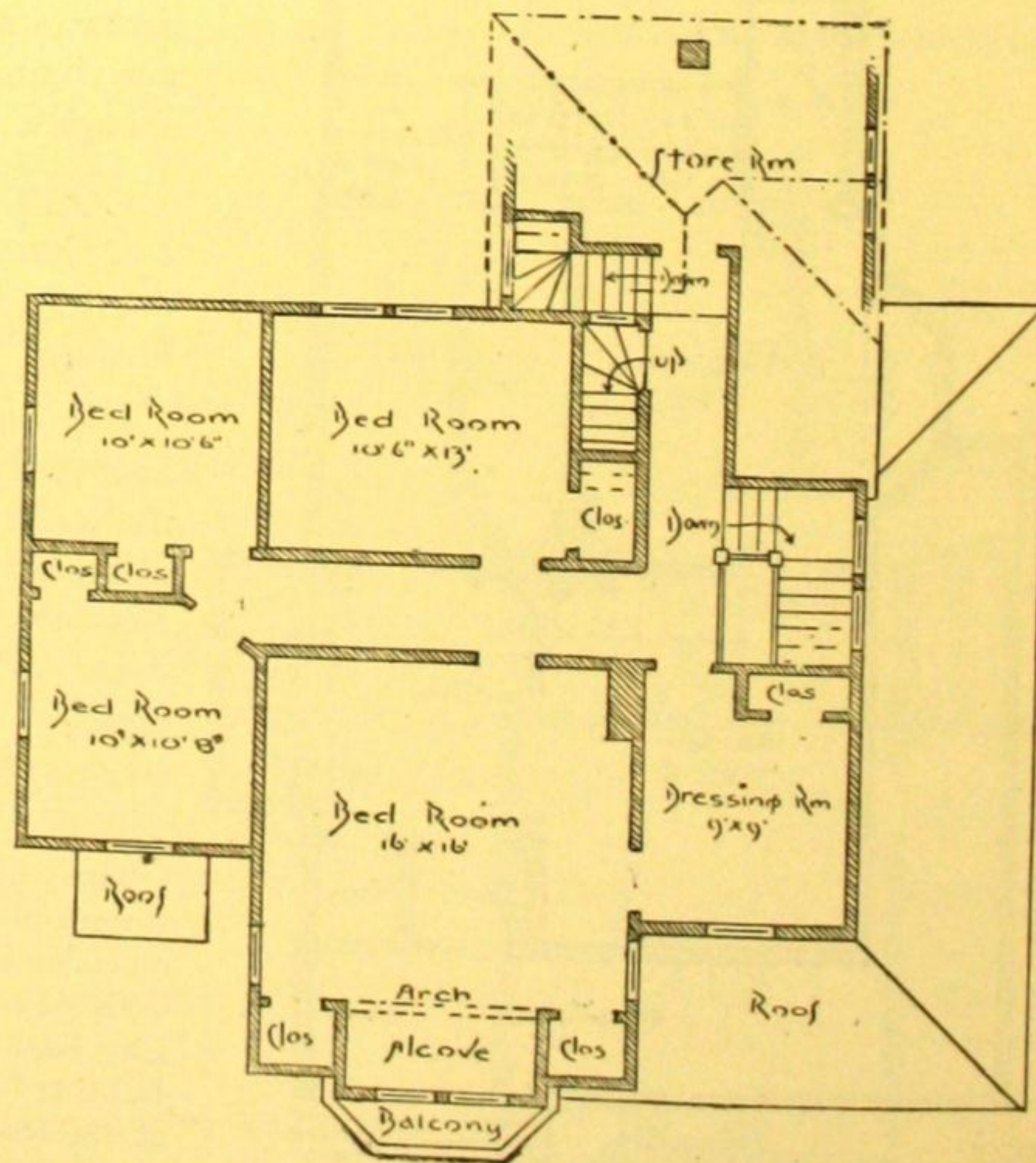
FIRST FLOOR. NO. 388

SPECIAL FEATURES.—Designed for a doctor's house and office. The bedroom back of office can be made a private office and be connected with the front office.

Three rooms are finished in the attic.

If a bath-room is desired it can be put over kitchen where "store-room" is marked on the plan; the additional cost of the plumbing for the same would be about \$150.

No cellar, but the walls are carried under the whole house. Extra cost of cellar under the whole house about \$150.

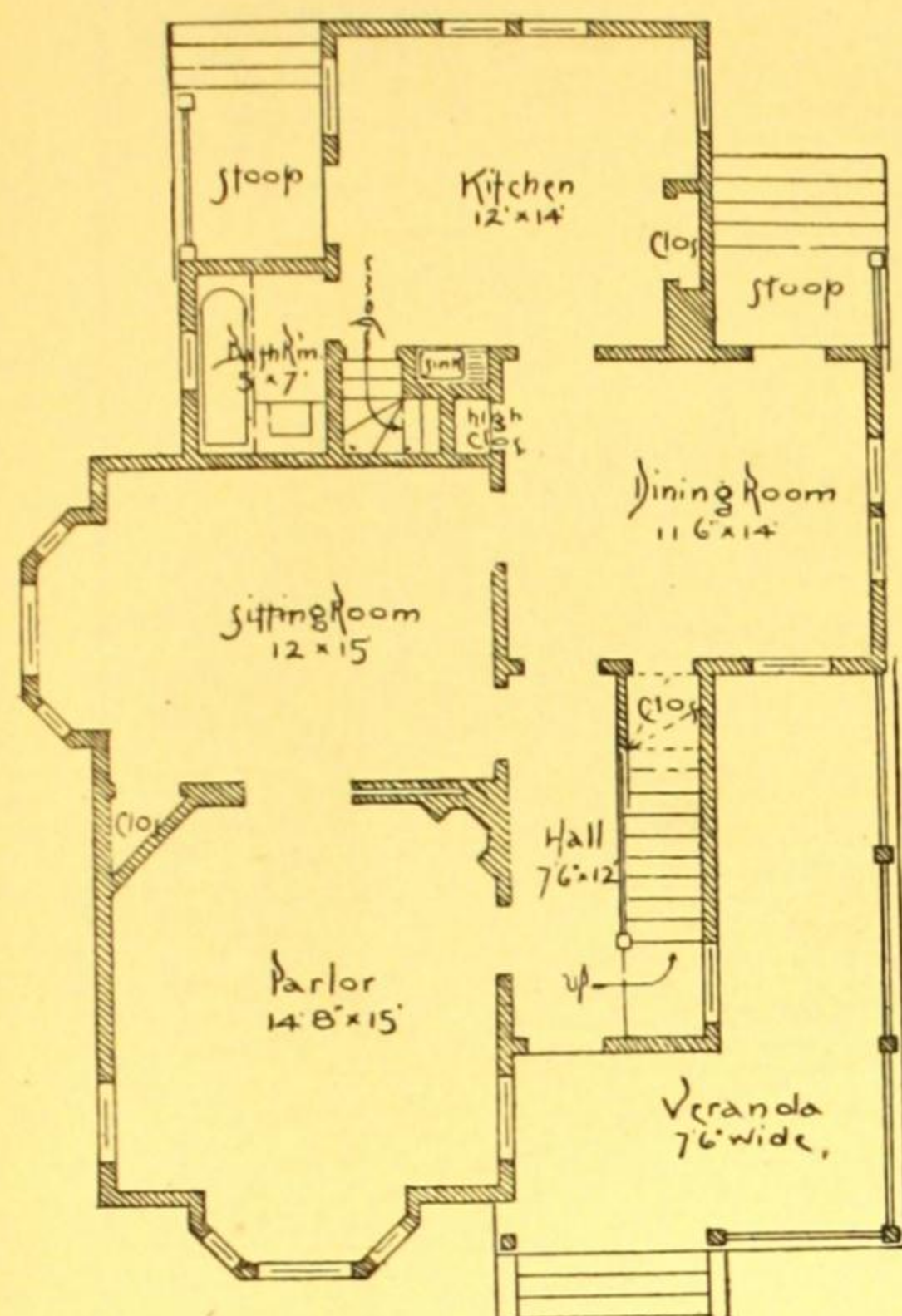


SECOND FLOOR. NO. 388

DESCRIPTION OF DESIGN NUMBER 389

SIZE OF STRUCTURE: Front, 30 ft., 6 in., including veranda.
Side, 47 ft., 6 in., including front bay window.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 389

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Attic Story, 7 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,500, complete, except mantels and kitchen range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

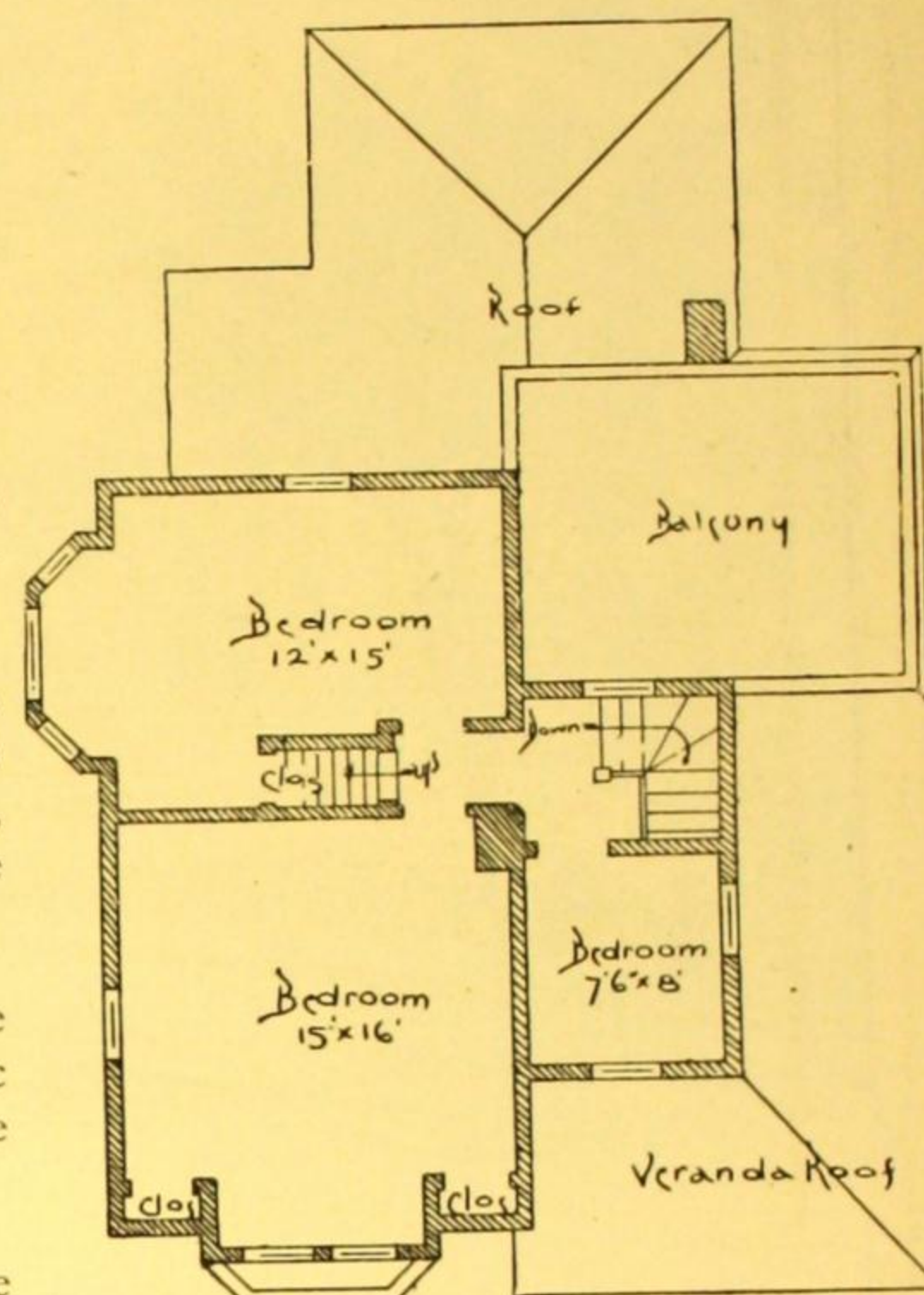
SPECIAL FEATURES.—A modification of the preceding design, the exterior being much the same.

An open fire-place in the parlor. A 4 ft. sliding door connects the parlor and sitting-room.

The dining-room part is one story high and has a flat roof, which forms a large open balcony.

Two bedrooms are finished in the attic and there is storage room besides.

Cellar under the kitchen only.



SECOND FLOOR. NO. 389

FOR THE AMATEUR HOUSE PAINTER.

FOR one who wishes to do his own painting the best plan, in most cases, is to buy ready mixed paints, of which there are a number of good brands in the market; he can select his colors from the sample cards furnished or order them as specified by the architects. In this way he obtains the colors desired and avoids the difficulties of mixing.

If he prefers to mix the colors, thereby effecting a saving of money, he can have the pigments ground to the desired tints, then by adding the oil (raw linseed is the best) bring the paints to the proper consistency for using.

White lead is good to lighten any color, and also makes the best body for white paint and some other colors.

When using dry lampblack, saturate it with spirits of turpentine and there will be no difficulty in mixing it with oil afterwards; no more turpentine should be used than is necessary to make a paste, as turpentine is bad for outside work. A small amount of lampblack is good to set the olive greens and make them durable.

It is important that the work to be painted be perfectly clean and free from grease, oil or tar spots. All knots should be covered with a coat of strong shellac varnish before priming. If the work is new let the priming stand a week or two before laying on the second coat.

The following will be found useful in computing the amount of paint required:

QUANTITIES REQUIRED to paint 100 square yards: For priming, if tinted white lead is used, there will be required 20 pounds of lead and 5 quarts of raw linseed oil. For second coat 20 pounds of lead and one gallon of oil.

If three-coat work is intended, the amount of material required for priming and completing the work will average 50 pounds of lead and 2½ gallons of oil to cover 100 square yards, or about ½

pound lead per square yard. As painting is sometimes measured by the "square" of 10 x 10 feet (or 100 square feet), we give the following rule for computing the quantities required, viz.: 5 pounds of lead and one quart of oil to the "square" for three-coat work.

When paint is already mixed and ready for the brush there is required one gallon per coat for each 25 square yards.

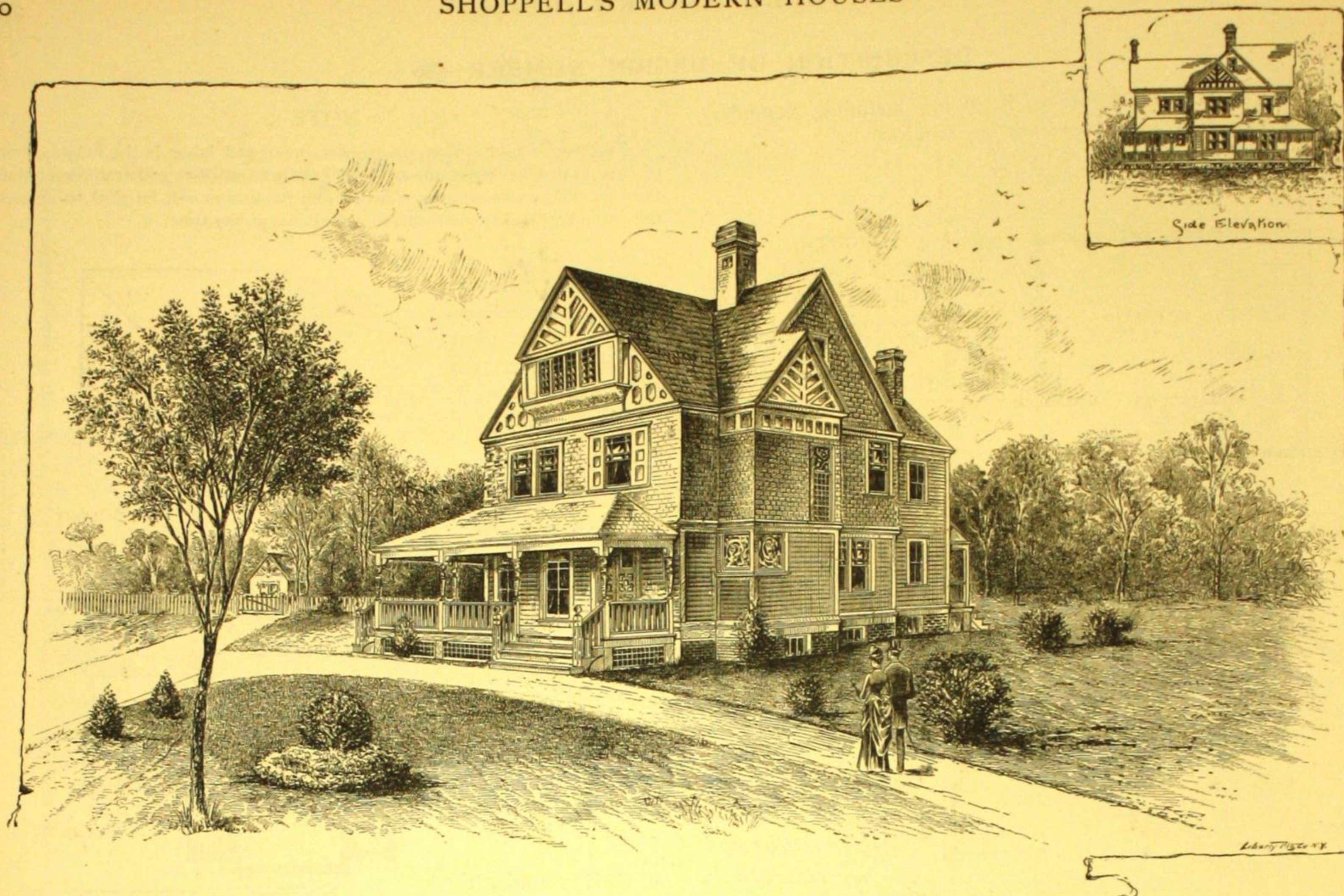
Putty for stopping nail holes, &c., ½ pound to the "square," or 4 to 5 pounds for each 100 yards.

IN REGARD TO THE BRUSHES REQUIRED: It is economy to have enough brushes so that there will be one for each color, besides a few sash tools with which to touch up and for use in small spaces and corners. It is a waste of time and an annoyance to be obliged to wash or rub out brushes in changing from one color to another. No brush should be washed with soap and water; it destroys its elasticity and usefulness. If water is to be used in cleaning a brush, let it be well mixed with ammonia and used as warm as is comfortable to the touch. If the brushes are washed in turpentine or benzine, they should be cleansed from same and laid out for a little time to allow the spirits to evaporate before painting is resumed. The turpentine endangers the durability of the paint.

One who does his own painting is not likely to be stinted in time, and consequently will not need to spend money for such large brushes as painters generally use. Brushes made with a selected quality of Russia bristles and bound with wire are considered the best, though there are very good brushes bound with cord or twine.

A very good kind of flat brush, like a kalsomine or whitewash brush can be obtained, that answers quite well for painting or oiling shingles or large surfaces; they are cheap and quite substantial, being bound in a patent rubber composition, and need no extra binding or "bridling."

For laying on the body colors a round brush, not less than 0000 in size, should be used, one for each color, also one for the trim.



DESIGN No. 390. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 390

SIZE OF STRUCTURE: Front, 26 ft., 9 in.; extreme width, including veranda and staircase projection, 37 ft., 6 in. Side, 48 ft., 6 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES:
Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,500, complete, except mantels, range and heater.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will

be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Open fire-places in hall, library and dining-room; false chimney breast in the parlor.

The openings between the rooms of first story are intended for curtains, but doors can be hung if desired.

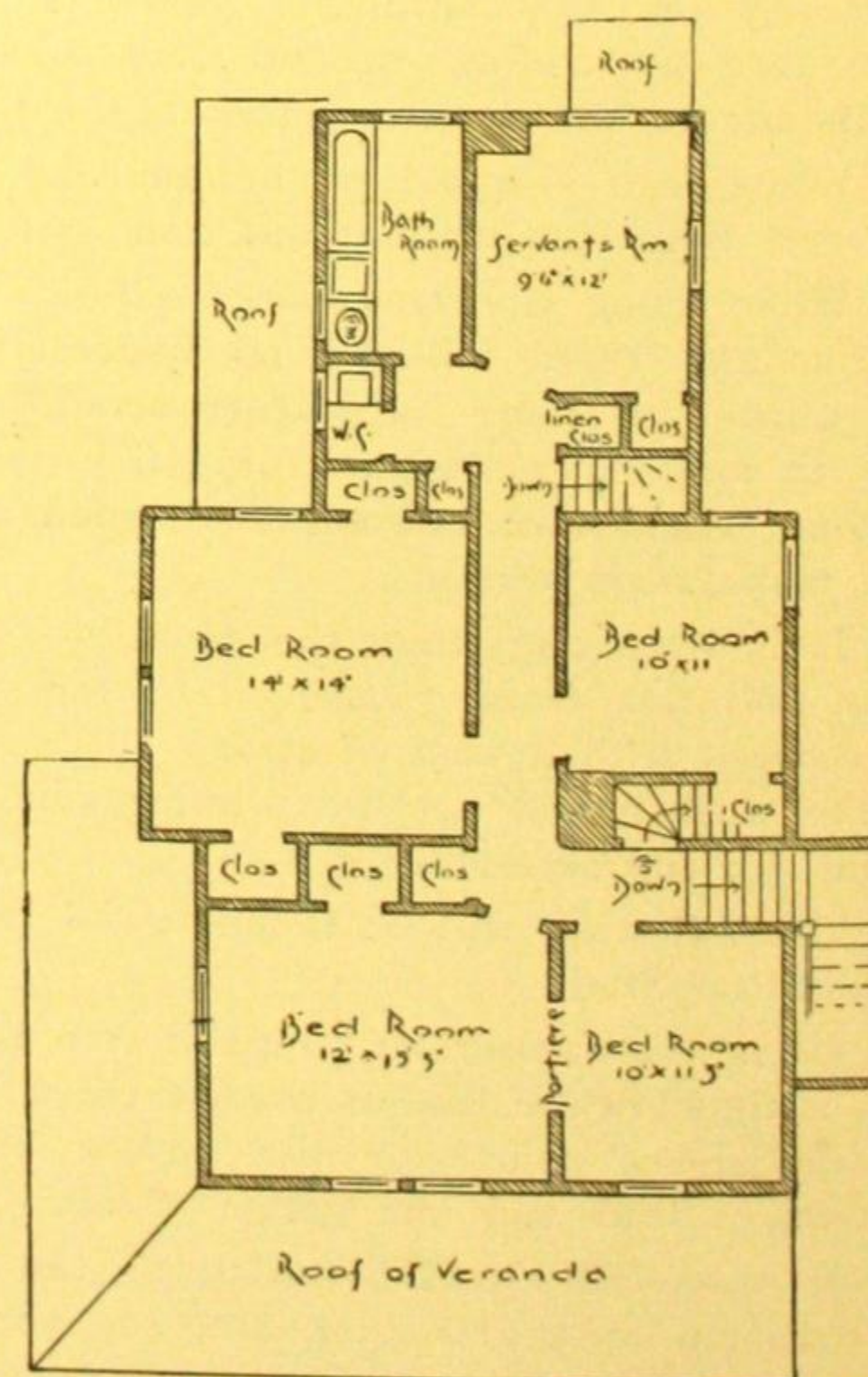
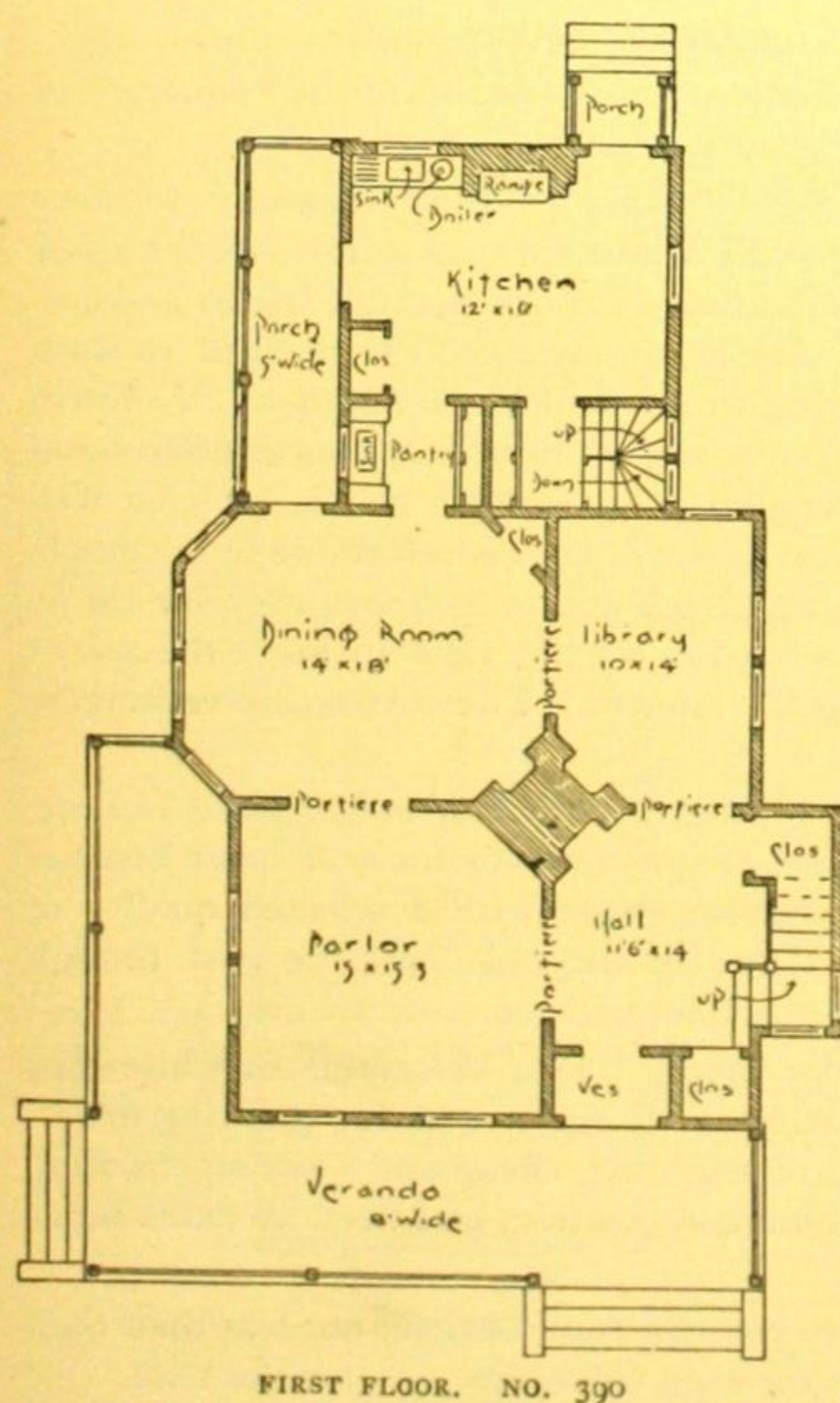
The parlor windows have sliding sash and are carried to the floor. A door opens from dining-room to rear porch.

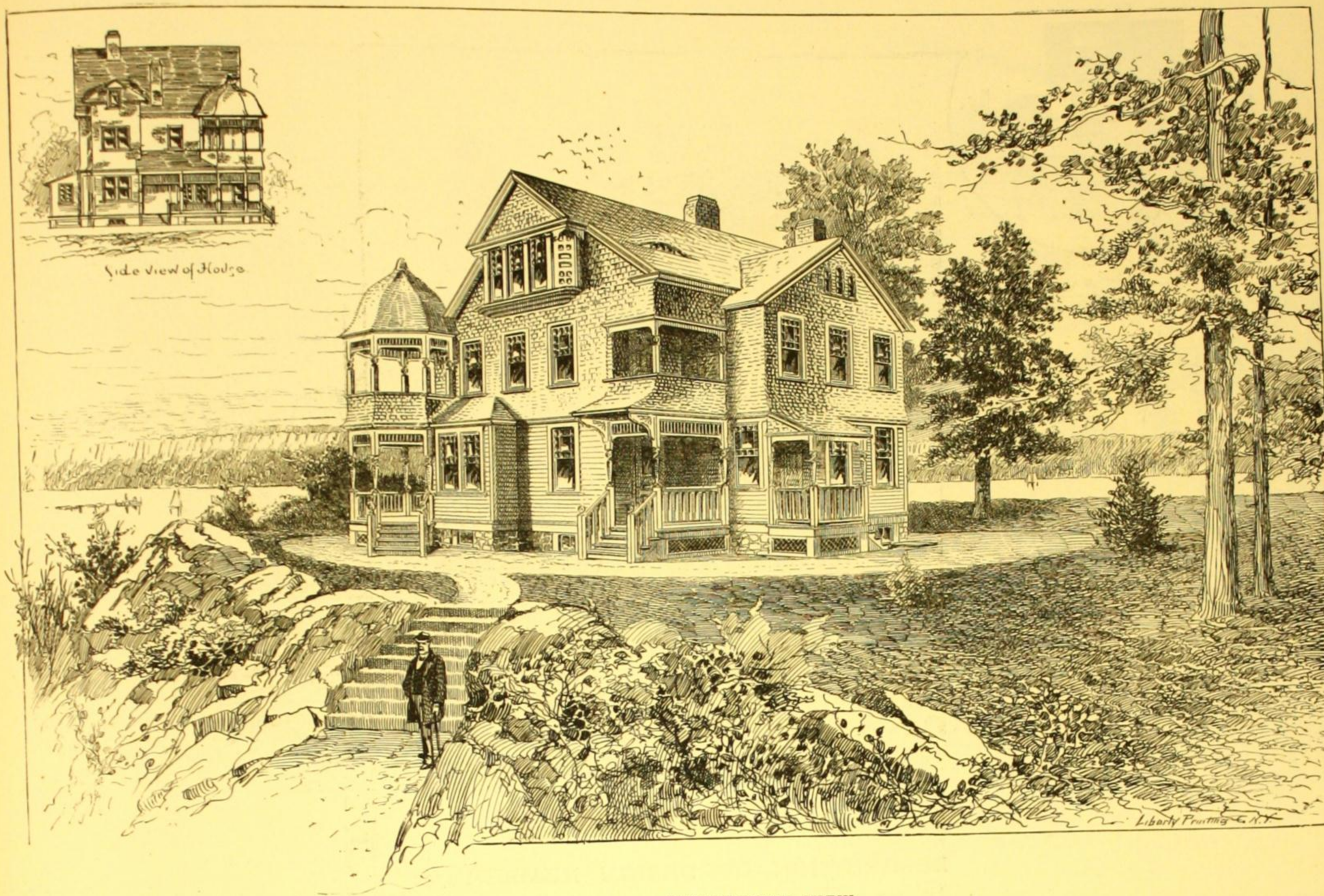
Stained glass in the hall windows.

Cellar under the whole house; laundry under the kitchen.

Heater pipes and registers are provided.

The attic is not finished.





DESIGN No. 391. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 391

SIZE OF STRUCTURE: Front, 26 ft., 6 in.; extreme width, 50 ft.
Side 39 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft., 6 in.;
Second Story, 8 feet; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST:
\$3,400, complete, except mantels, range and heater

[See page 219 for information about details specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The staircase hall affords access to the front door from the kitchen, without passing through a room.

The entrance hall is large enough to make a good reception-room. Sliding doors connect the hall and parlor, and the parlor and dining-room.

Open fire-places in the parlor and the dining-room.

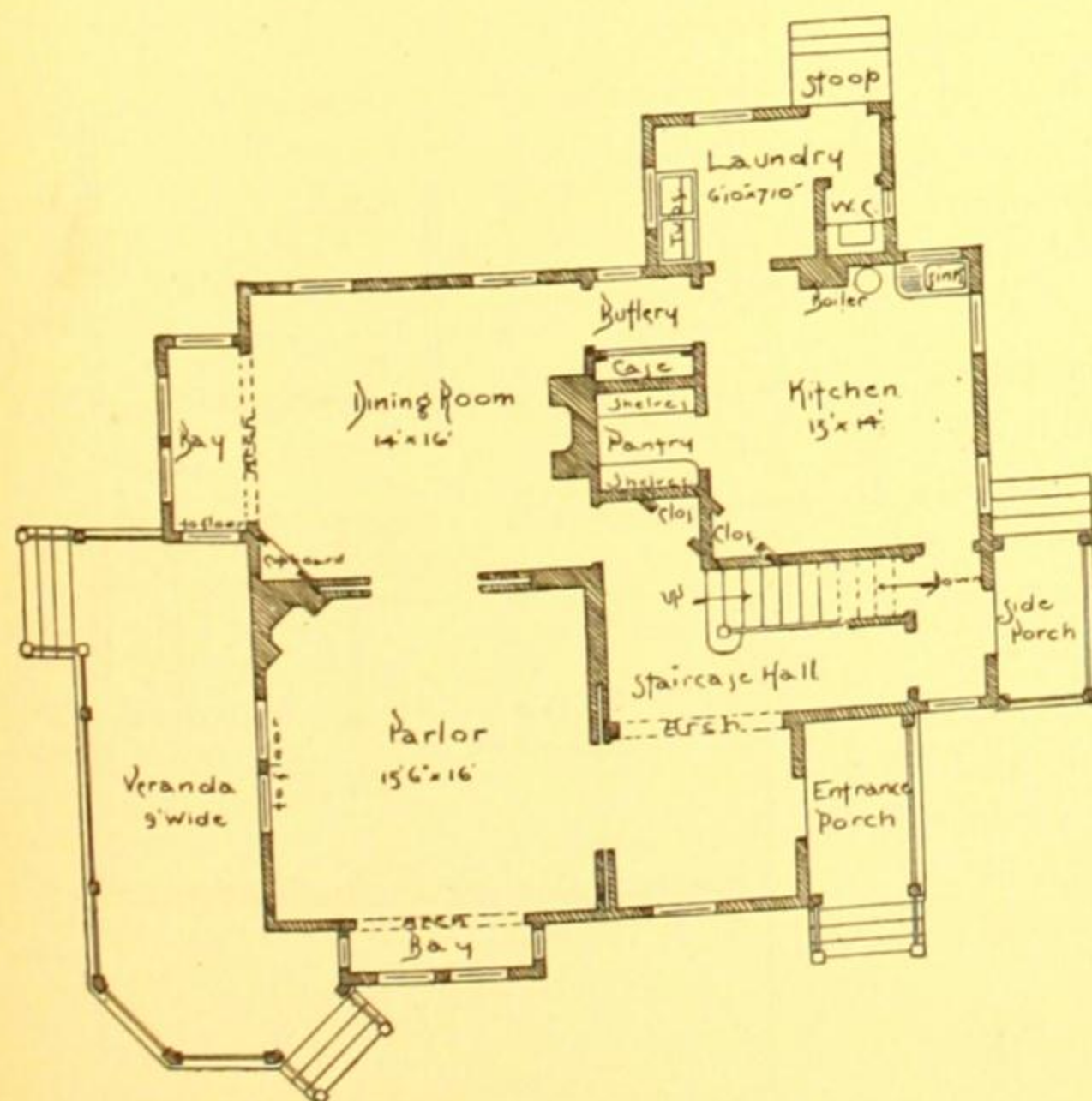
Large pantry and butler's pantry.

Heater pipes and registers are provided. Ash pits in the cellar into which the contents of the grates can be dumped through a flue.

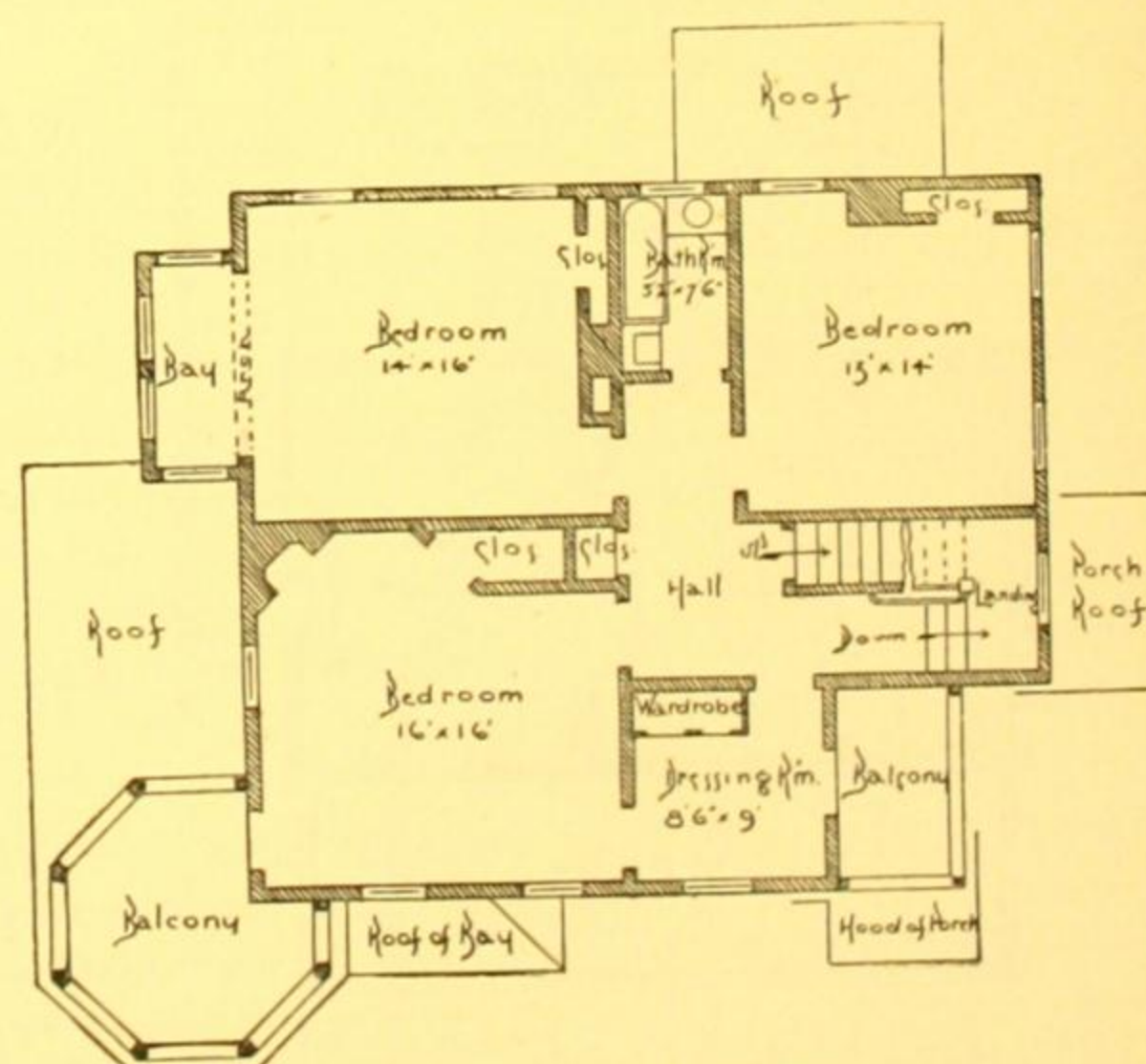
Two good bedrooms and a large store-room in the attic.

Cellar under the whole house.

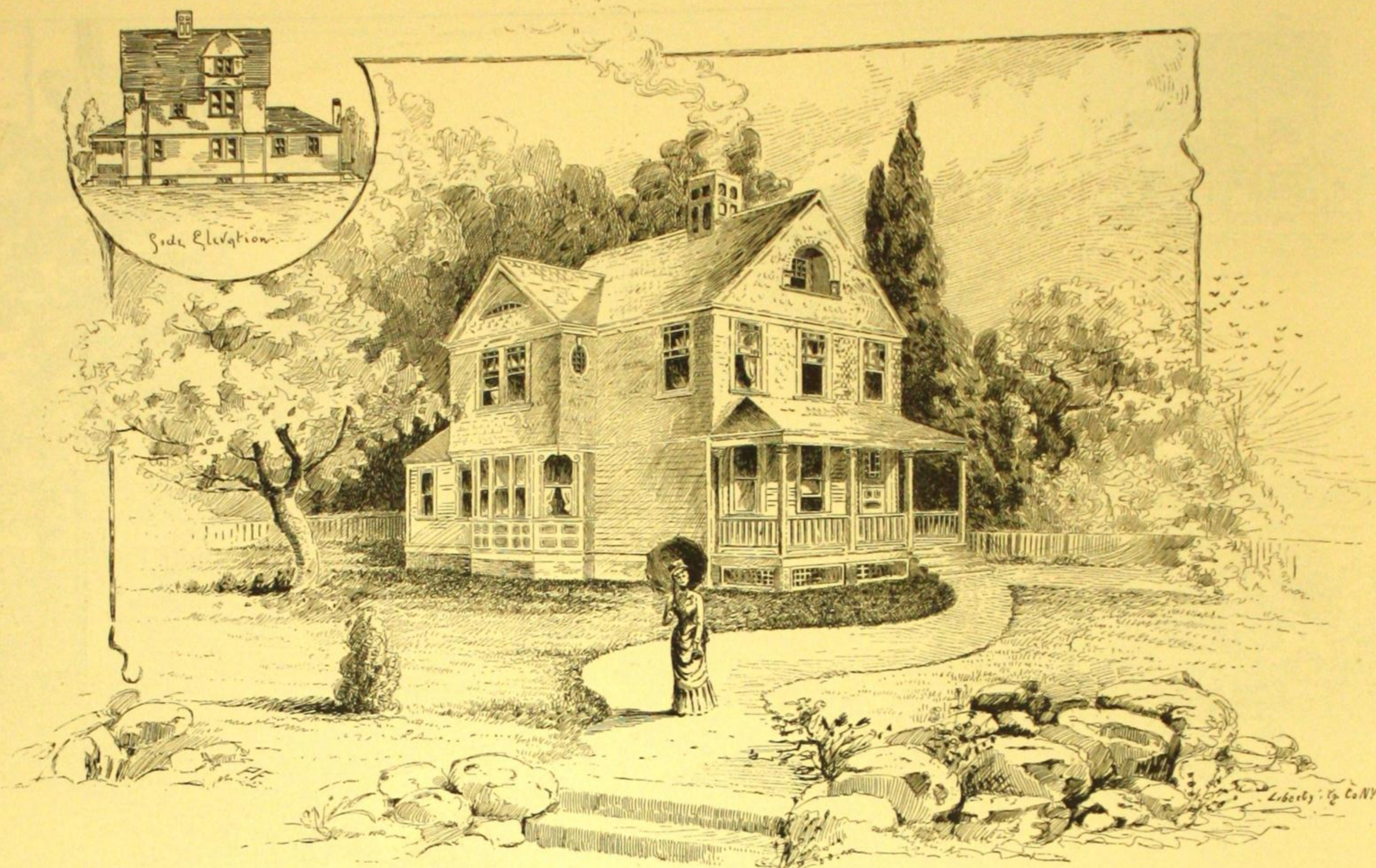
The separate laundry and servants' W. C. are desirable features.



FIRST FLOOR. NO. 391



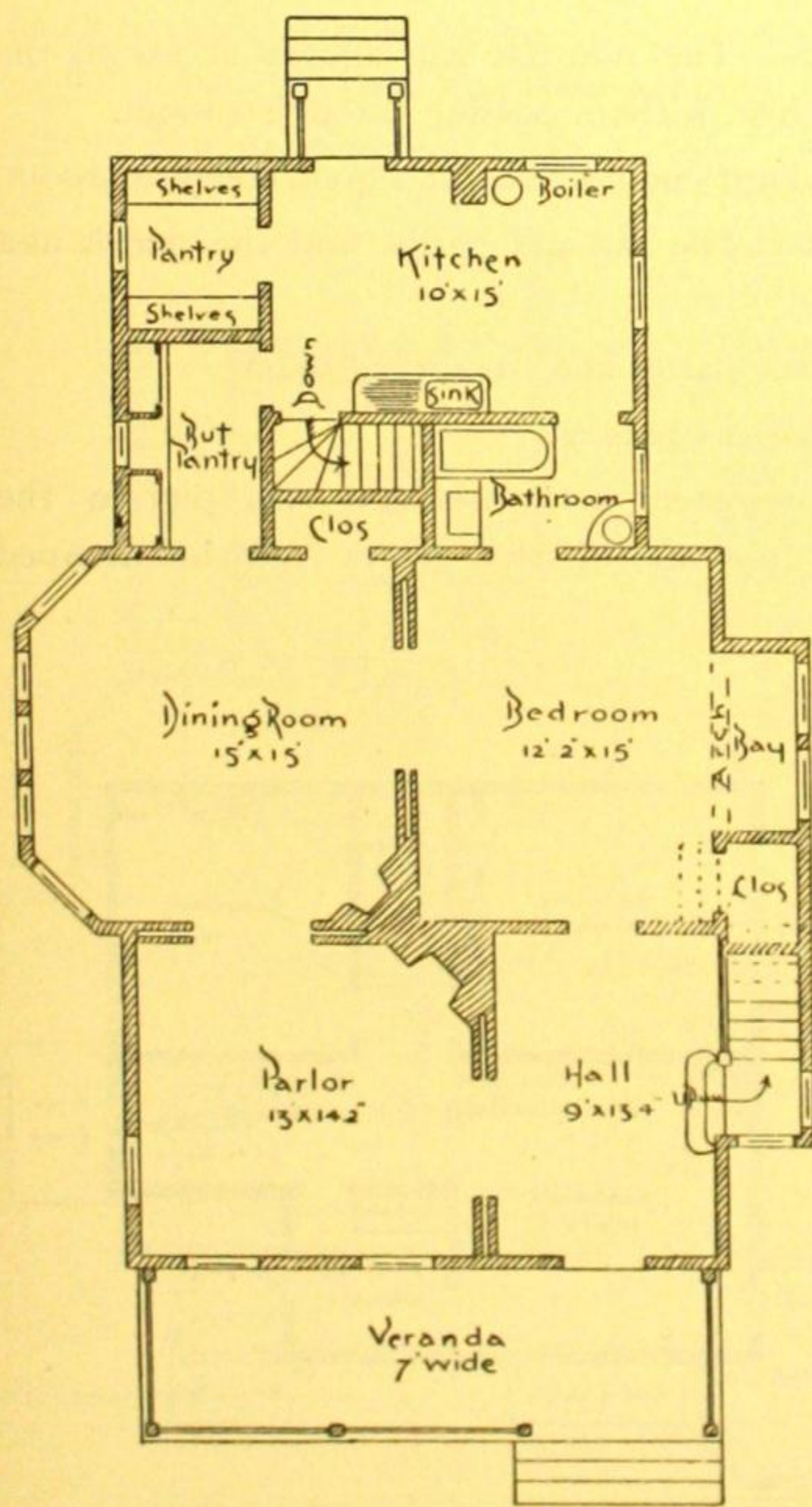
SECOND FLOOR. NO. 391



DESIGN No. 392. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 392

SIZE OF STRUCTURE: Front, 25 ft. Side, 45 ft., 10 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 392

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels and range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and

at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Sliding doors connect the principal rooms of the first story.

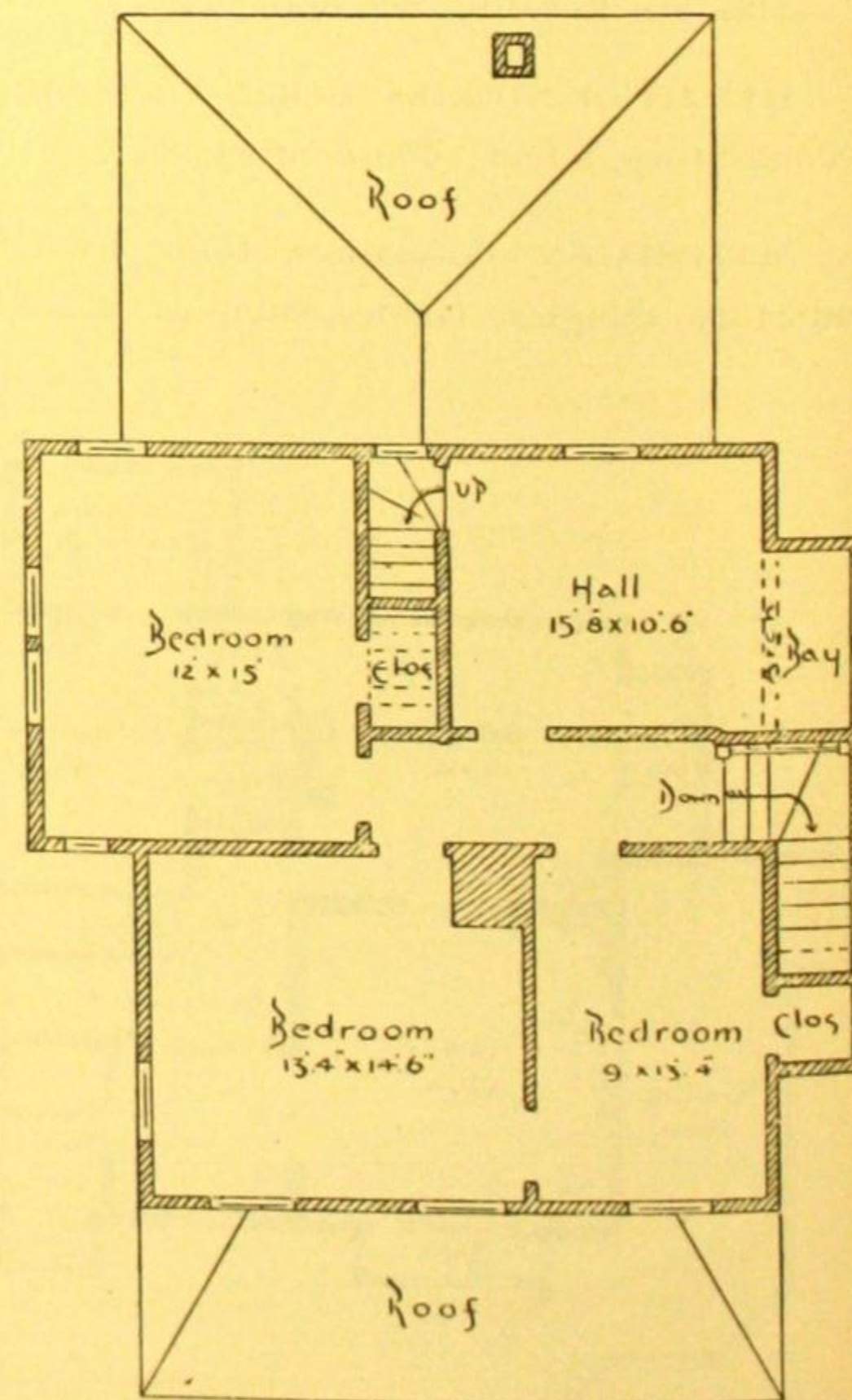
Open fire-places in the parlor and the dining-room.

The butler's pantry is large, and is fitted up with cupboards and drawers.

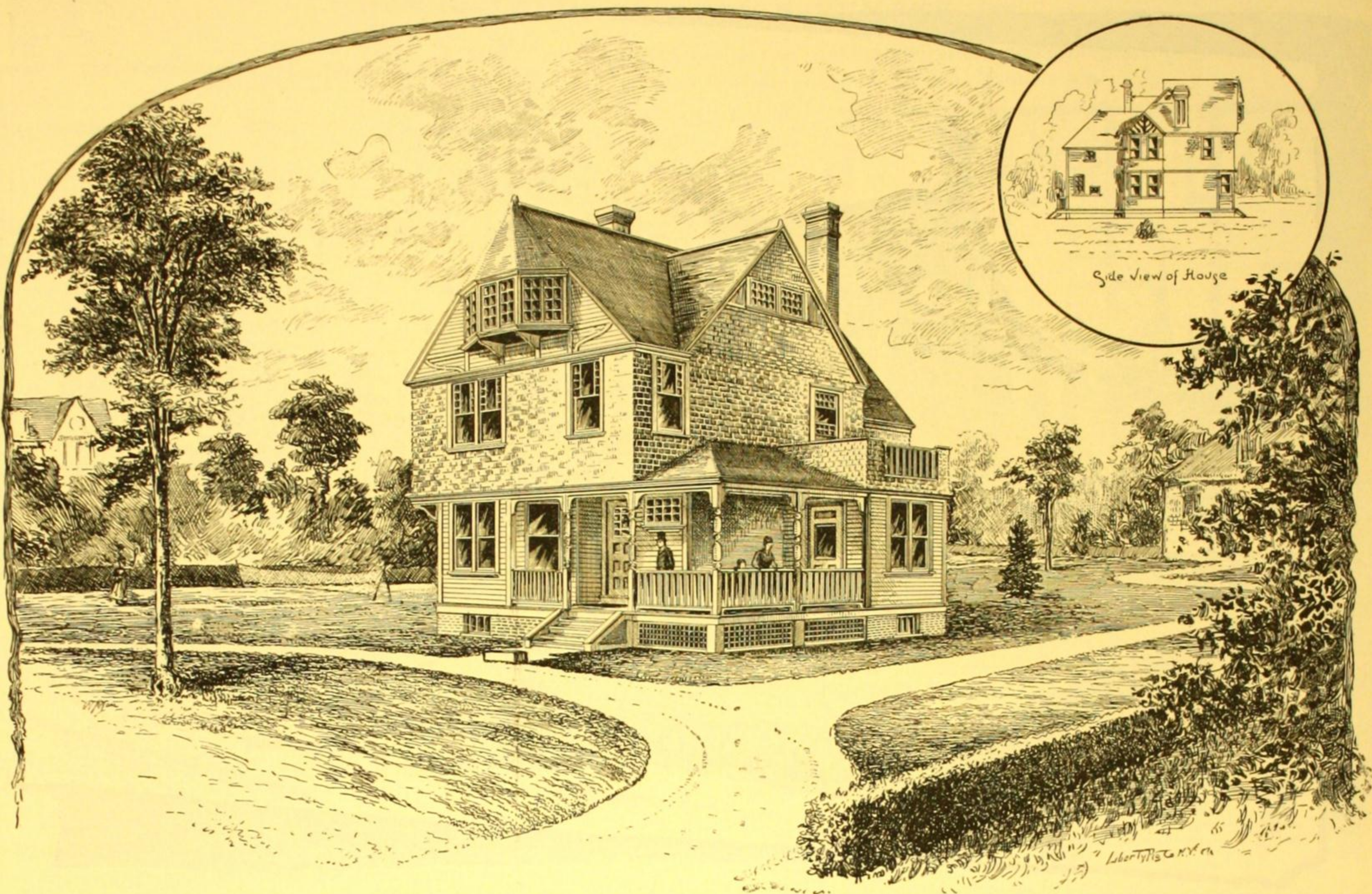
Hot water service to the bath-room and the kitchen sink.

The attic is floored but not finished. There is space to finish three good rooms if desired.

Cellar under the whole house.



SECOND FLOOR. NO. 392



DESIGN No. 393. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 393

SIZE OF STRUCTURE: Front, 25 ft., 2 in.; extreme width, 32 ft., 6 in. Side, 44 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 10 in.; Attic Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,800, complete, except mantels heater and range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be

somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

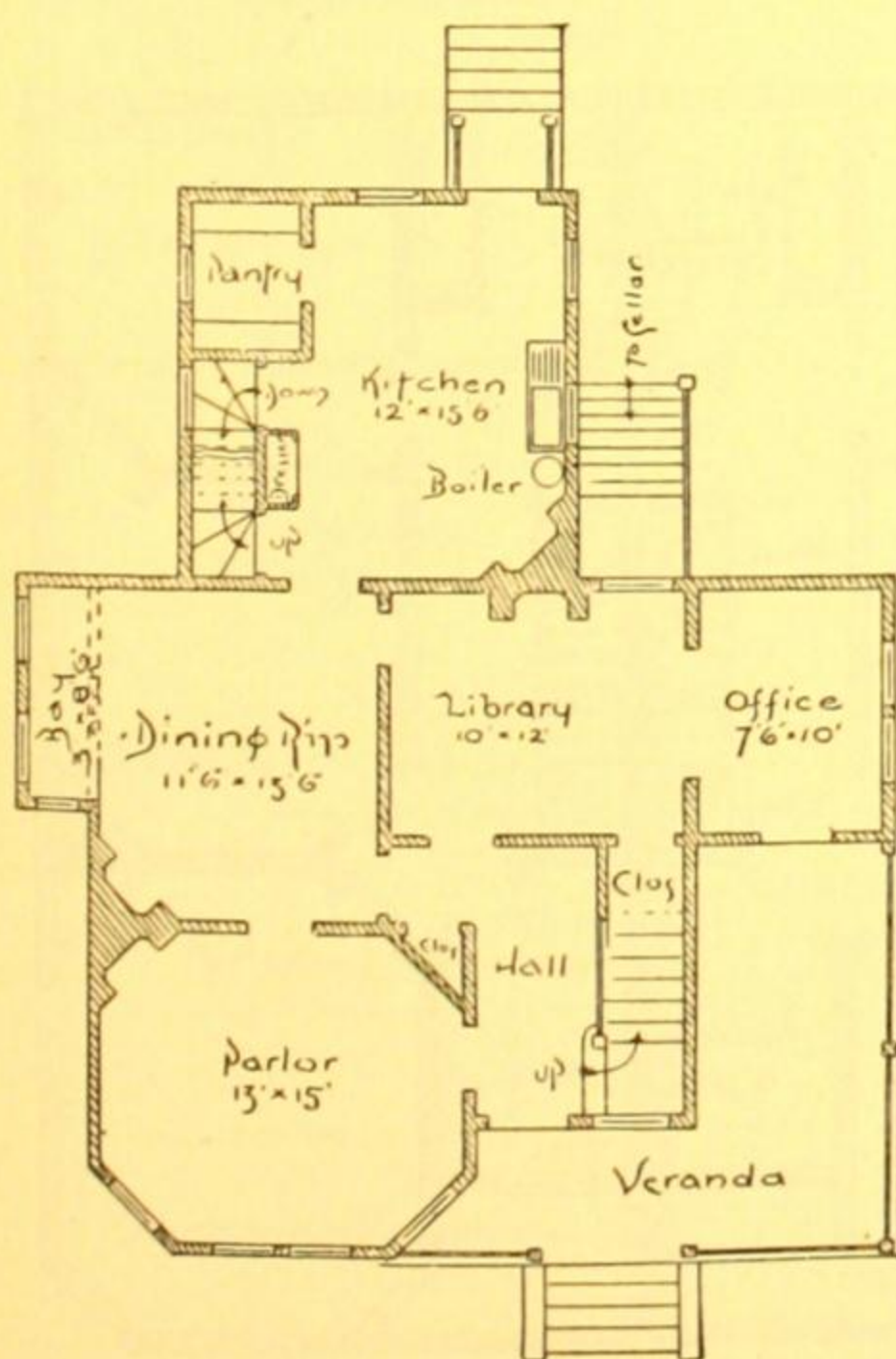
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Designed for a Physician. The office can be entered from the veranda.

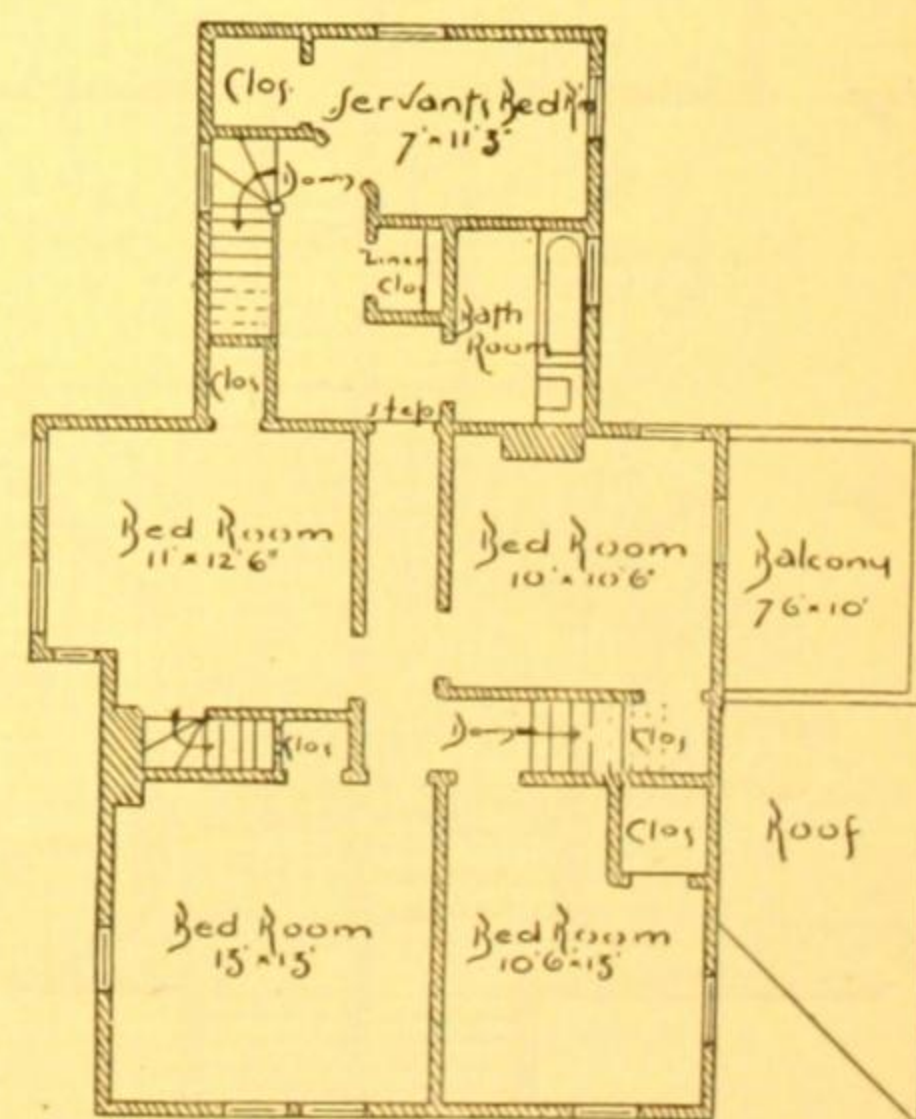
The veranda is 6 ft. wide on the front, and 8 ft. on the side.

Cellar under the main part of the house, with outside entrance to the same.

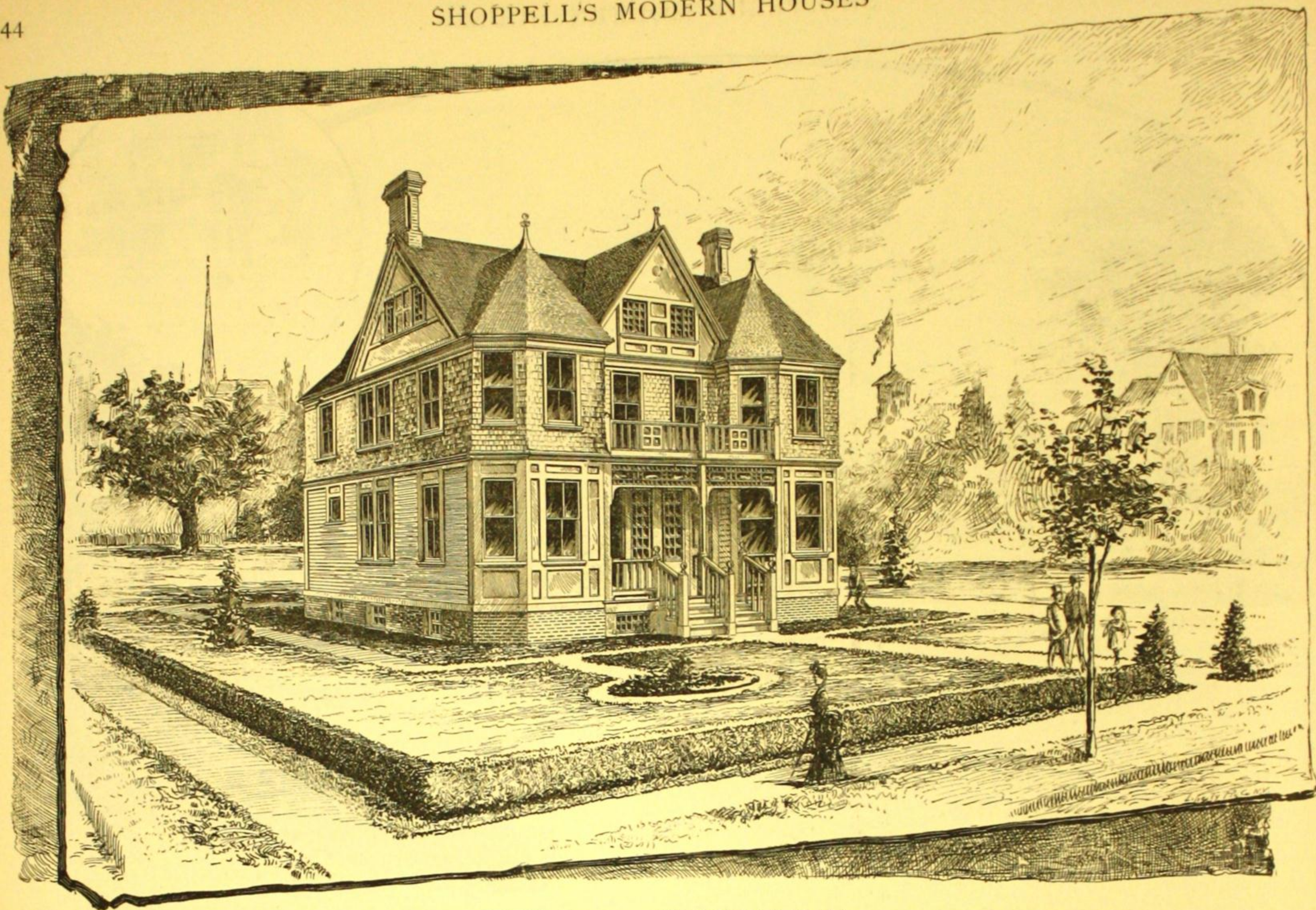
Two good bed-rooms can be finished in the attic, if desired;—the front room with the projecting bay and window seat makes one of the pleasantest rooms in the house—they are not included in our estimate.



FIRST FLOOR. NO. 393



SECOND FLOOR. NO. 393



DESIGN No. 394. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 394

SIZE OF STRUCTURE: Front, 38 ft., 3 in. Side, 41 ft.

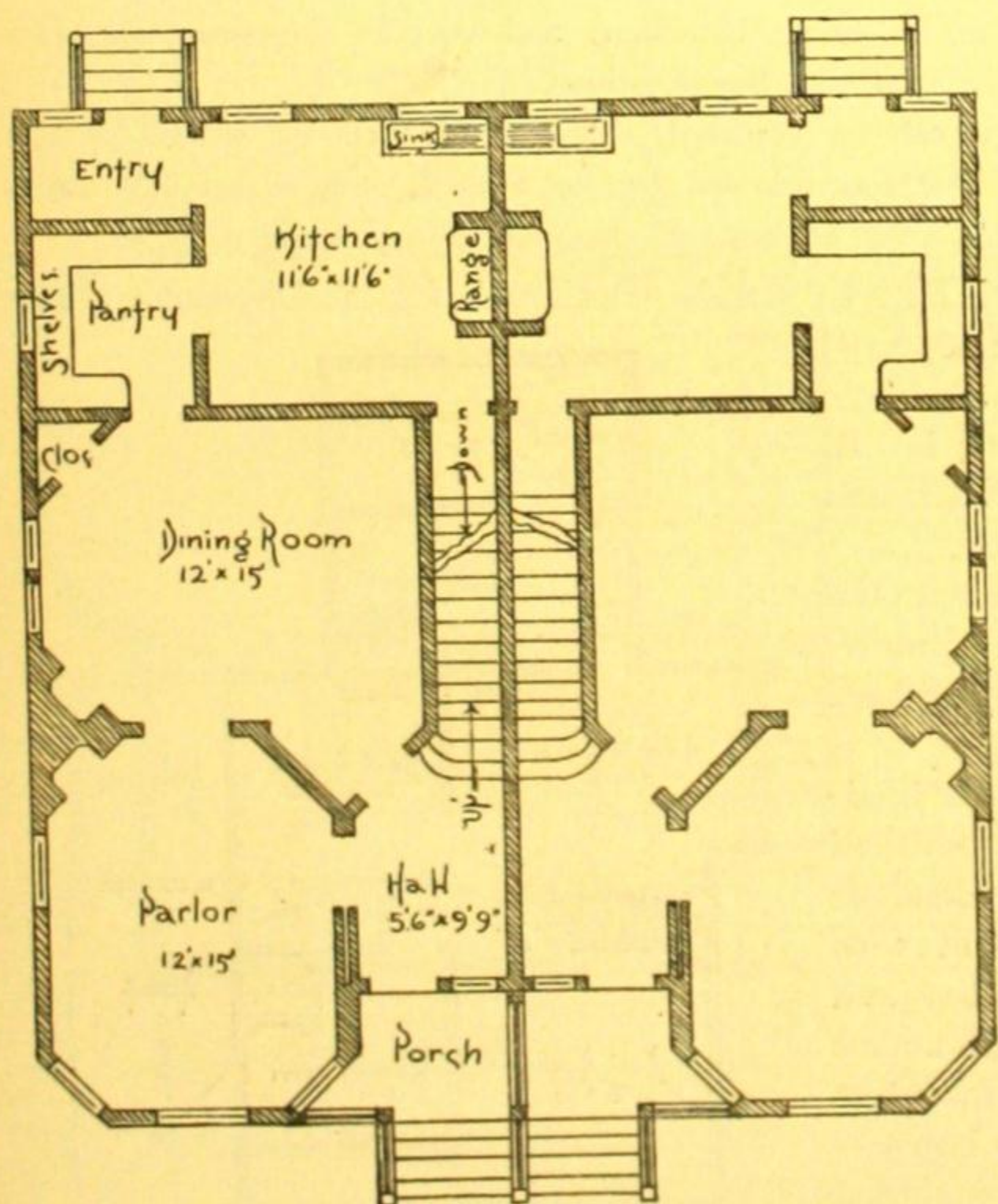
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$4,500, complete, except mantels and ranges.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 394

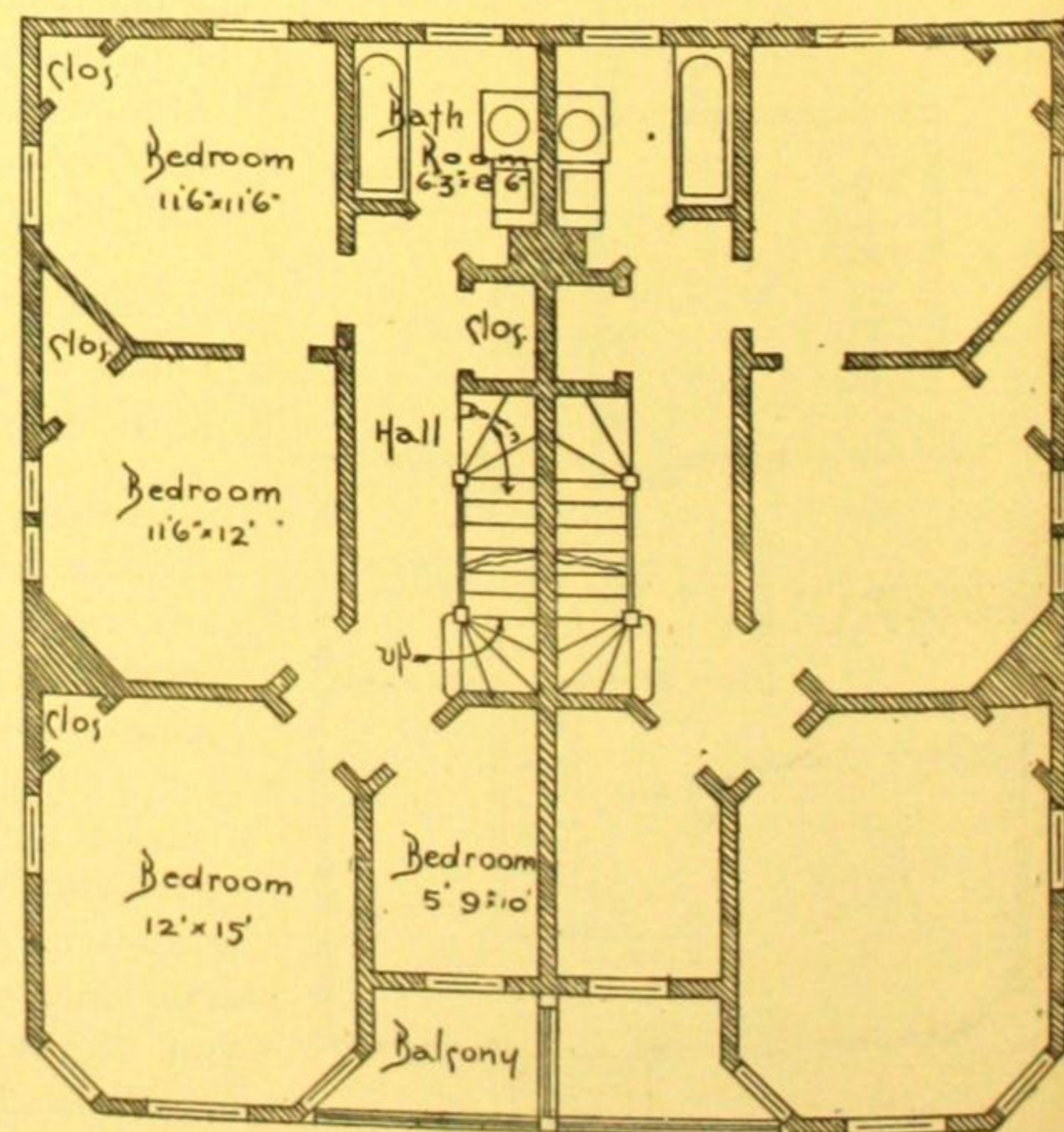
NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—A double cottage, very economically utilizing all the space.

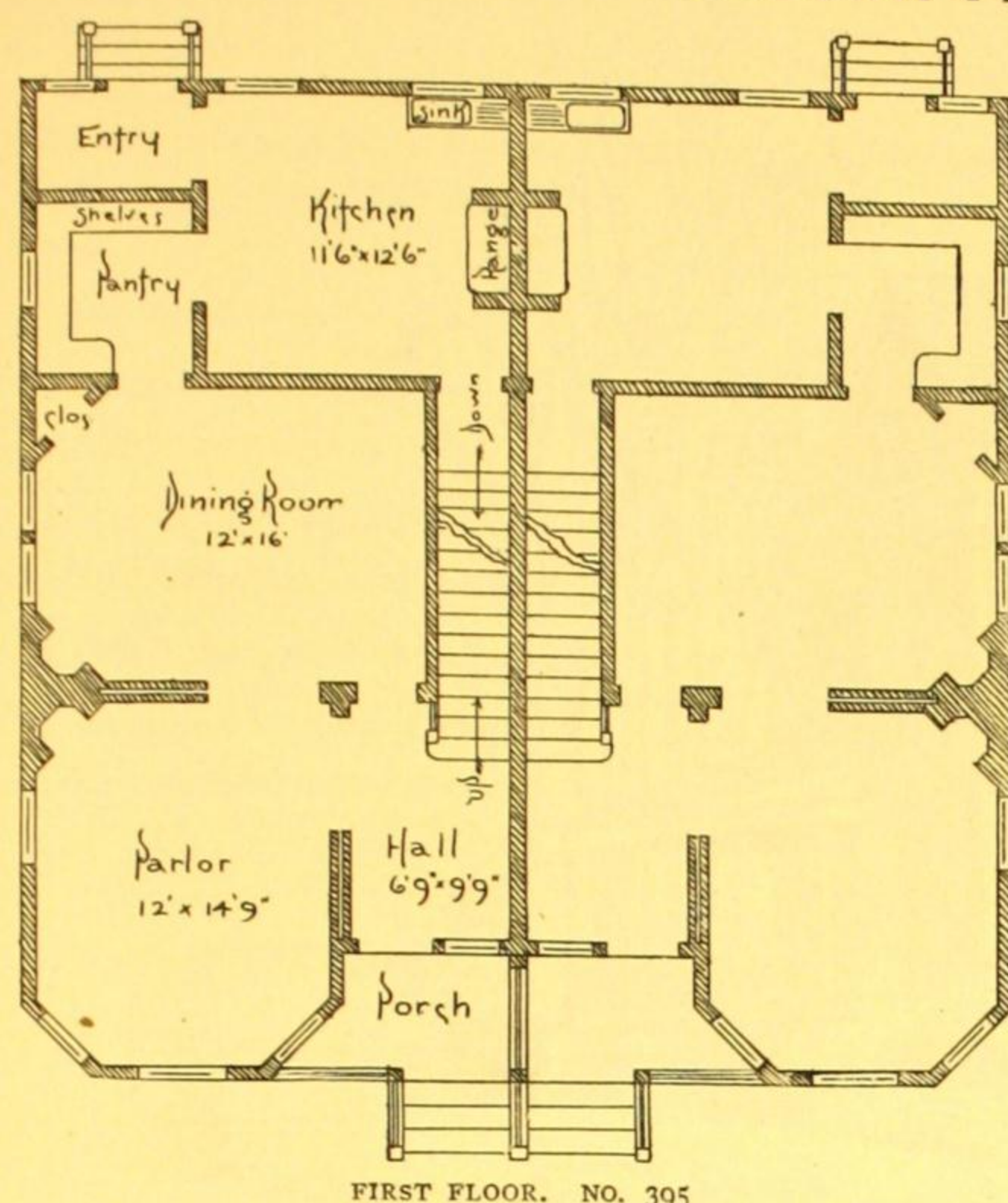
Two rooms can be finished in the attic of each house, if desired, or the space can be left unfinished for storage purposes.

Cellars under the whole of each house with outside entrances to the same from the yard.



SECOND FLOOR. NO. 394

DESCRIPTION OF DESIGN NUMBER 395



FIRST FLOOR. NO. 395

WITH one or two slight modifications, the arrangement of rooms is the same as that of the foregoing design, Number 394.

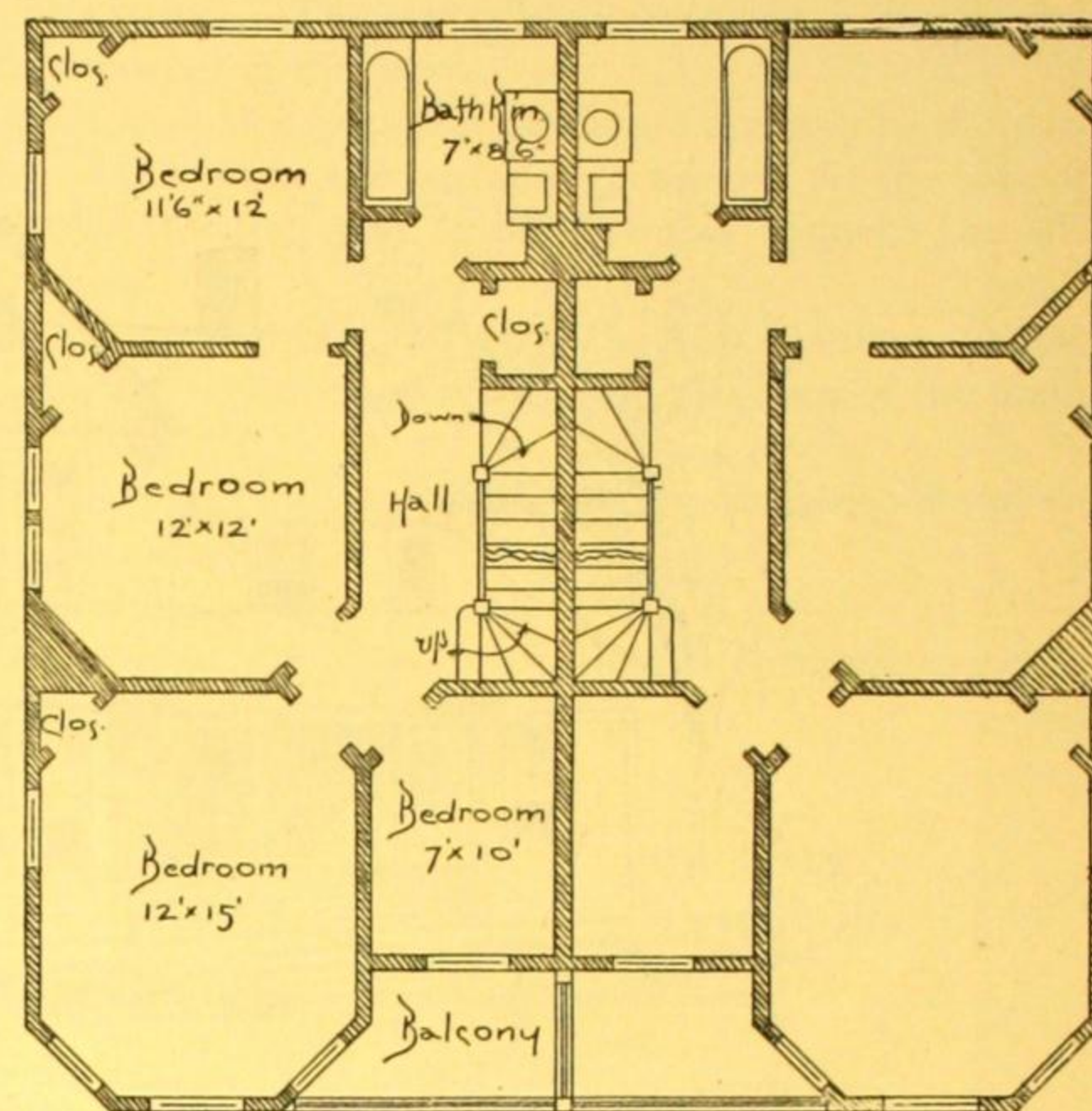
This house is 40 ft. wide, the hall, dining-room and kitchen being enlarged.

If built on a 50 ft. lot, there will be a passageway of 5 ft. at the side, for each house.

The exterior appearance is the same as shown by the perspective view of Number 394.

THE COST, exclusive of mantels and range, is \$4,800.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]



SECOND FLOOR. NO. 395

DESCRIPTION OF DESIGN NUMBER 396

THIS is a modification of design Number 394, adapted for a narrow city lot.

The house is 20 ft. wide and 41 ft. deep; height of stories same as in design Number 394.

The arrangement of rooms is compact and convenient, and the exterior is a wide departure from the flat fronts generally seen in city and village architecture.

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

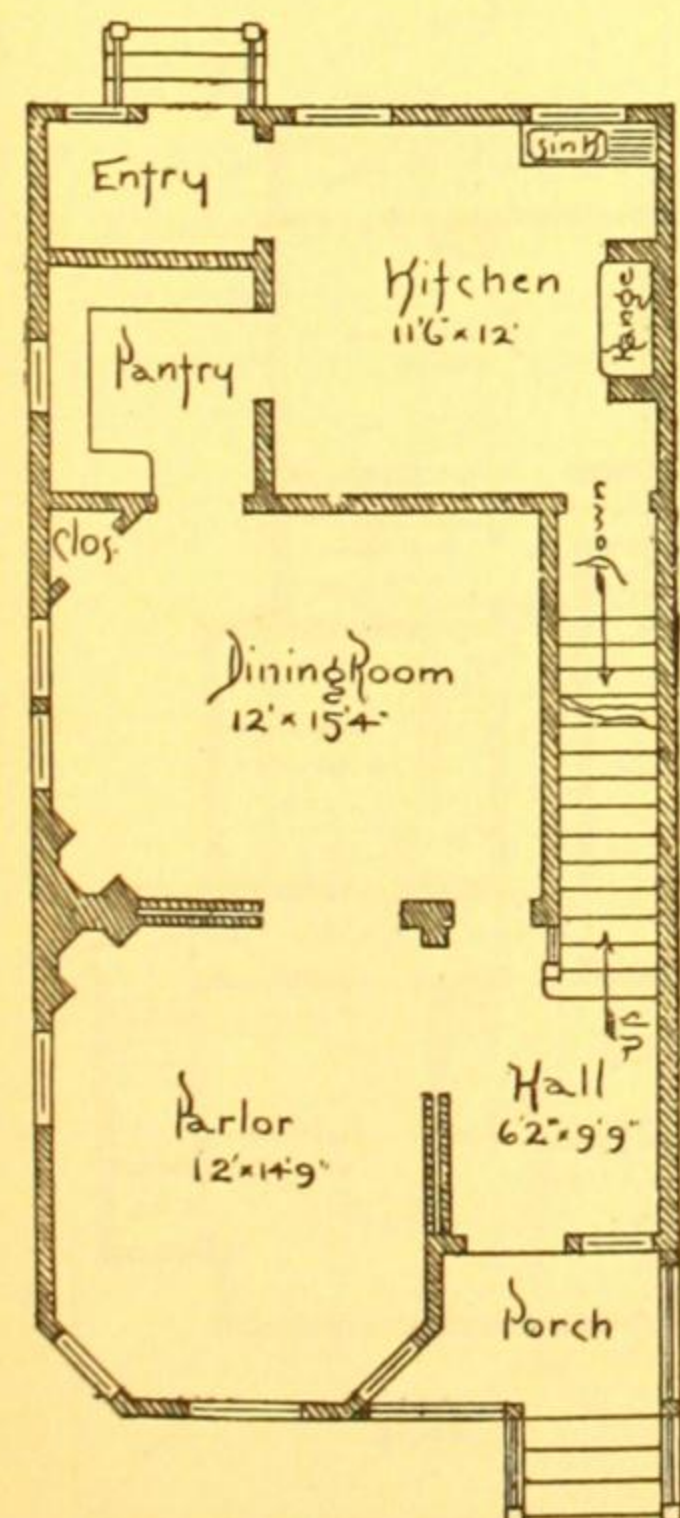
Cellar under the whole house.

Stone and brick foundations; clapboards, First Story; shingles, Second Story; panels in the Gables.

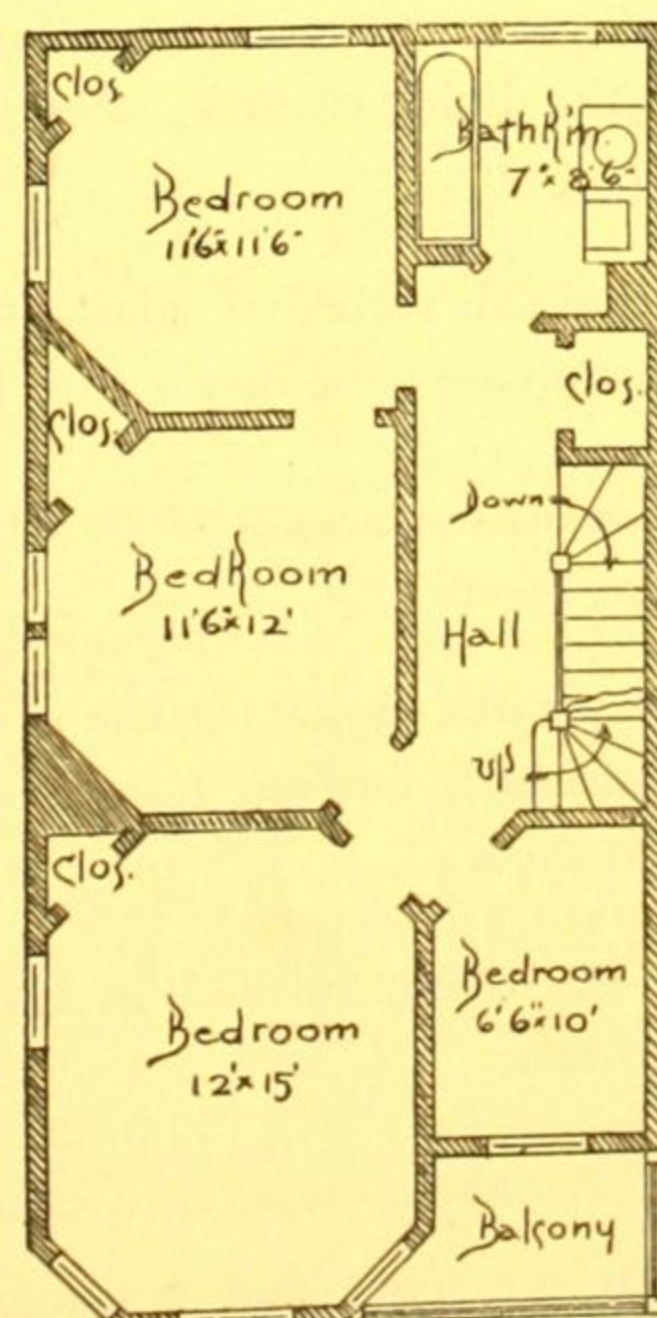
The Attic is unfinished.

COST: \$2,500, complete, except mantels and range.

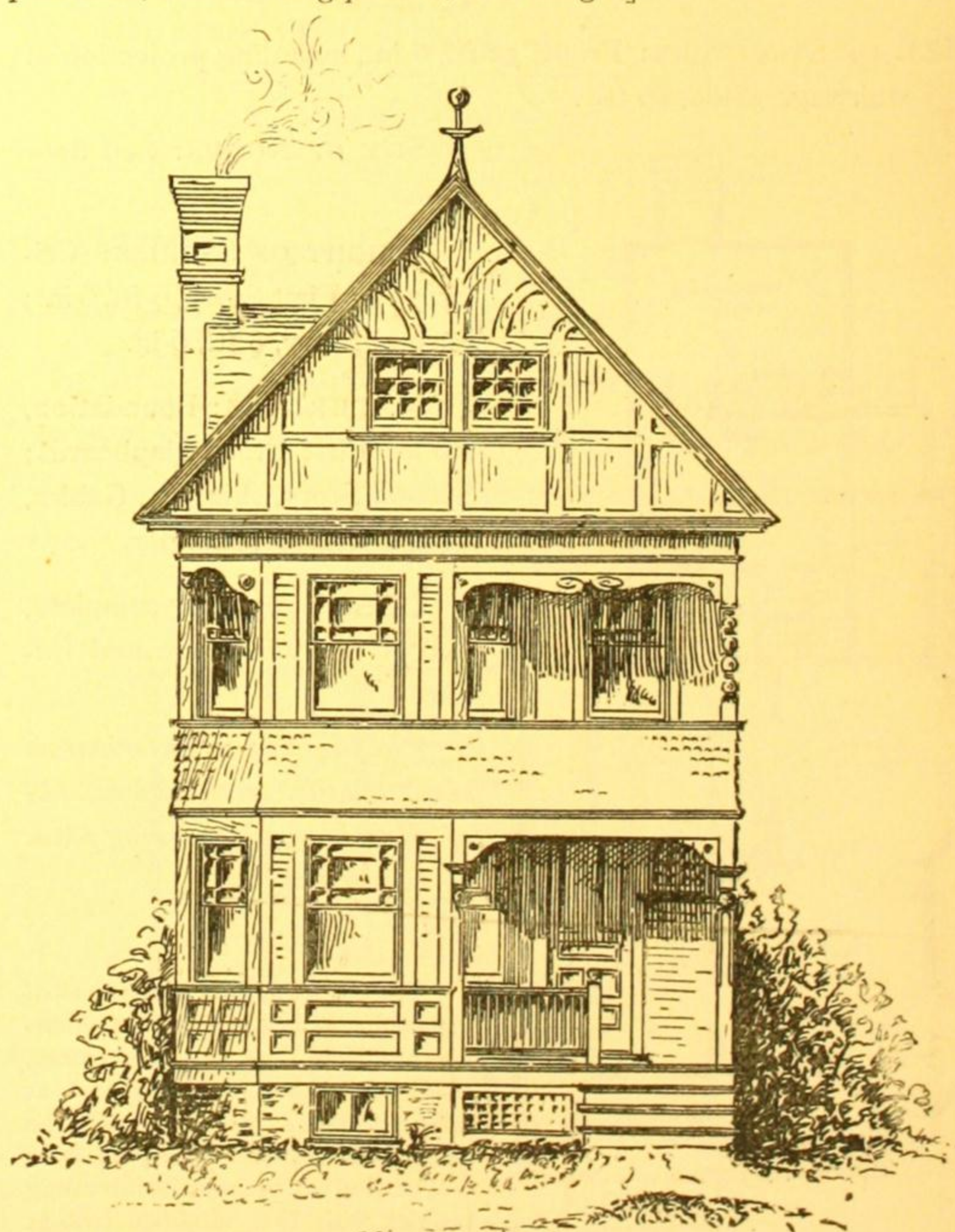
[See page 219 for information about details, specifications, bill of quantities, and working plans of this design.]



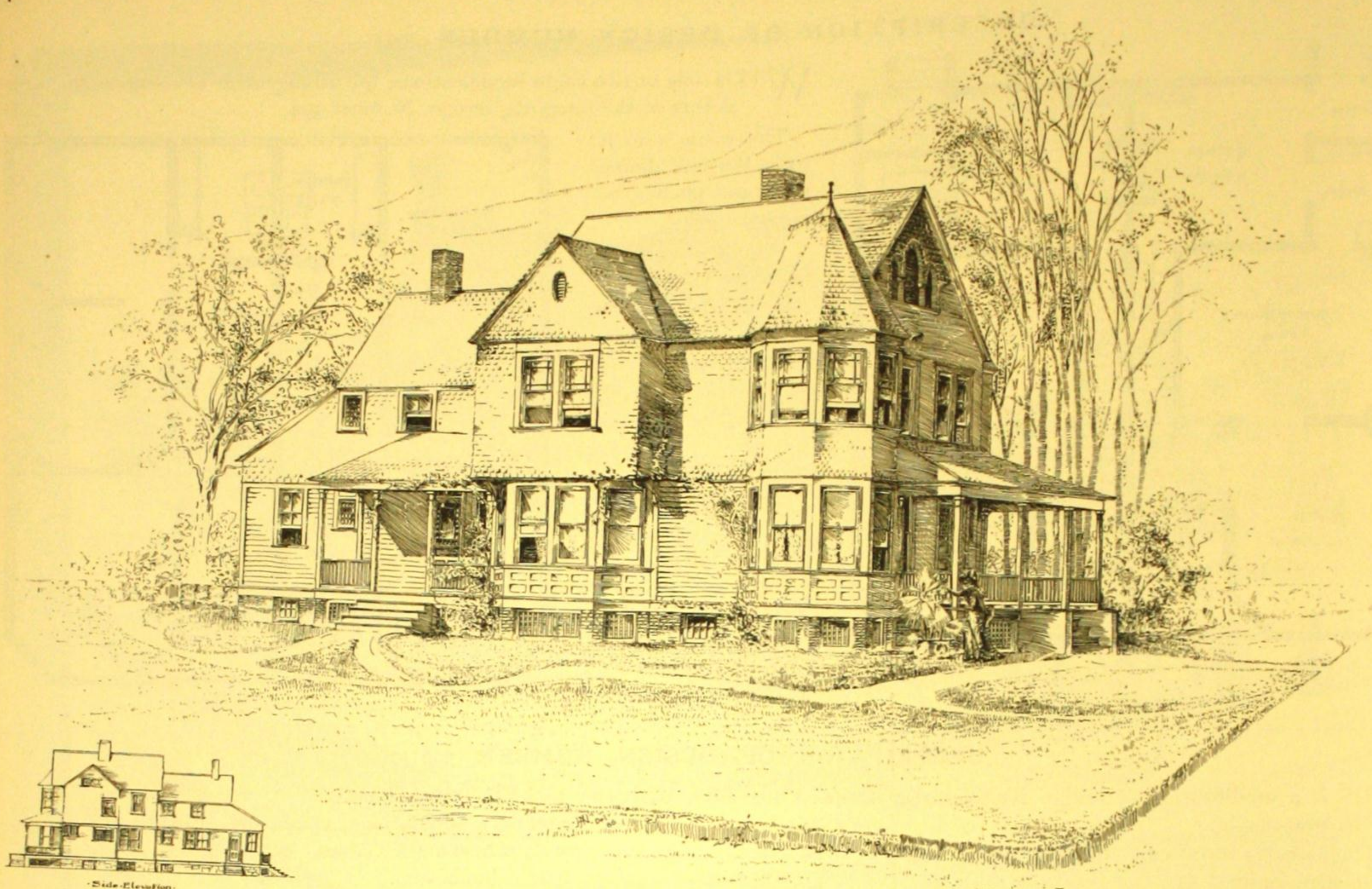
FIRST FLOOR. NO. 396



SECOND FLOOR. NO. 396.



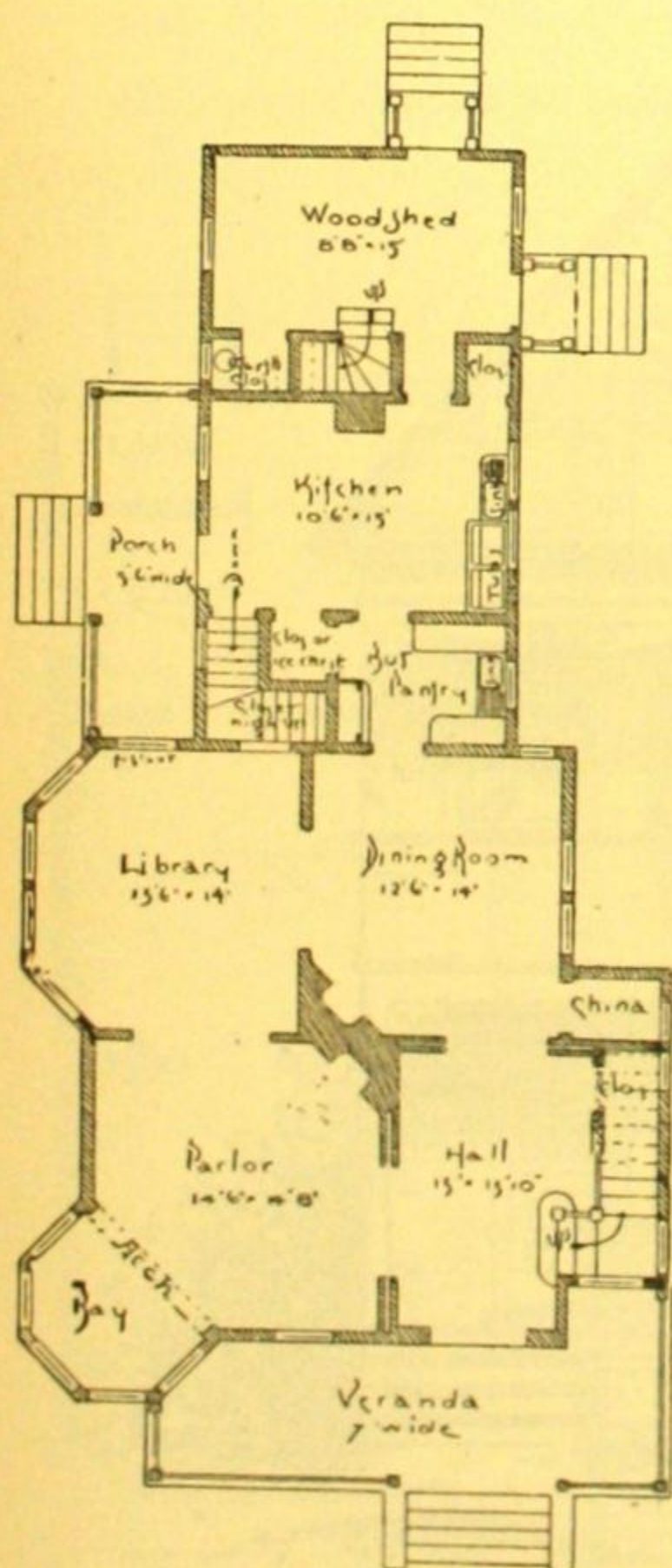
FRONT ELEVATION. NO. 396



DESIGN No. 397. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 397

SIZE OF STRUCTURE: Front, 32 ft., 6 in., including projection of stairway. Side, 66 ft.



FIRST FLOOR. NO. 397

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The hall is connected with the parlor and the dining-room by sliding doors.

Stained cathedral glass in the staircase windows.

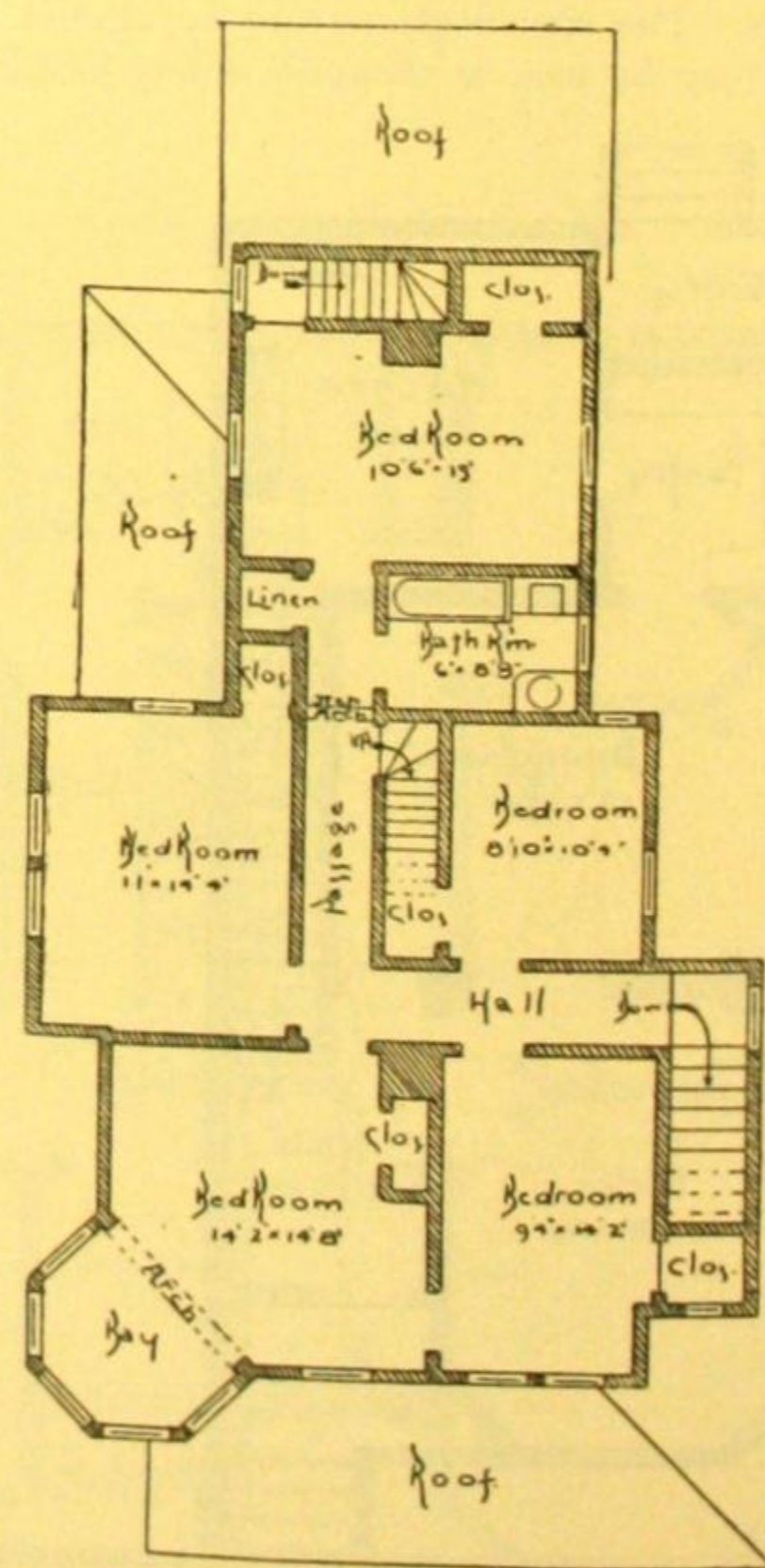
Open fire-places in parlor and dining-room.

An earth closet for the use of servants, entered from the wood shed.

One room finished in the front attic.

Cellar under the whole house.

Heater pipes and registers provided.



SECOND FLOOR. NO. 397

DESCRIPTION OF DESIGN NUMBER 398

SEE COLORED FRONTISPIECE FOR PERSPECTIVE VIEW

SIZE OF STRUCTURE: Front, 40 ft., not including the projection of dining-room bay window; Side, 47 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST \$4,400, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The exterior appearance is shown by the colored frontispiece of this book.

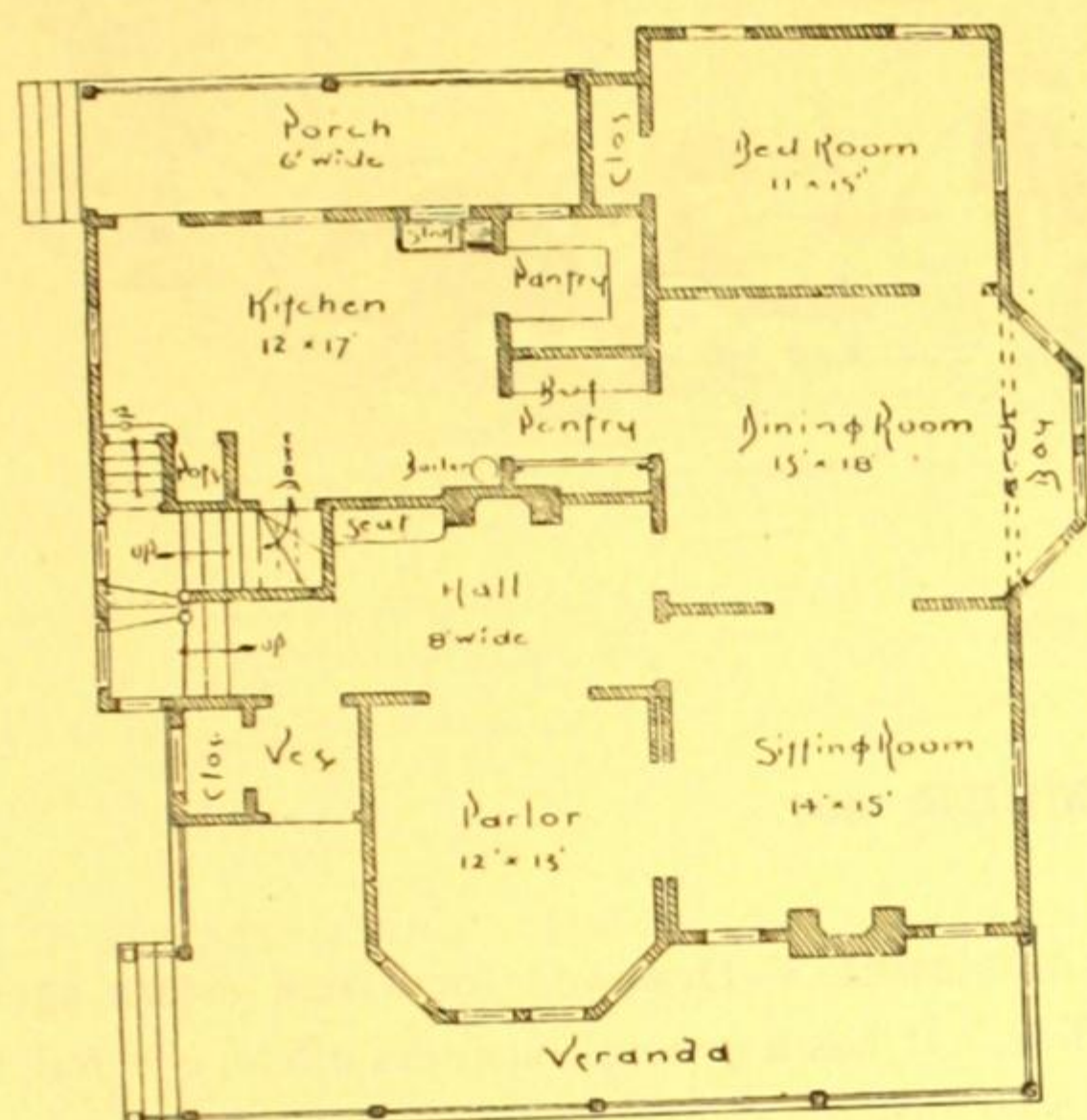
The hall has a fire-place opposite the large opening to the parlor. The effect of this from the parlor is pleasing. At the side of the fire-place is a cushioned seat. Sliding doors connect the sitting-room and dining-room.

Large pantry well lighted and large butler's pantry. Back stairway from the kitchen connects with the platform of the main stairway.

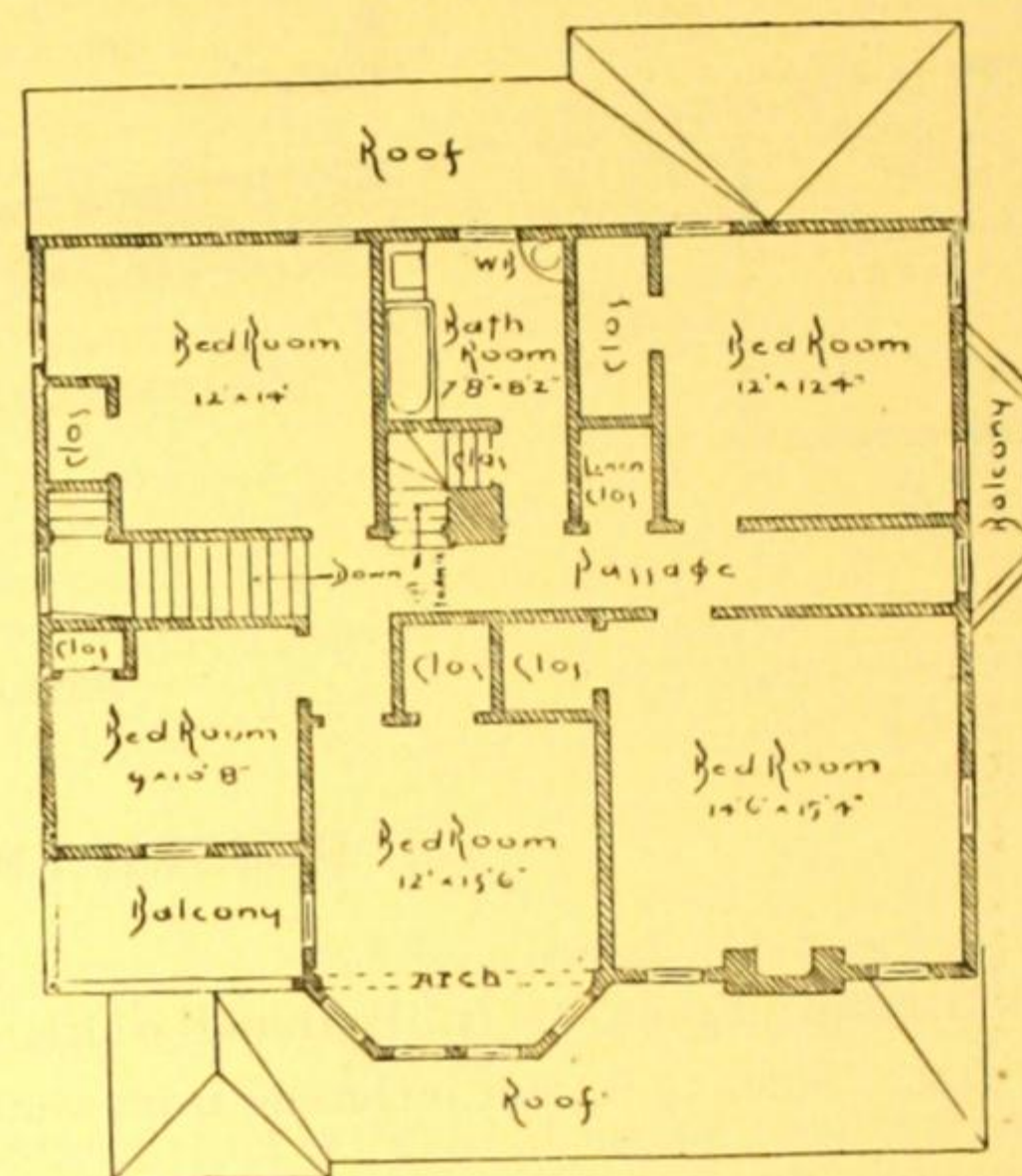
The second story has five bedrooms, a large bath-room and an abundance of large closets.

The attic has three bedrooms finished.

Cellar under the whole house with outside entrance to same. Furnace pipes and registers are provided.



FIRST FLOOR. NO. 398



SECOND FLOOR. NO. 398

DESCRIPTION OF DESIGN NUMBER 399

SEE COLORED FRONTISPIECE FOR PERSPECTIVE VIEW

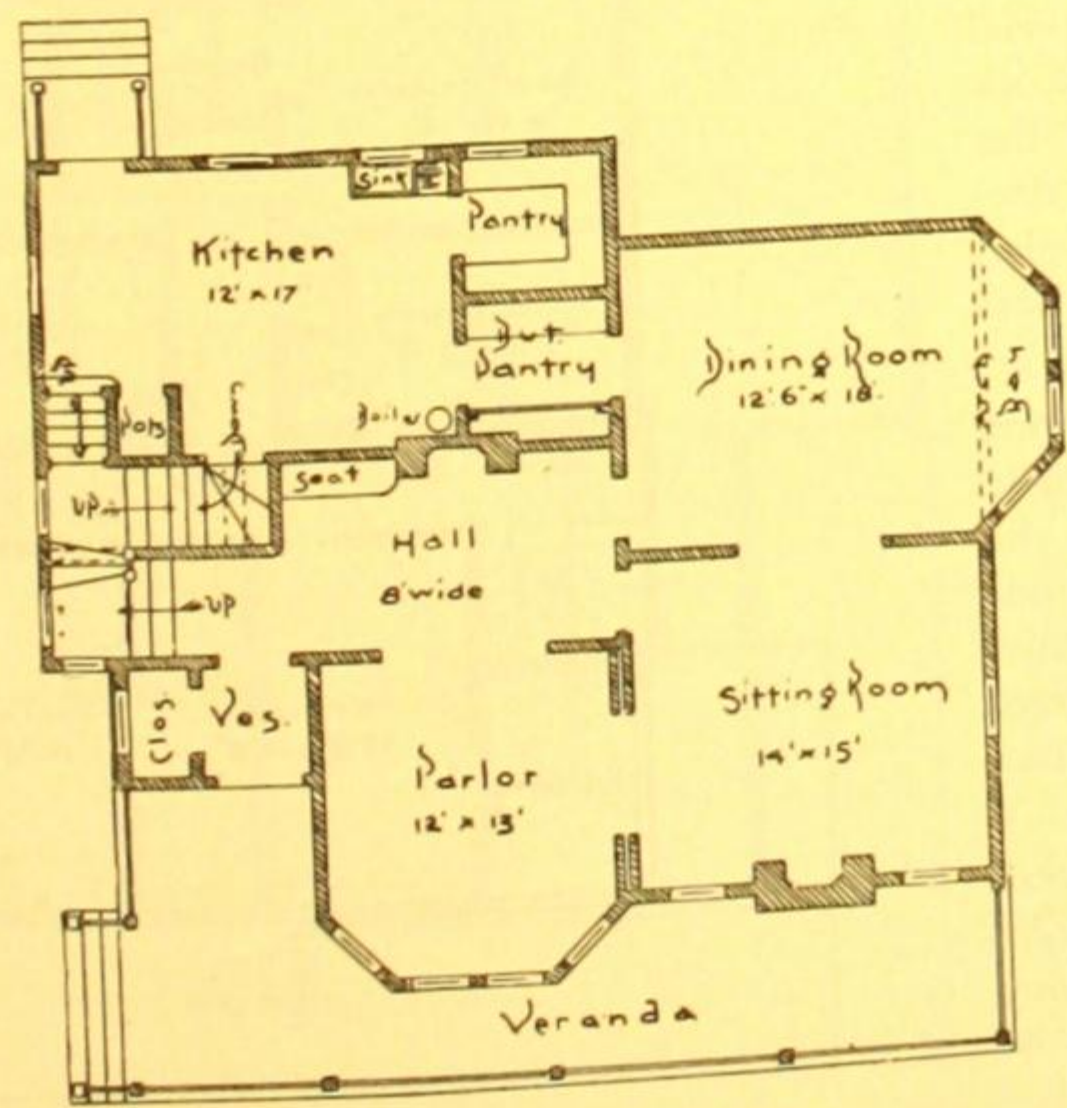
This is a modification of the preceding plan, the first story bedroom and the rear porch being left off. The second story accommodations are the same.

The height of stories, materials and general appearance are the same as the preceding design.

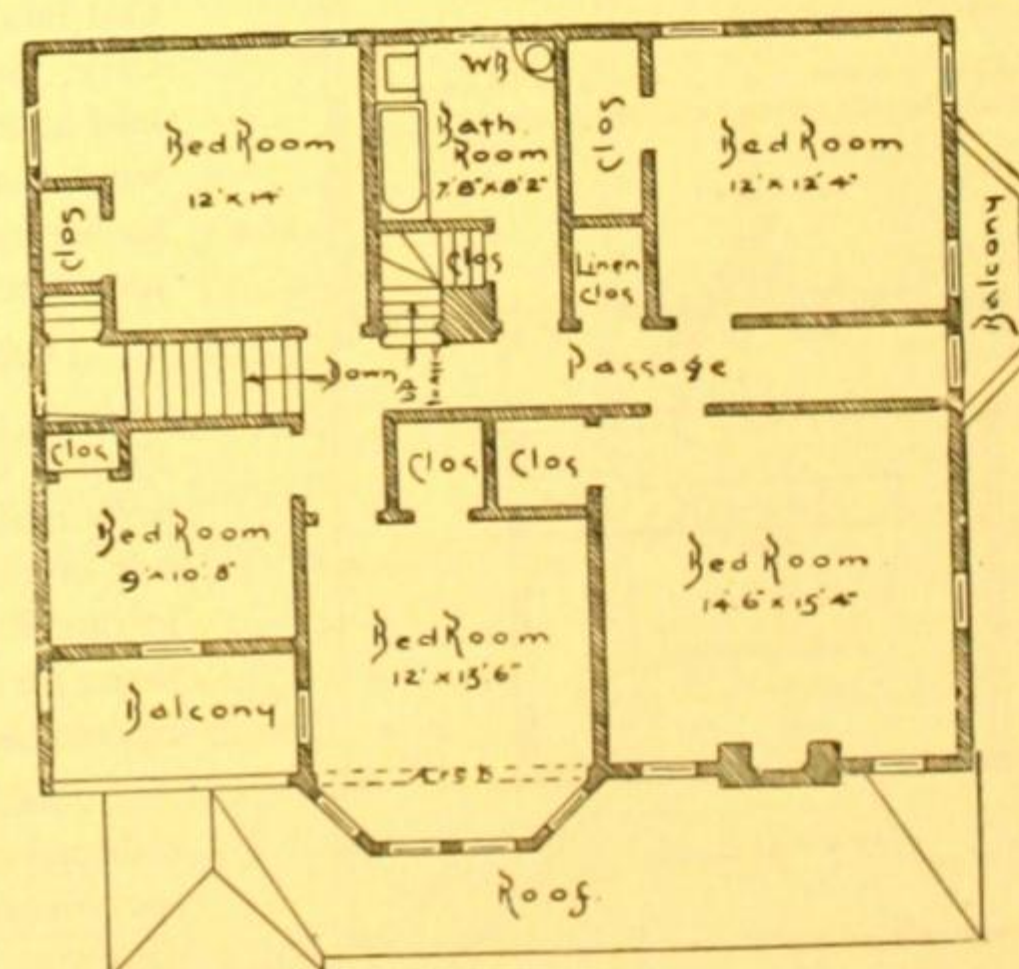
The attic is unfinished. Cellar under kitchen and hall.

COST \$3,800, complete, except mantels, range and heater.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 399



SECOND FLOOR. NO. 399



DESIGN No. 400. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 400

SIZE OF STRUCTURE: Front, 18 ft. Extreme width, including verandas, 36 ft. Side, 34 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft., Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,500, complete, except mantels and office fittings.

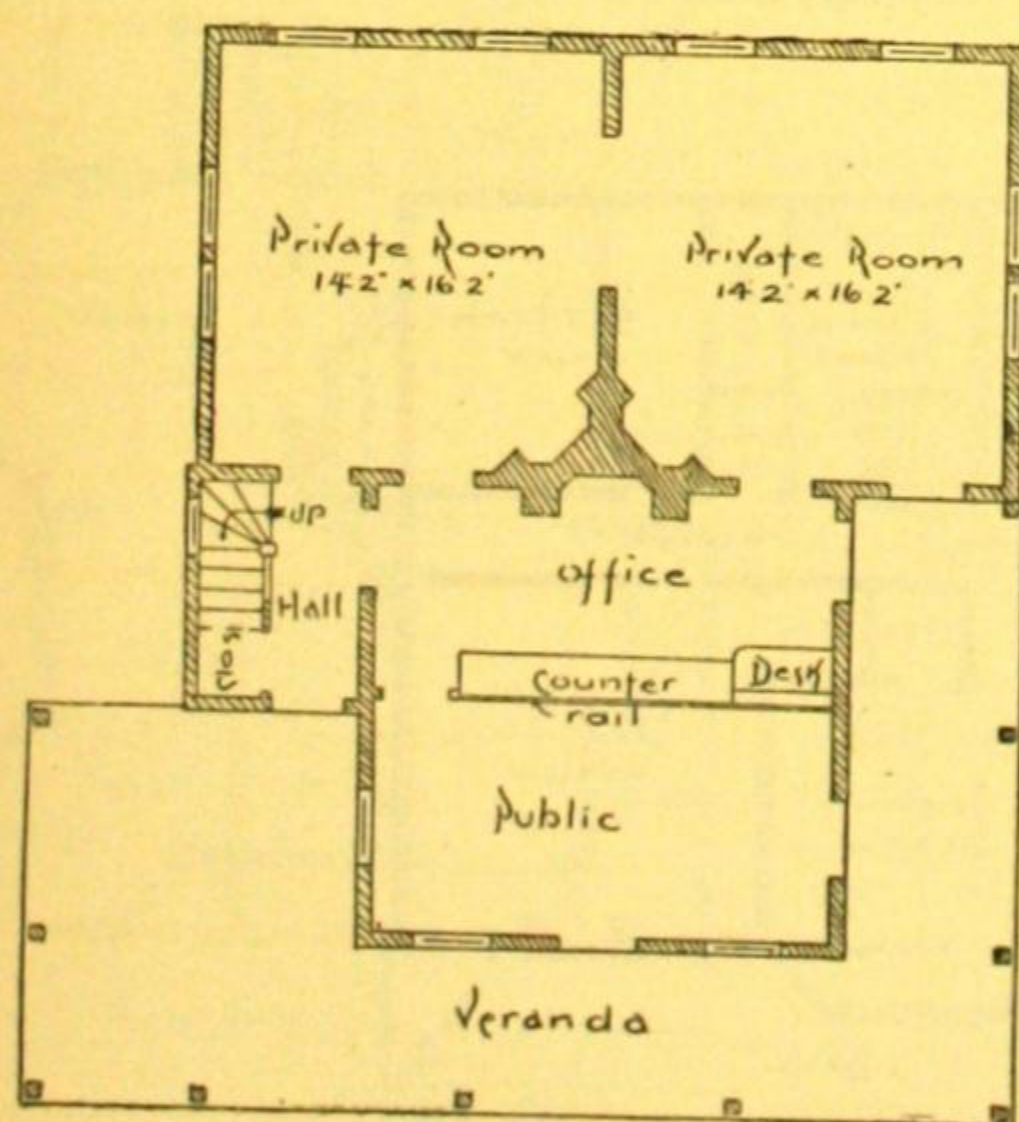
[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed for a real estate agent's residence and office. It has a general business office, entered from the veranda, and two private rooms or offices. These can be used as separate offices if desired, by closing up the connecting doors. Each office has an open fire-place.

The second floor contains a complete set of living apartments, viz: parlor, dining-room, kitchen and three bedrooms.

The attic is unfinished, but two good rooms can be finished there if required.

There is no cellar; the building is set upon brick piers. A cellar under the house would cost \$150 to \$250 additional.



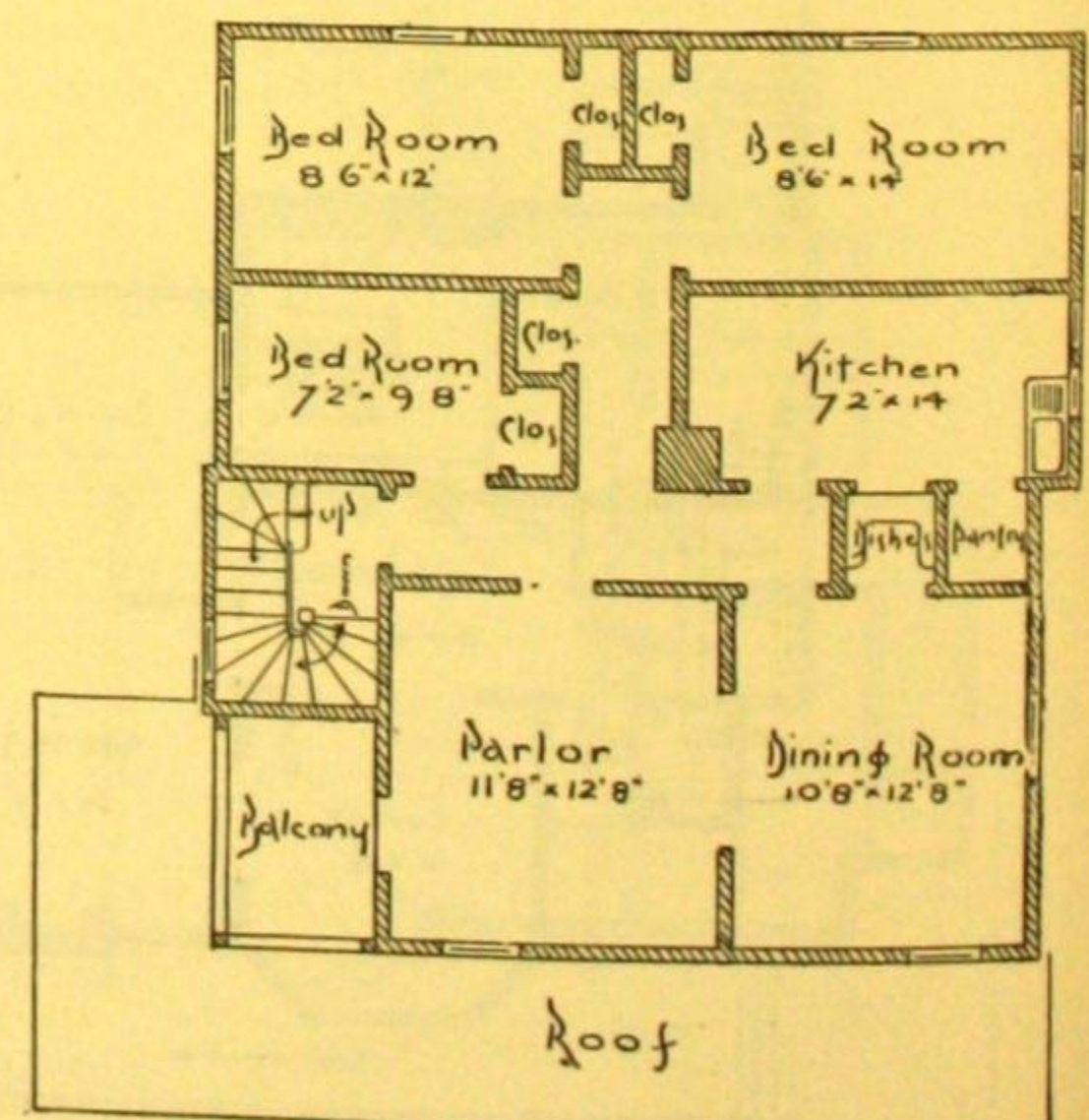
FIRST FLOOR. NO. 400

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 400

DESCRIPTION OF DESIGN NUMBER 401

COST ; \$2,800, except mantels.

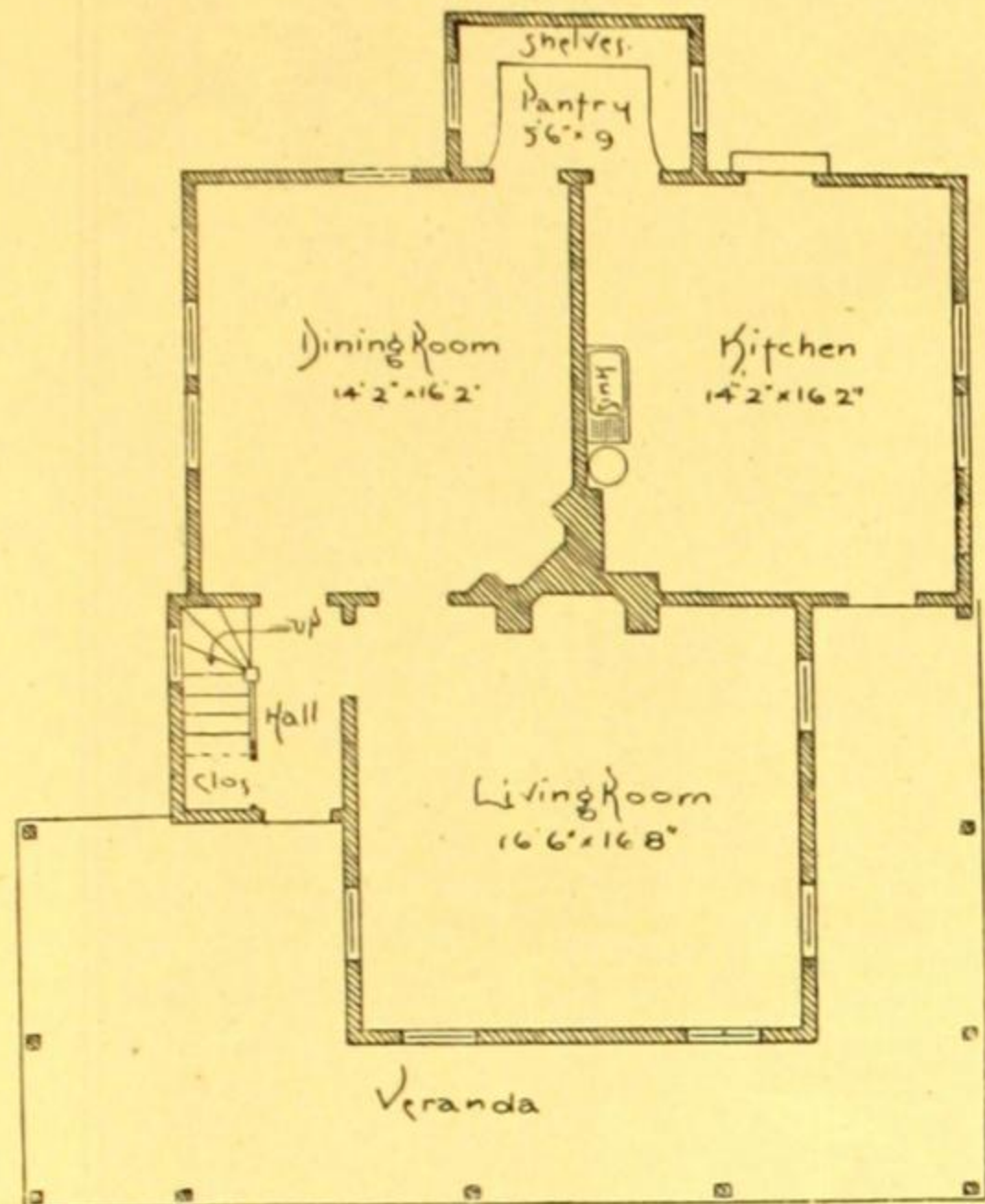
This is a modification of the preceding design, Number 400, both floors being arranged for a dwelling house. The size of the house, height of stories and materials of which it is constructed are the same.

A pantry is added to the rear of first floor, 6 ft. by 10 ft.,

outside measurement. A cellar is provided with brick and stone foundation walls under the whole house.

Six bedrooms on the second floor, and two can be finished in the attic, if desired.

This will make an excellent seaside house on account of the large veranda.



FIRST FLOOR. NO. 401

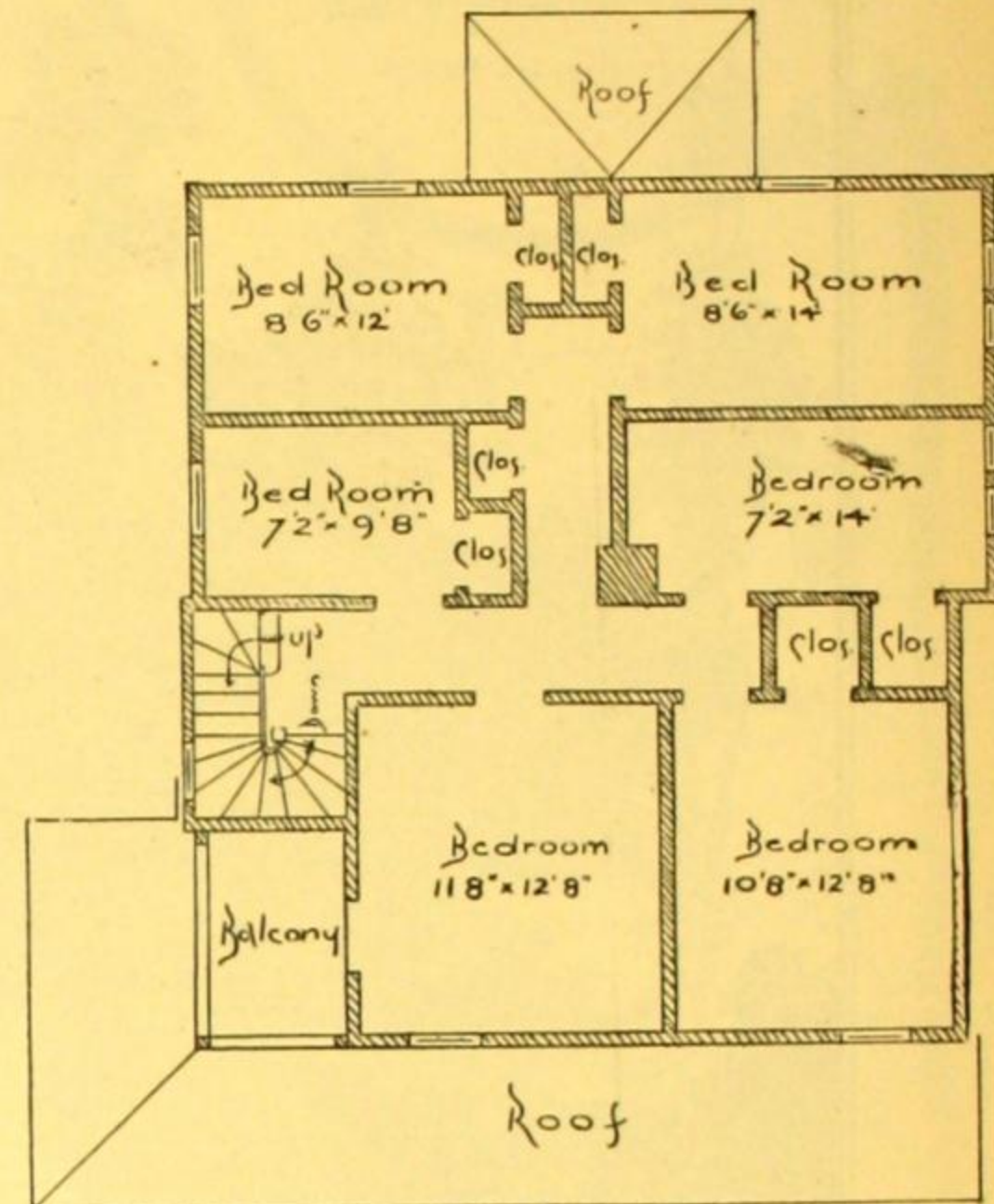
[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 401

DESCRIPTION OF DESIGN NUMBER 402

SIZE OF STRUCTURE: Front, 18 ft.; extreme width, including verandas, 36 ft. Side, 46 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.; Attic unfinished.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

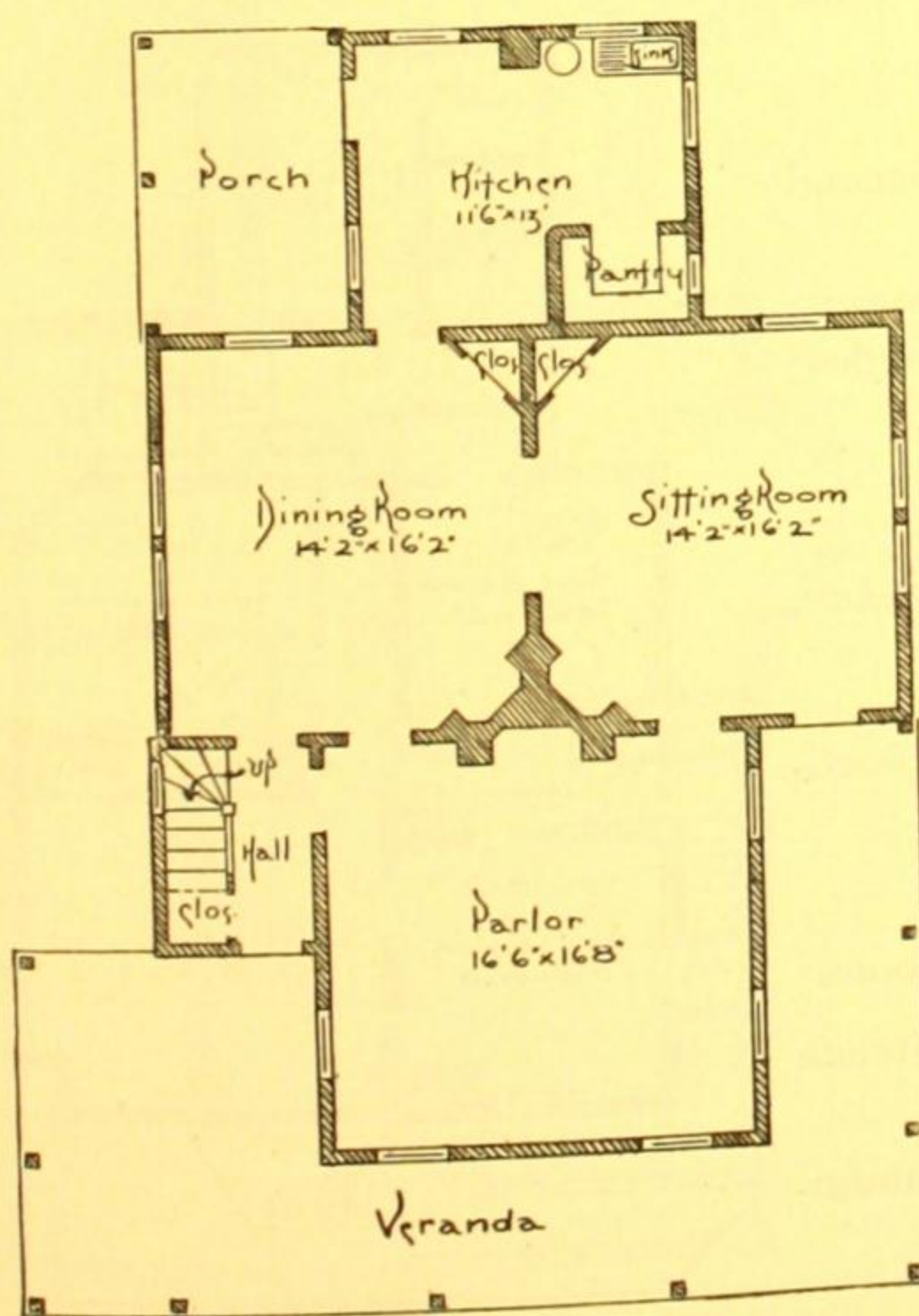
COST: \$3,000, complete, except mantels and kitchen range.

[See page 219 for information about details, specifications, bill of quantities, and working plans of this design.]

SPECIAL FEATURES—Another modification of design Number 400. A kitchen is added at the rear, which provides for a sitting-room elsewhere, as shown by the plan. A store-room of good size over the kitchen.

A bath-room is added on second floor.

Cellar under the kitchen only, entered from a trap door in the floor of the kitchen porch.



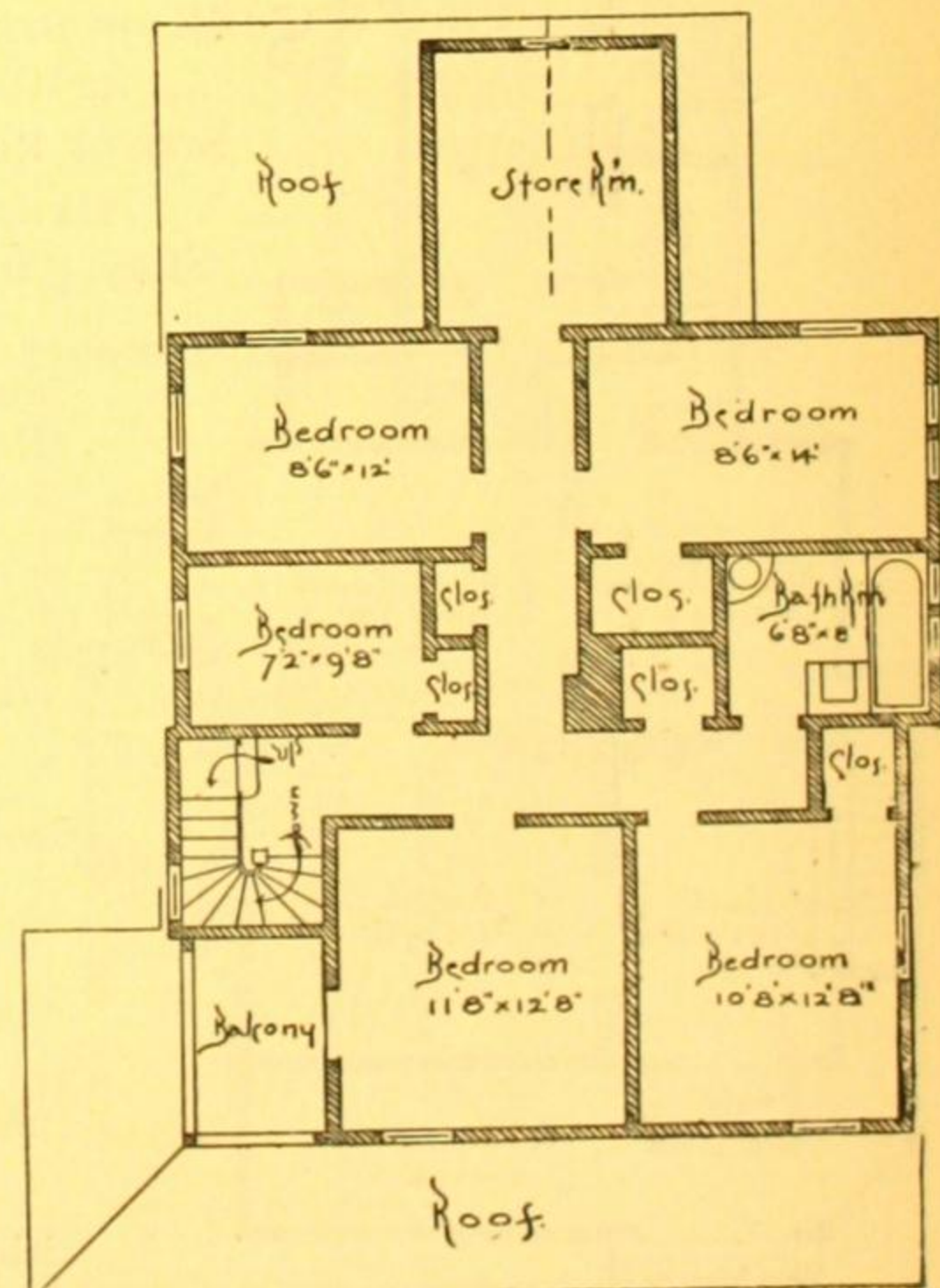
FIRST FLOOR. NO. 402

NOTES

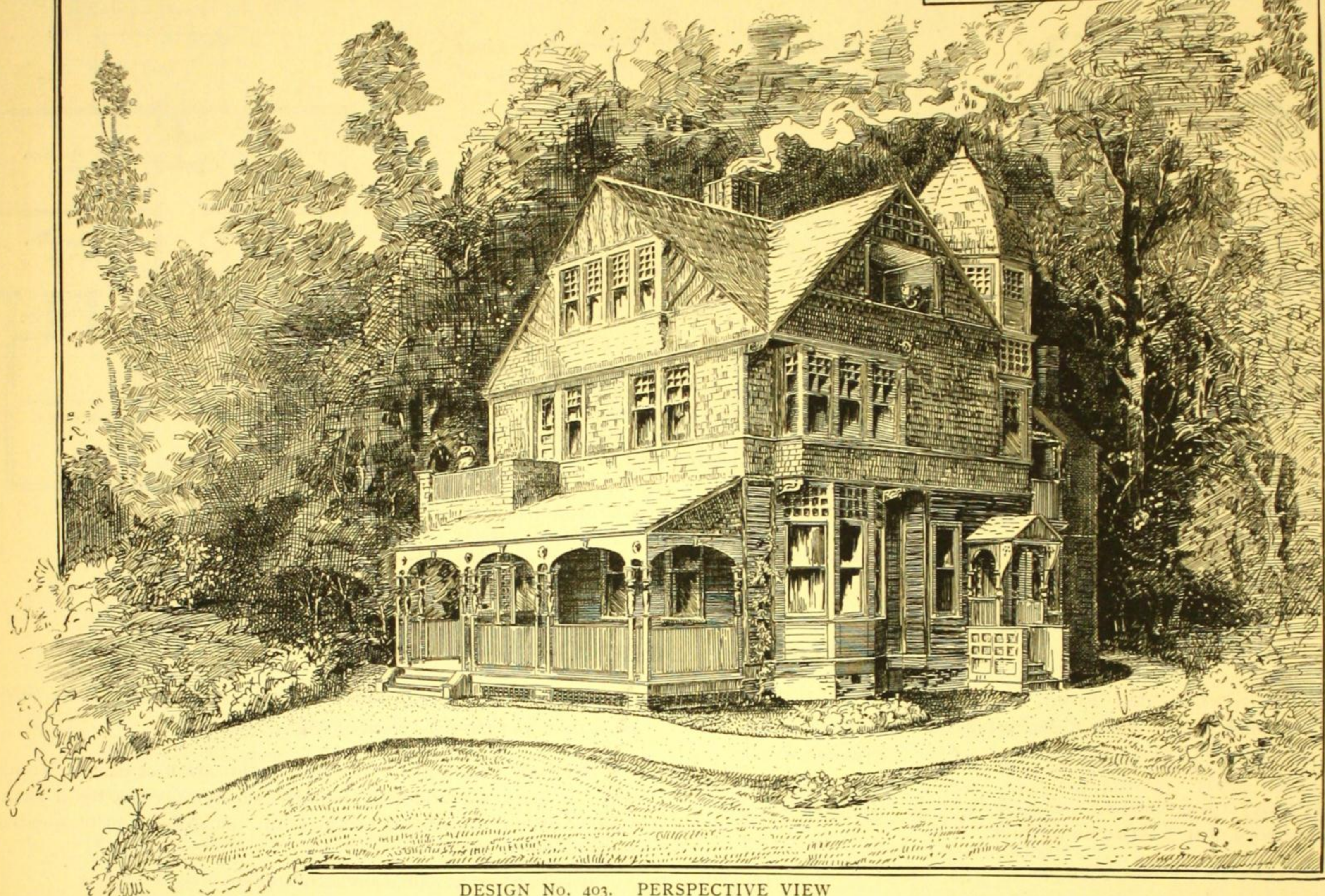
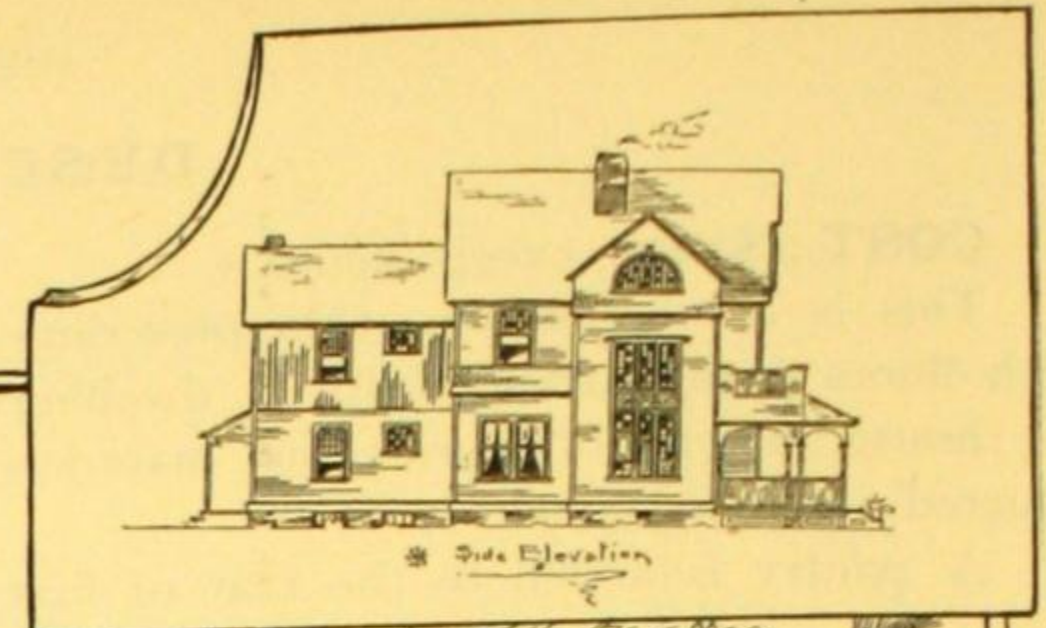
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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SECOND FLOOR. NO. 402



DESIGN No. 403. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 403

SIZE OF STRUCTURE: Front, 27 ft., 4 in.; extreme width 33 ft. Side, 47 ft., 6 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$4,000, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Hall of good size, with a hardwood staircase.

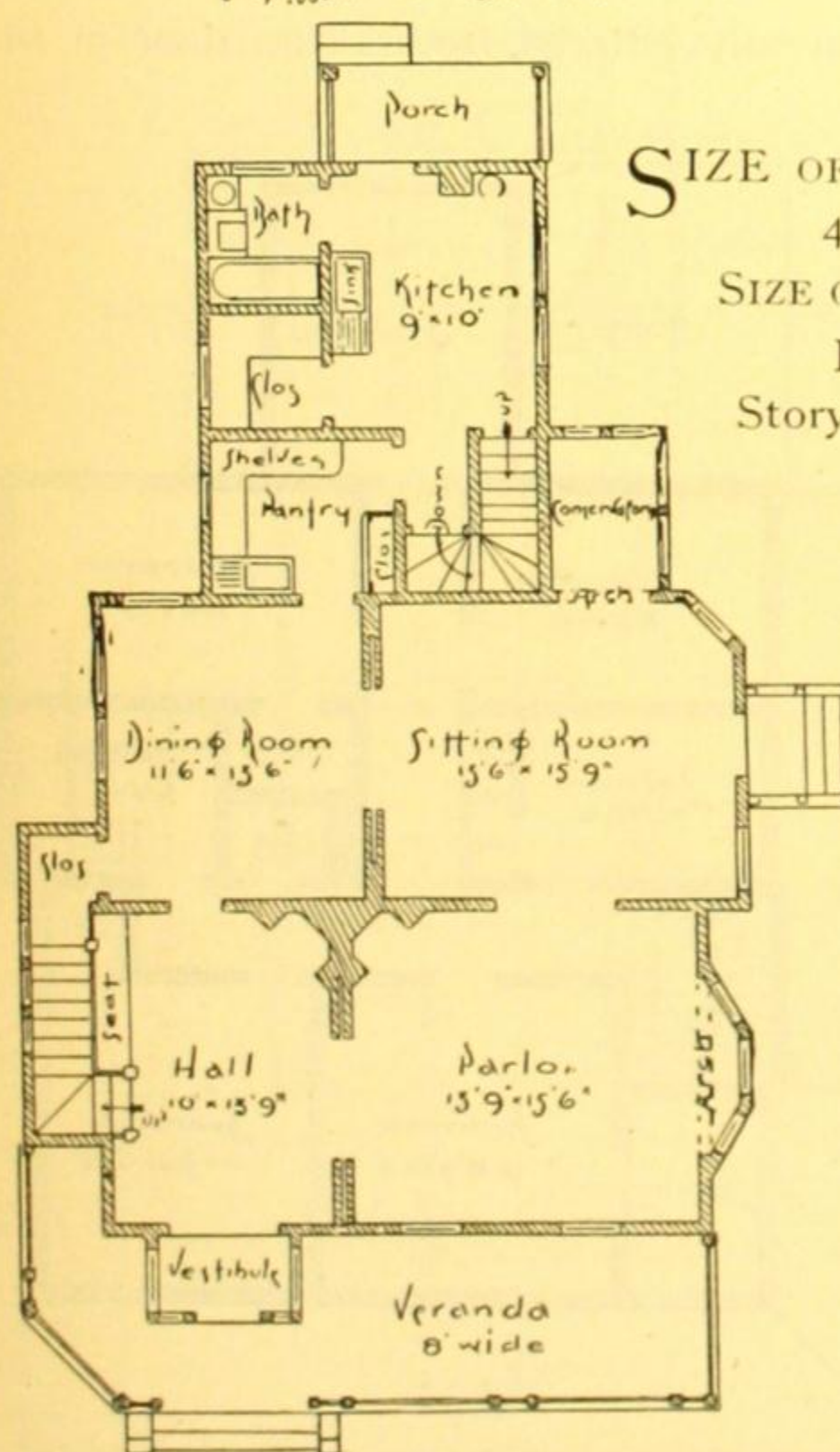
Sliding doors connect the principal rooms.

A small conservatory opens out from the sitting-room.

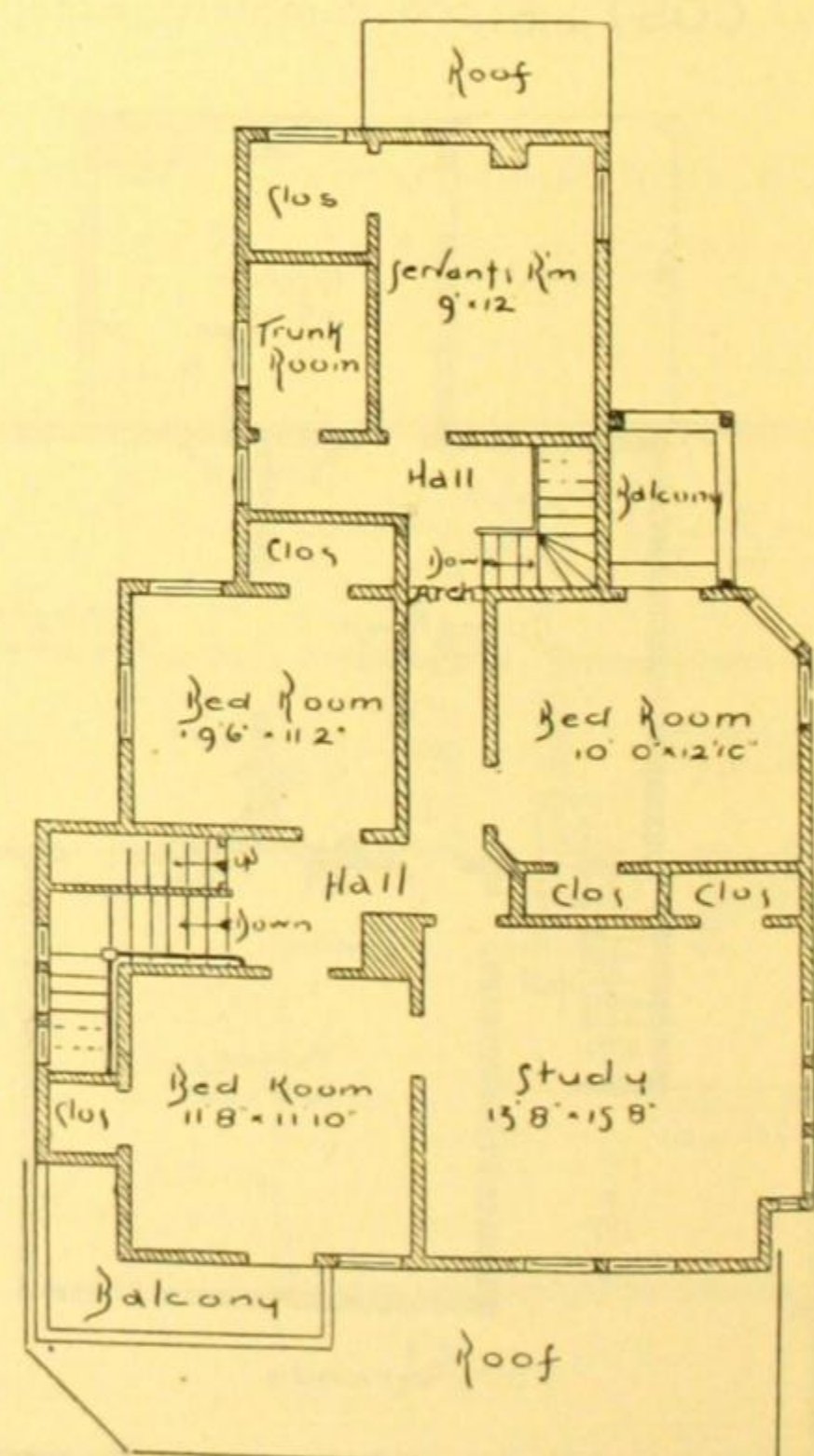
Large pantry and butler's pantry, making a large kitchen unnecessary.

Five bedrooms on the second floor. The attic is unfinished.

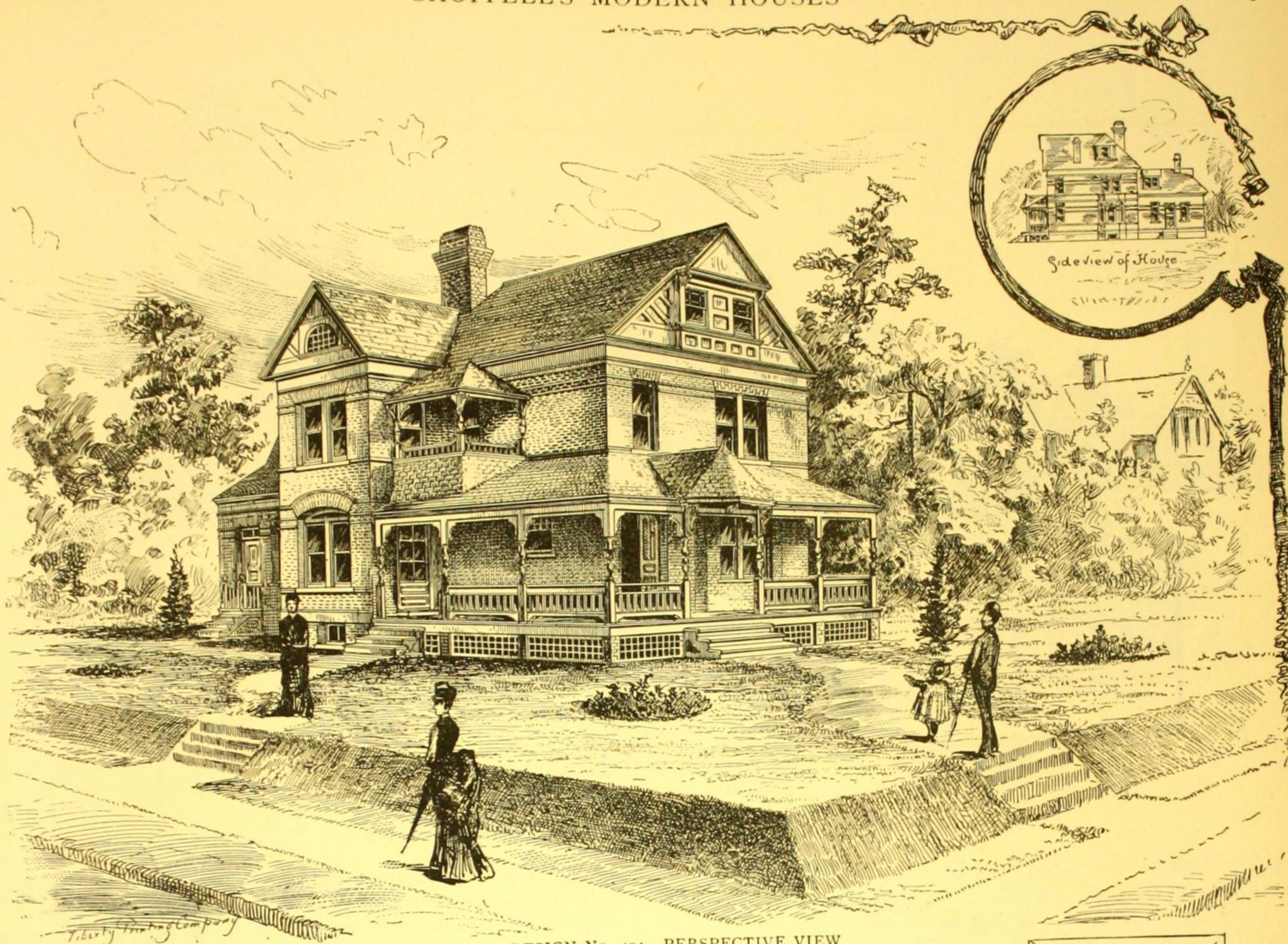
Cellar under the kitchen part only.



FIRST FLOOR. NO. 403



SECOND FLOOR. NO. 403



DESIGN No. 404 PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 404

SIZE OF STRUCTURE: Front, 30 ft., including veranda. Side, 67 ft., including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Roof, slate.

COST: \$4,500, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

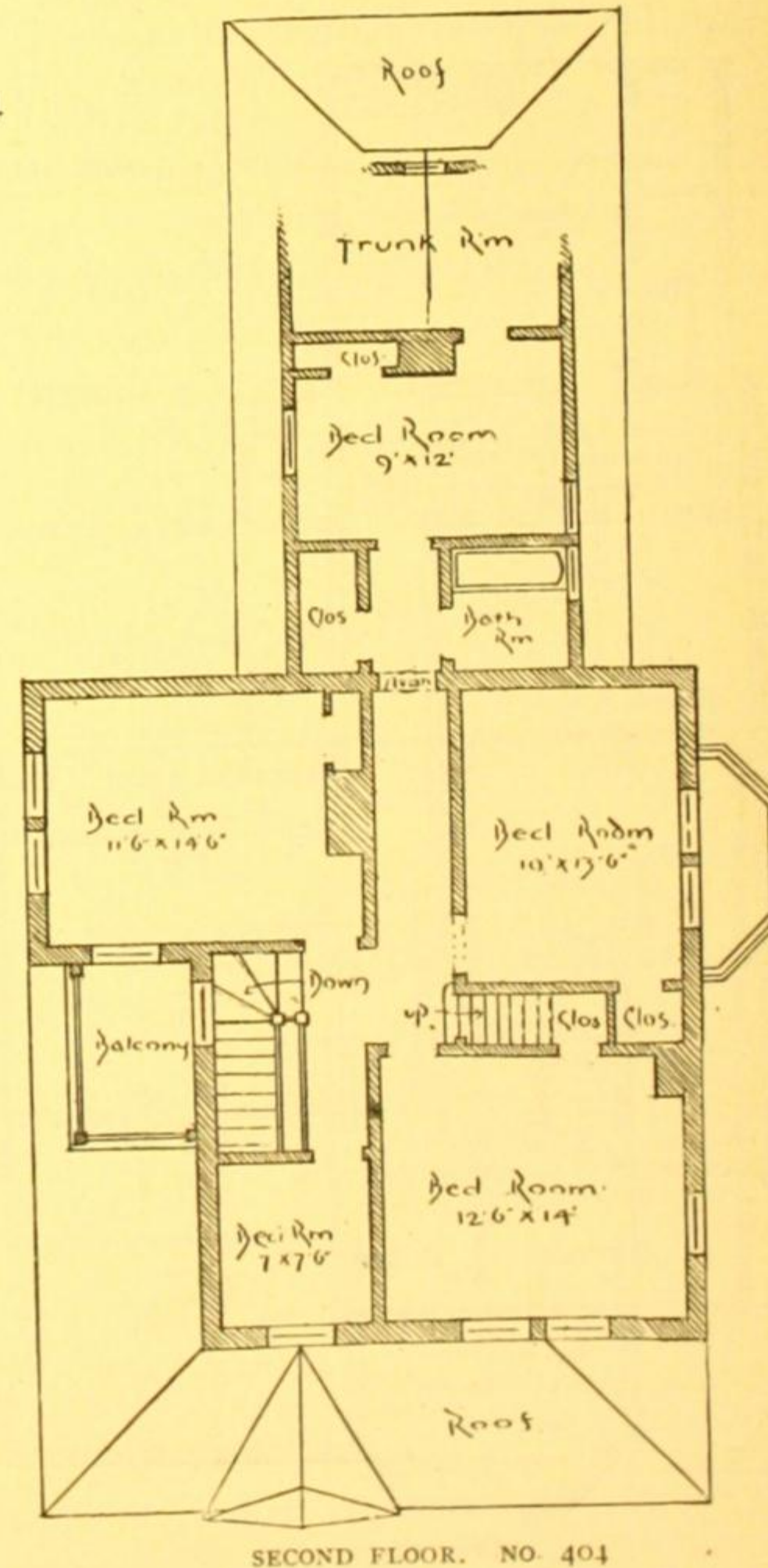
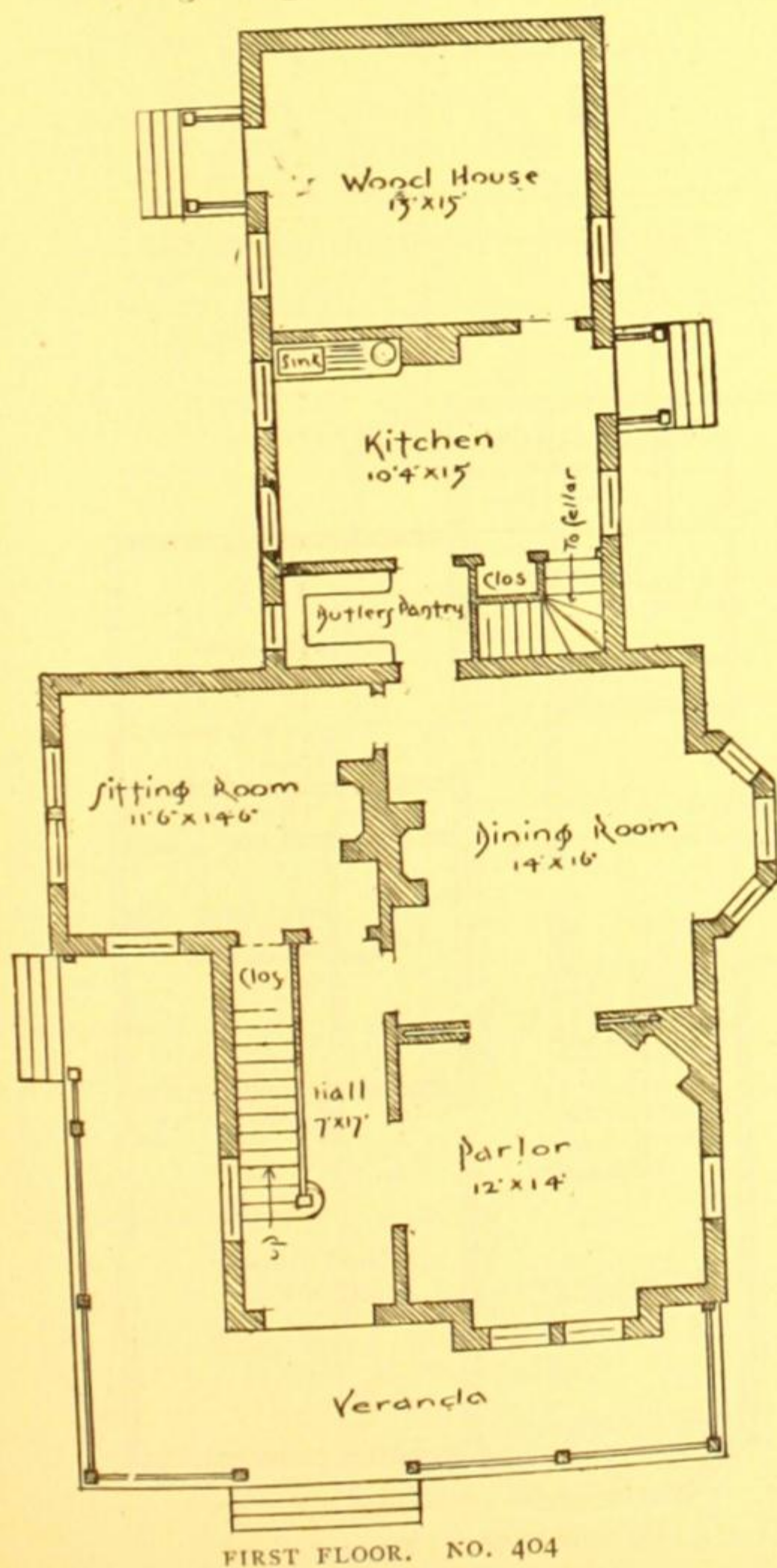
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

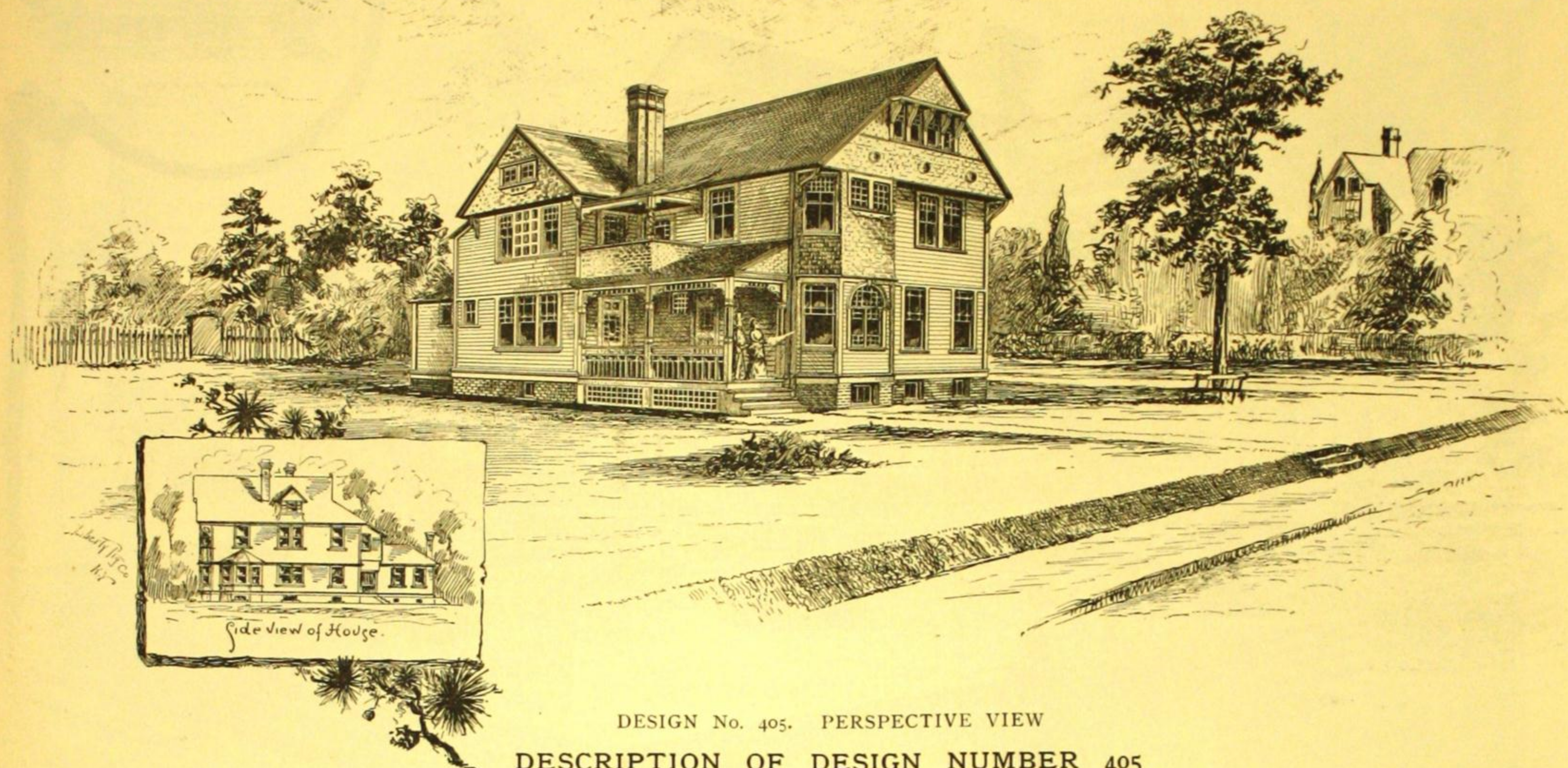
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A brick house. The walls are eight inches thick, solid, and are furred off on the inside so as to make an air space to prevent dampness coming through to the plaster. The attic is floored, but not finished otherwise. Cellar under the kitchen, sitting and dining-rooms.

Furnace pipes and registers are provided. The furnace itself is not included in our estimate.

A bath-tub on second floor; a water-closet can be added at an additional expense of about \$60.





SIZE OF STRUCTURE: Front, 34 ft., 6 in. Side, 62 ft., 8 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$4,500, complete, except mantels, furnace and range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed particularly for a boarding-house at a winter resort. By enlarging the veranda, which can easily be done by

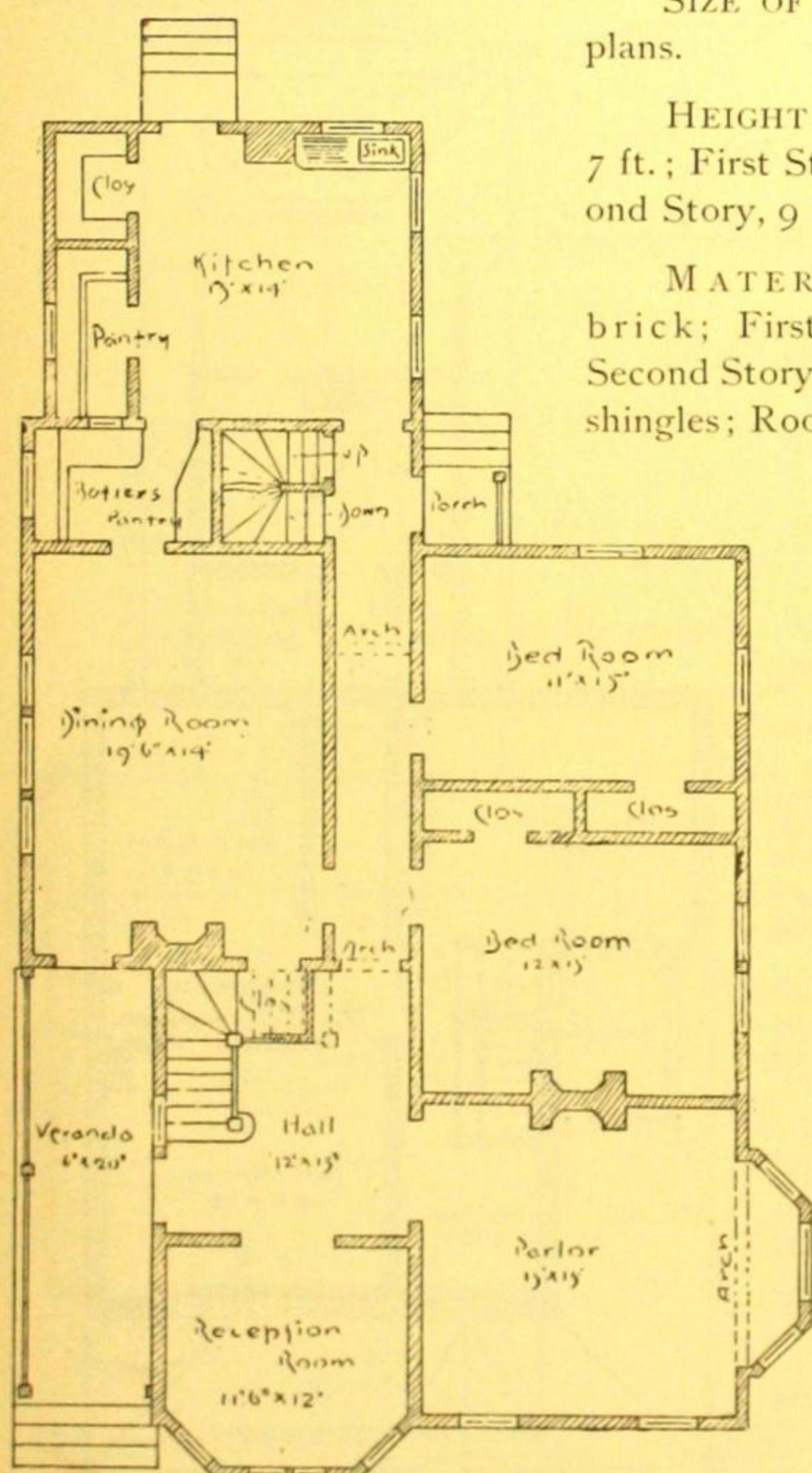
carrying it around the front and part of the other side, it makes an excellent summer boarding-house, or a private residence for a large family. In the latter case the bedroom back of the parlor should be connected with the front hall and the parlor and should be used for a library or a sitting-room.

There are eight bedrooms on the first and second floors and two in the attic. Storage room also in the attic.

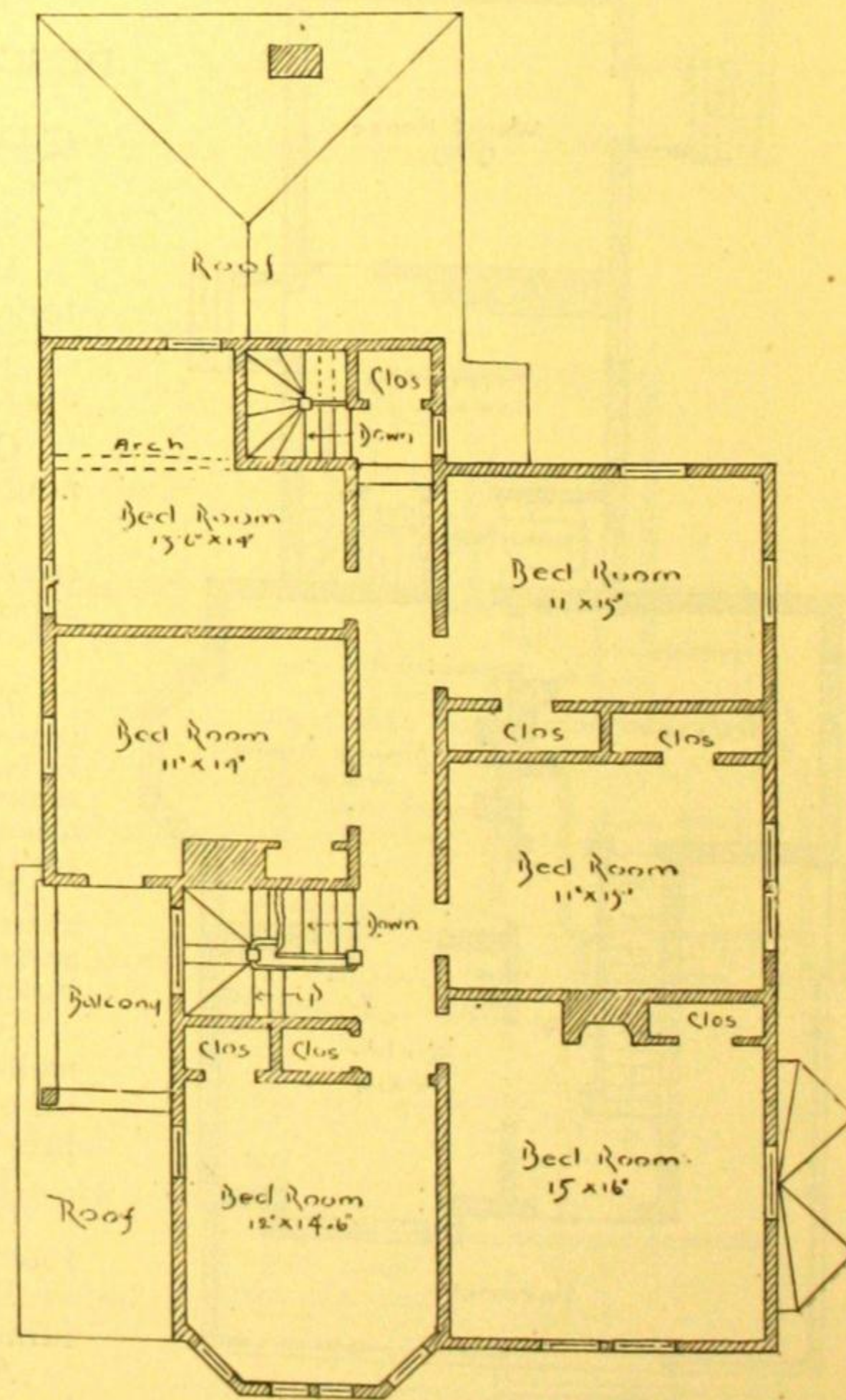
Cellar under the entire house except under kitchen.

Bath-room and plumbing can be added to the rear second story for \$250, additional.

If used as a summer cottage the cellar can be omitted, thus, saving in cost.



FIRST FLOOR. NO. 405



SECOND FLOOR. NO. 405



DESIGN No. 406. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 406

SIZE OF STRUCTURE: Front, 42 ft. Side, 49 ft., 4 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

COST: \$3,600, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

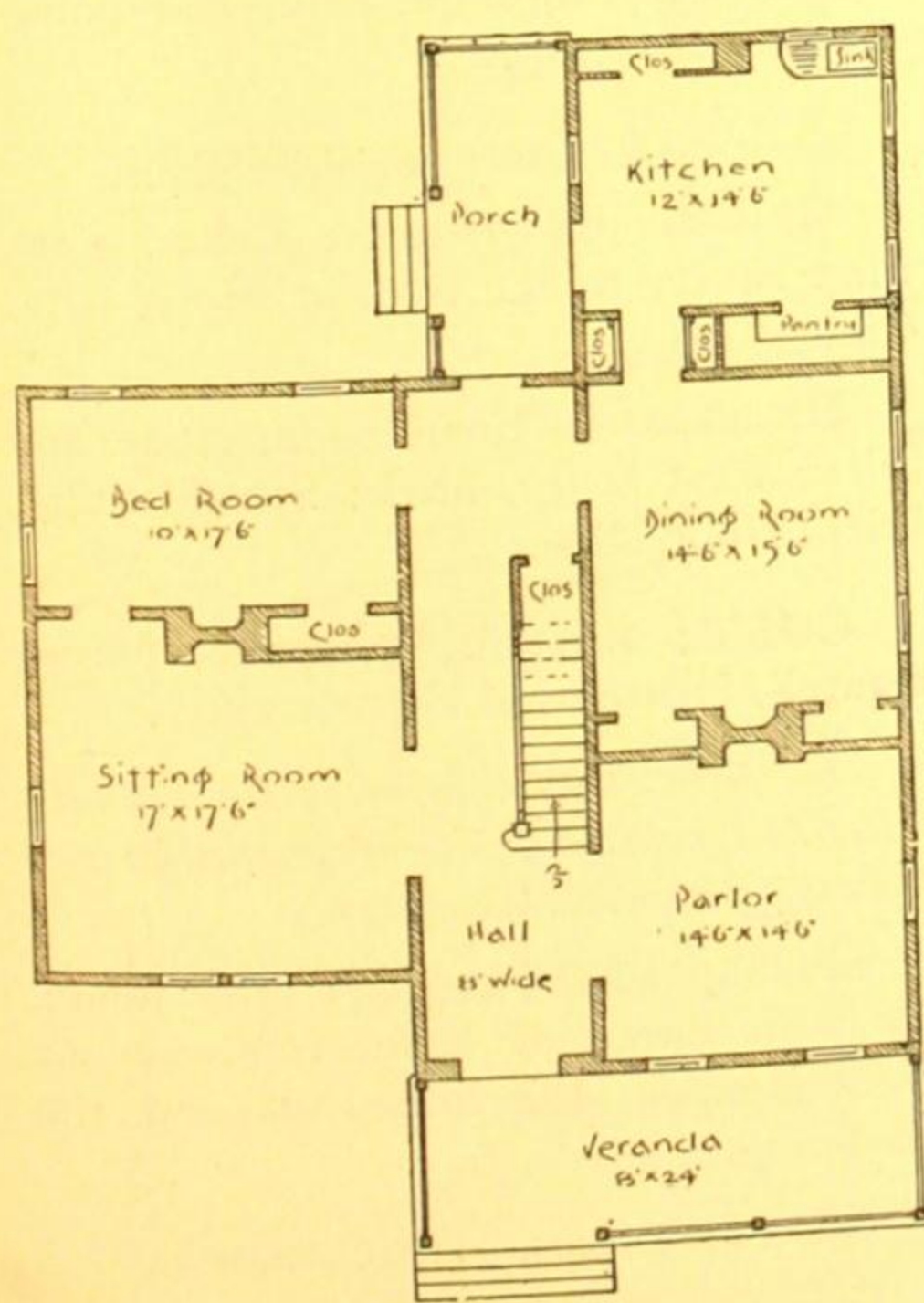
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—The hall through the centre of the house from front to rear, insuring ventilation in hot weather.

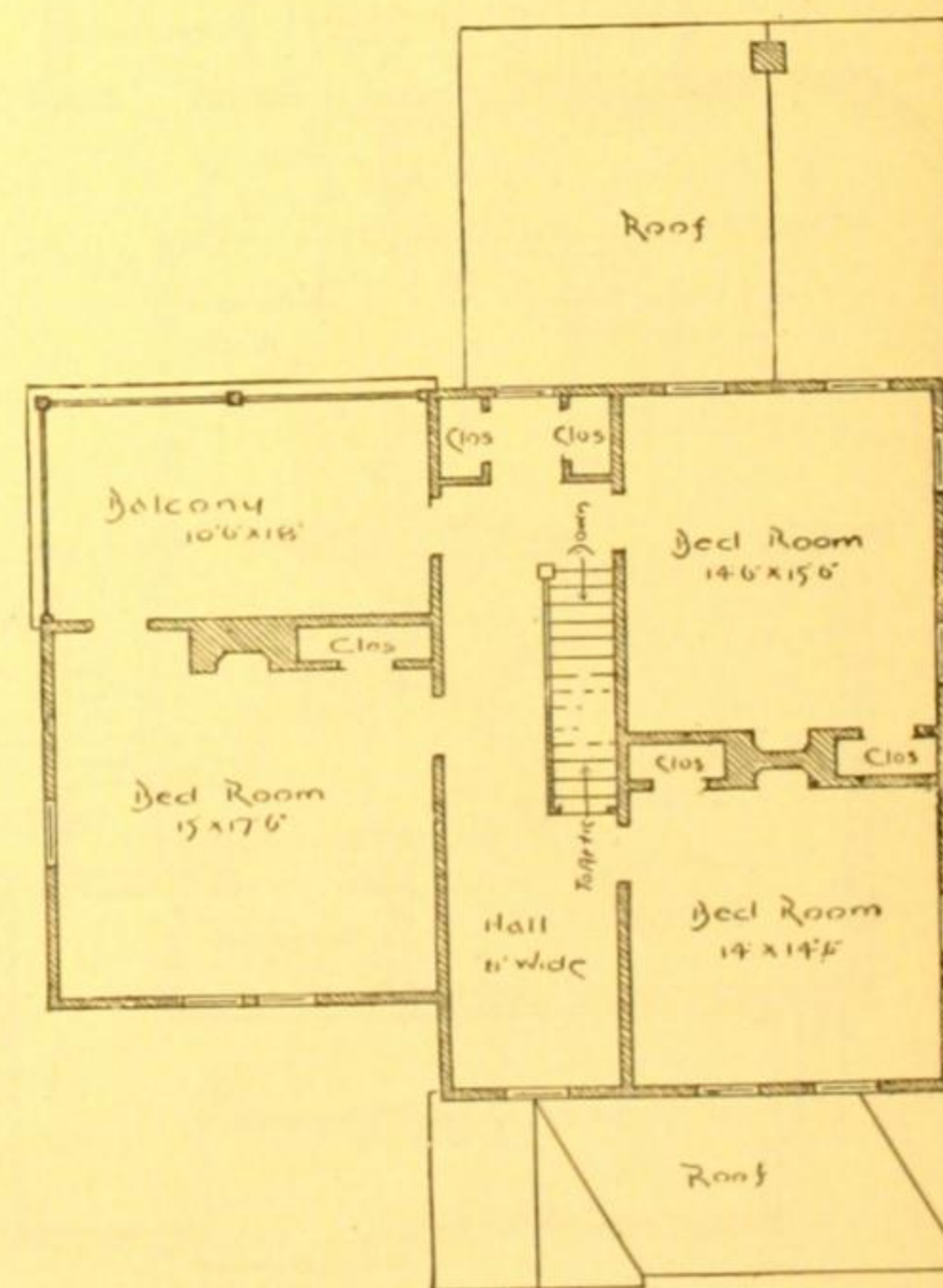
No cellar; the house is set on brick piers.

Open fire-places in first and second stories. The deep balcony at the rear of second story, overhung by the main roof gives a place for observation and for lounging.

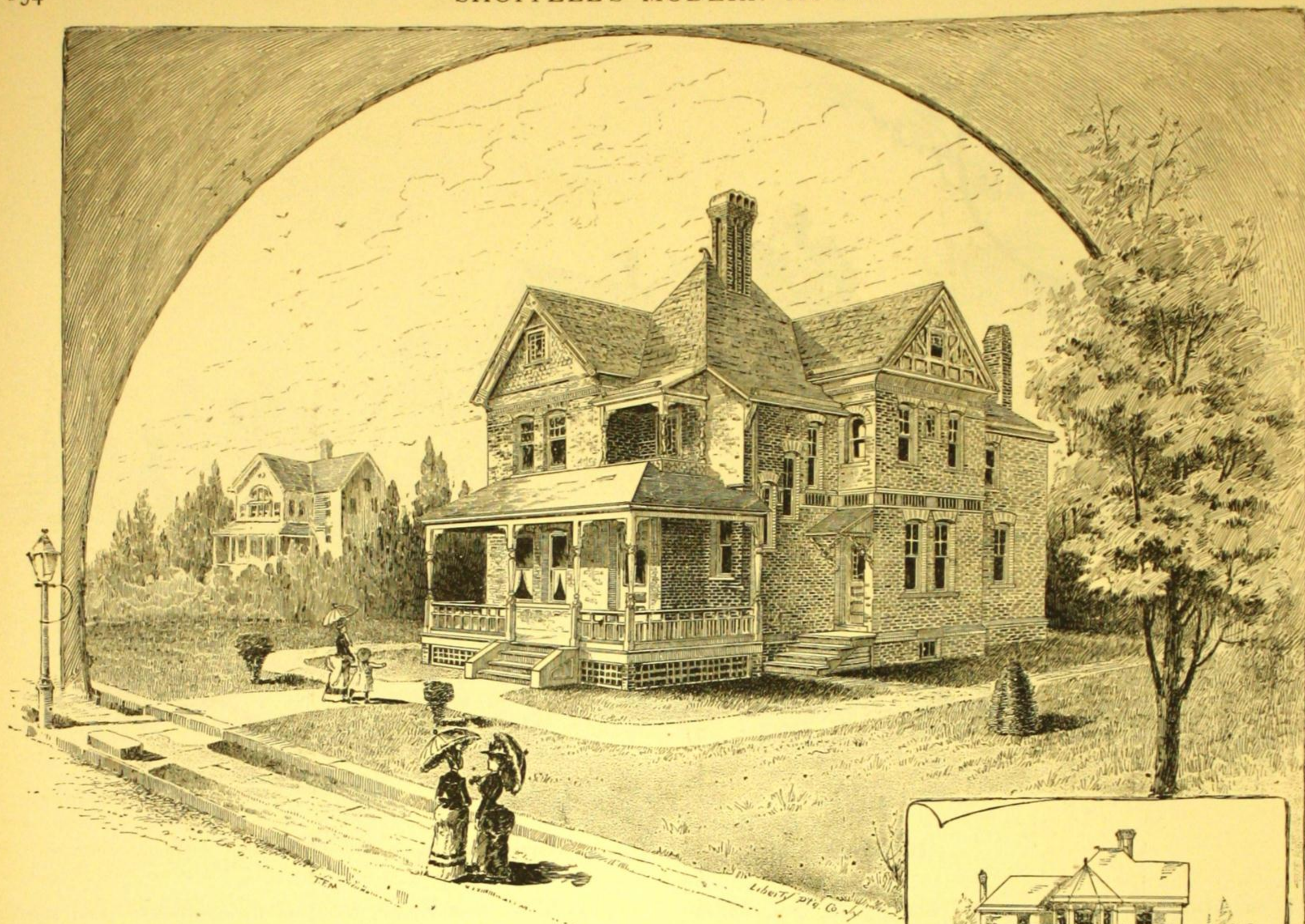
The attic is not finished.



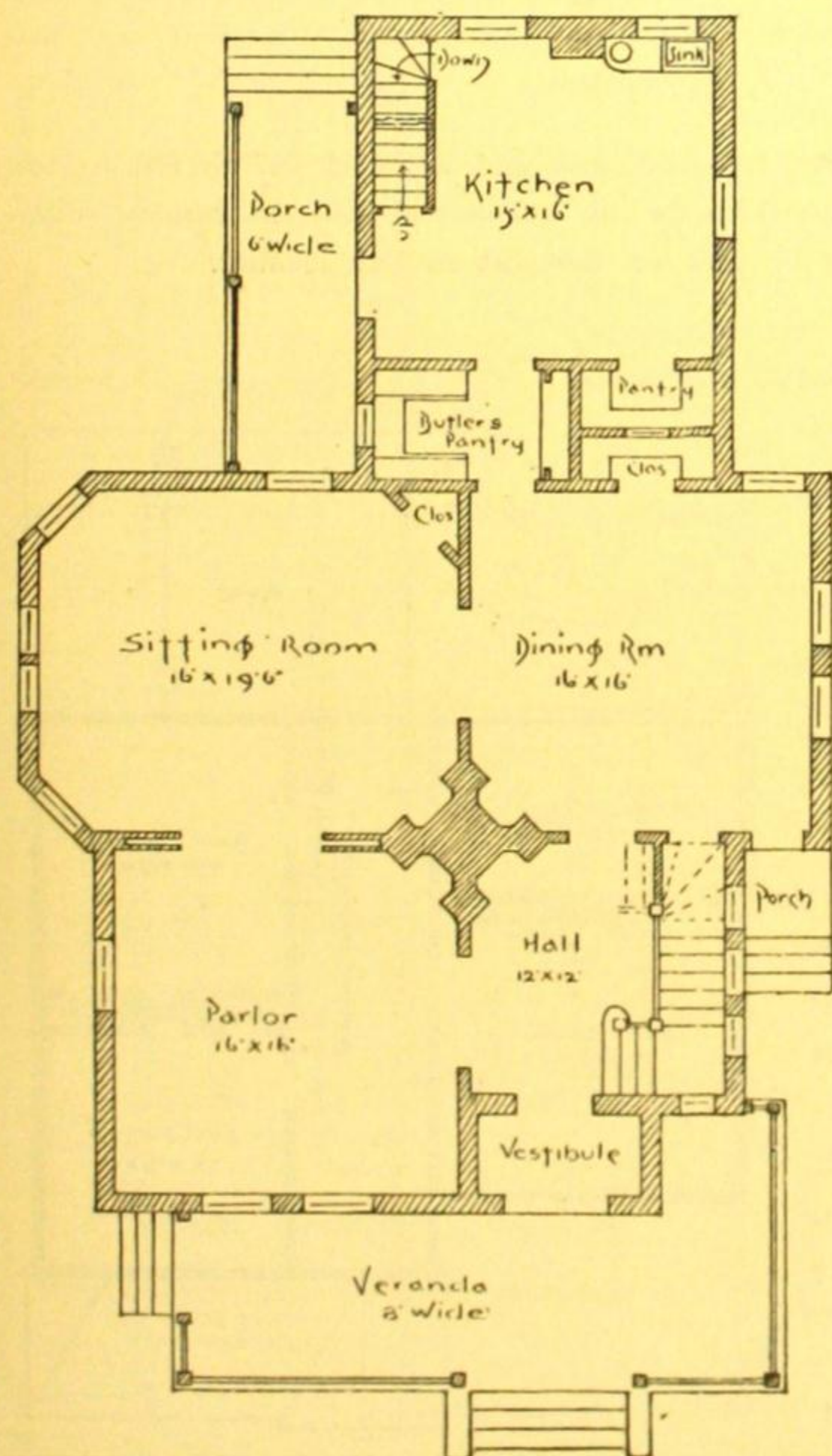
FIRST FLOOR. NO. 406



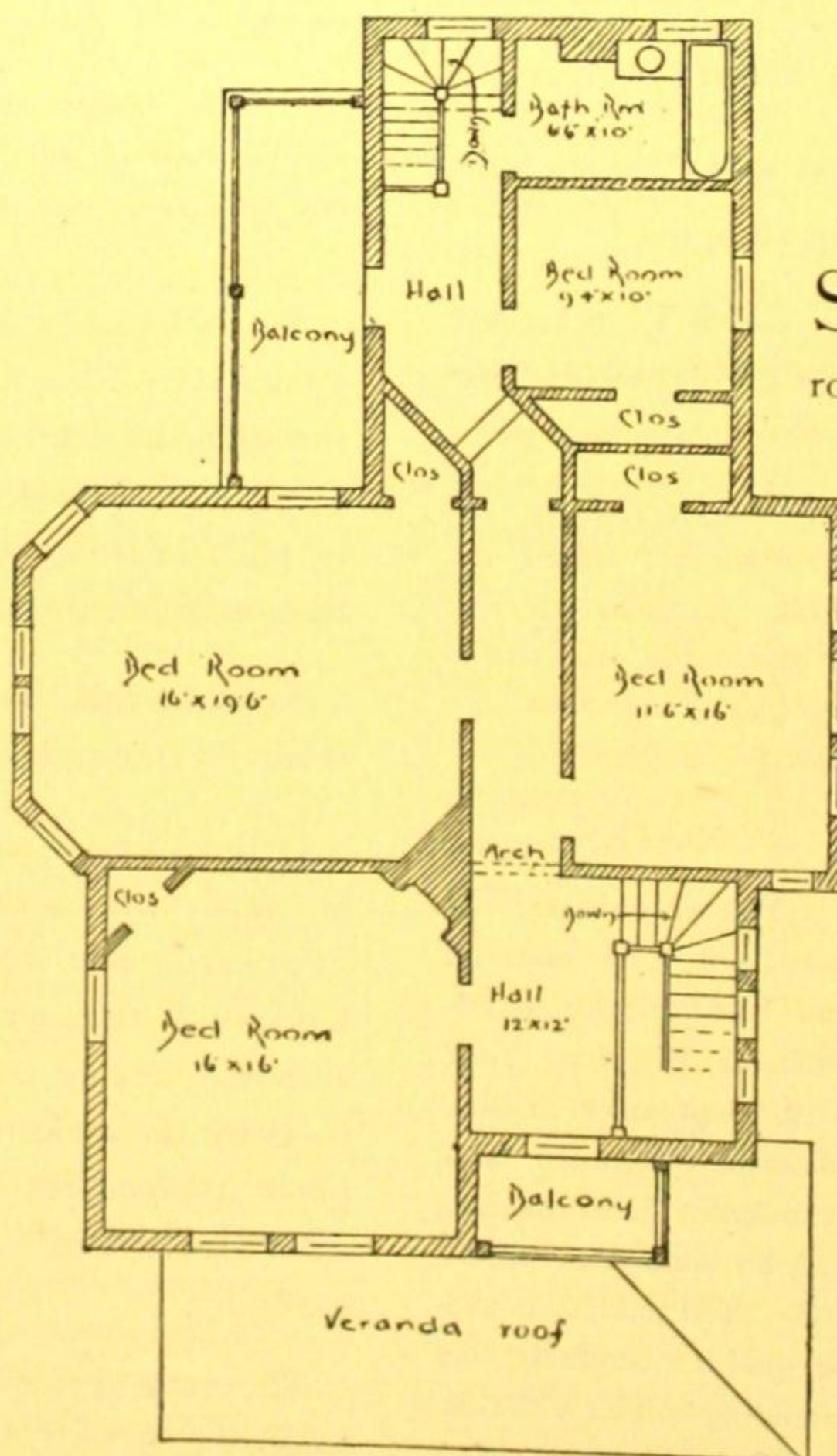
SECOND FLOOR. NO. 406



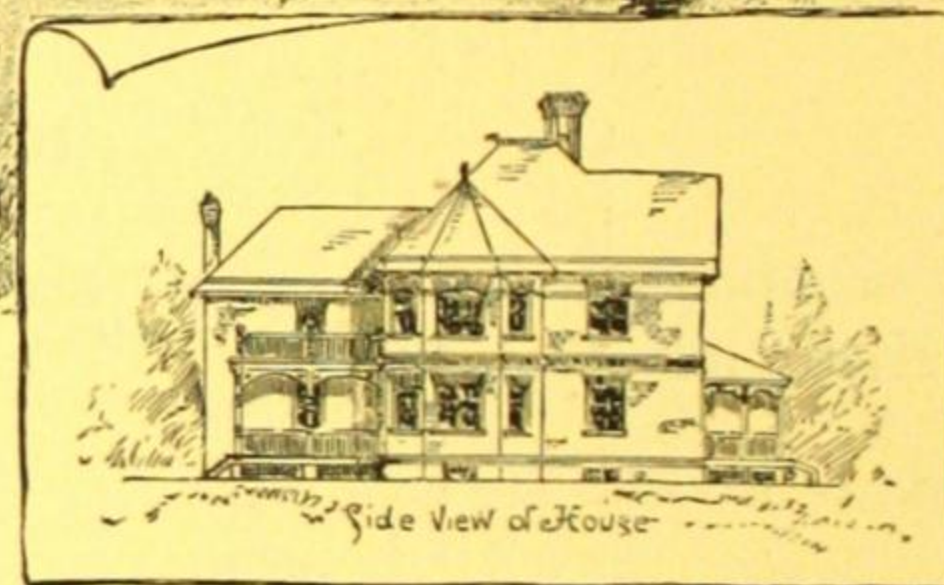
DESIGN No. 407. PERSPECTIVE VIEW



FIRST FLOOR. NO. 407



SECOND FLOOR. NO. 407

DESCRIPTION OF DESIGN
NUMBER 407

SIZE OF STRUCTURE: Front, 26 ft., 2 in.; extreme width through sitting and dining-rooms, 38 ft. Side, 56 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Roof, slate.

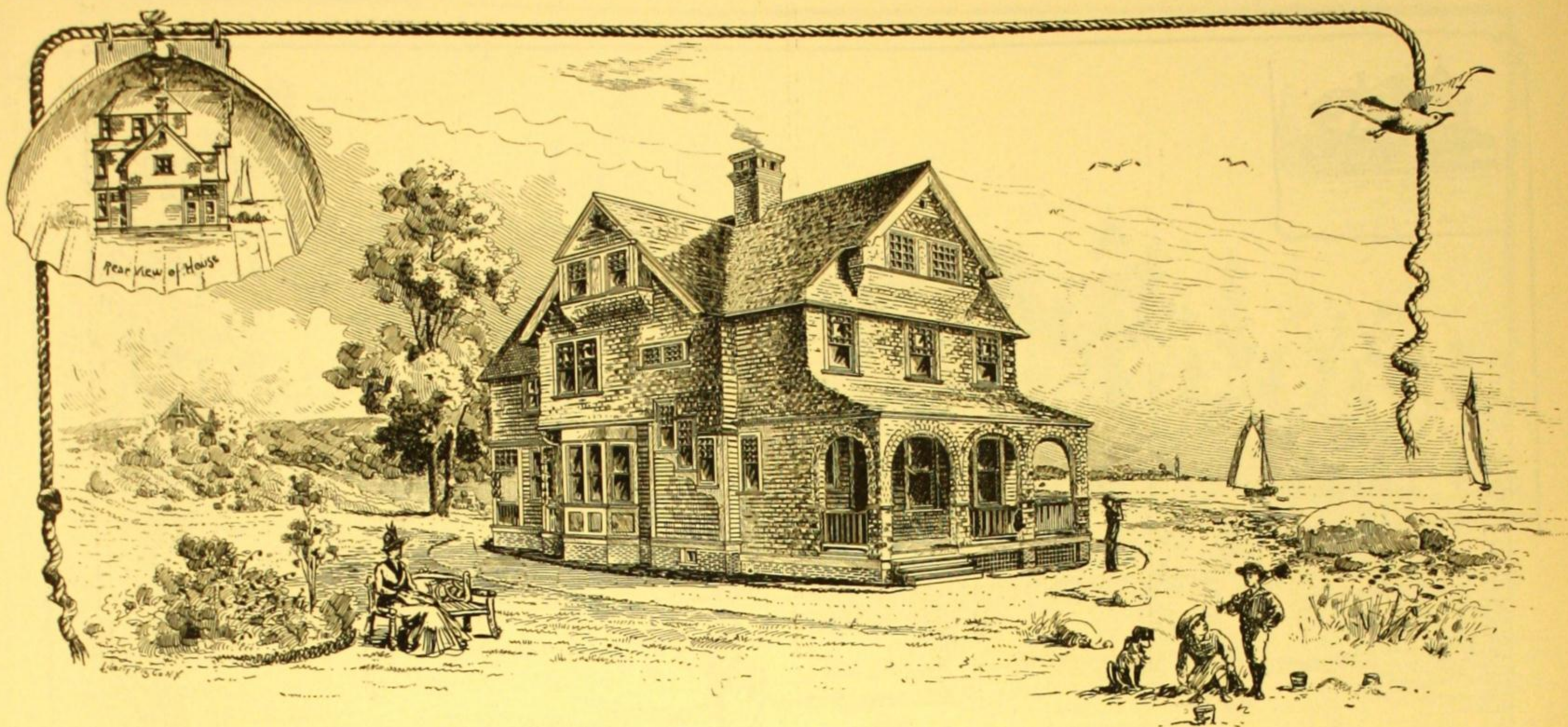
COST: \$6,000, complete, except mantels, furnace and kitchen range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A brick house, the walls furred off inside to give an air space between the brickwork and the plastering.

Open fire-places. Attic unfinished.

Cellar under kitchen, sitting and dining-rooms.



DESIGN No. 408. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 408

SIZE OF STRUCTURE: Front, 27 ft.; extreme width, 32 ft. Side, 53 ft., 6 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 7 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,800, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

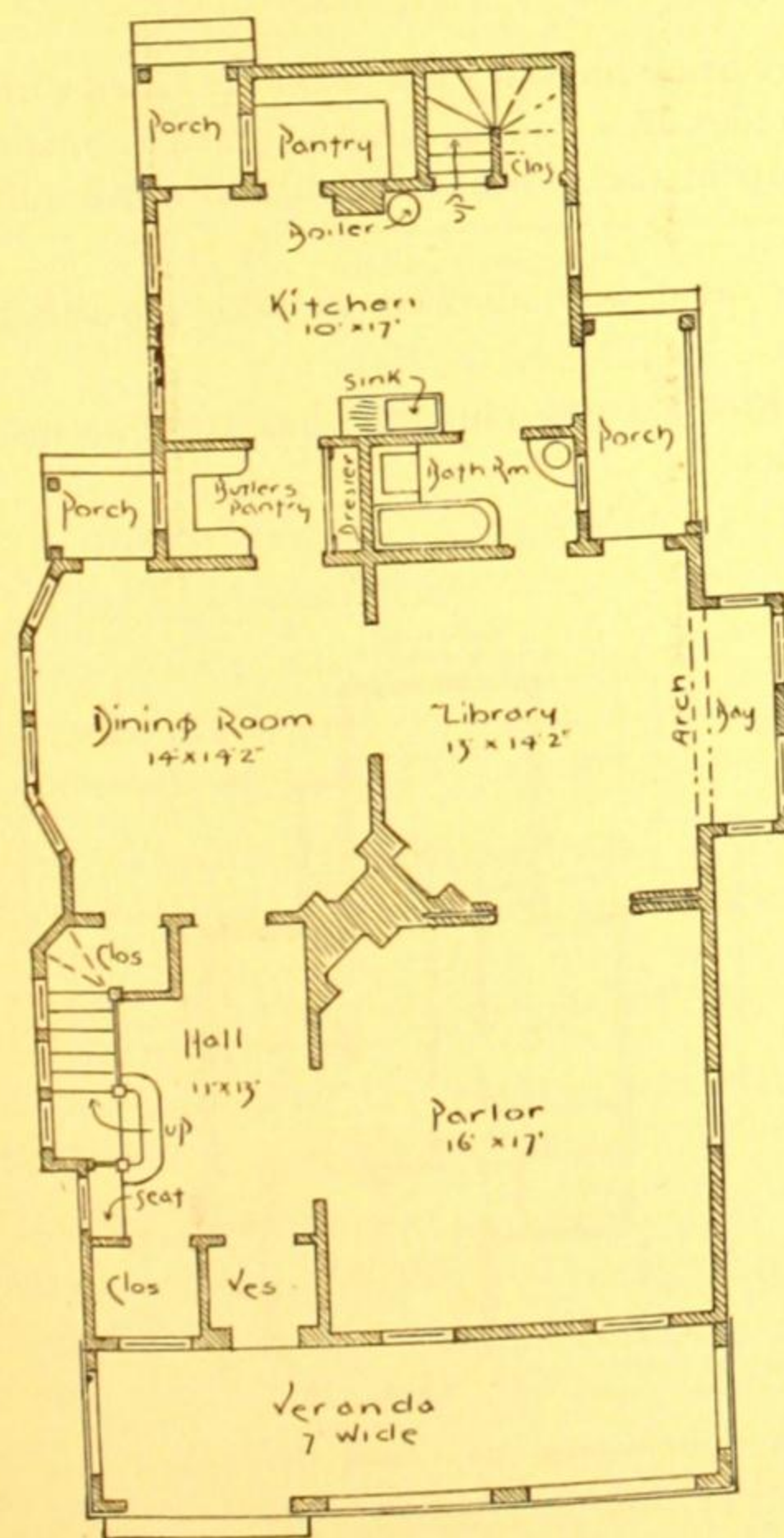
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The bath-room can be placed on the second floor, over the kitchen, if preferred.

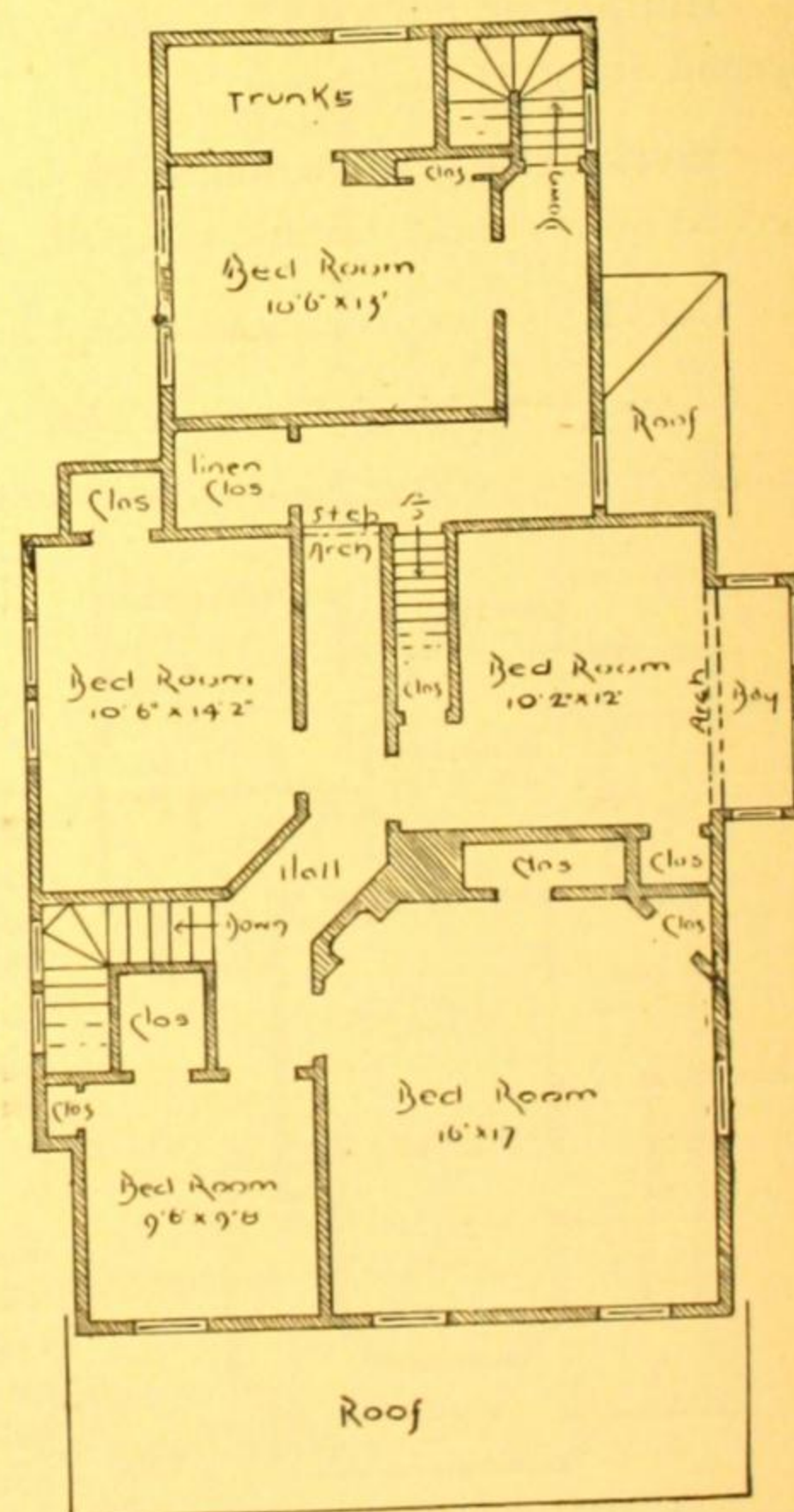
Two good bedrooms in the attic.

There is no cellar. This house was designed for a location at the sea-side where excavation of sufficient depth for a good cellar was impossible. There was little or no use for a cellar as the house is tenanted during the summer months only. The house is set on brick walls sunk to a depth of three feet below grade.

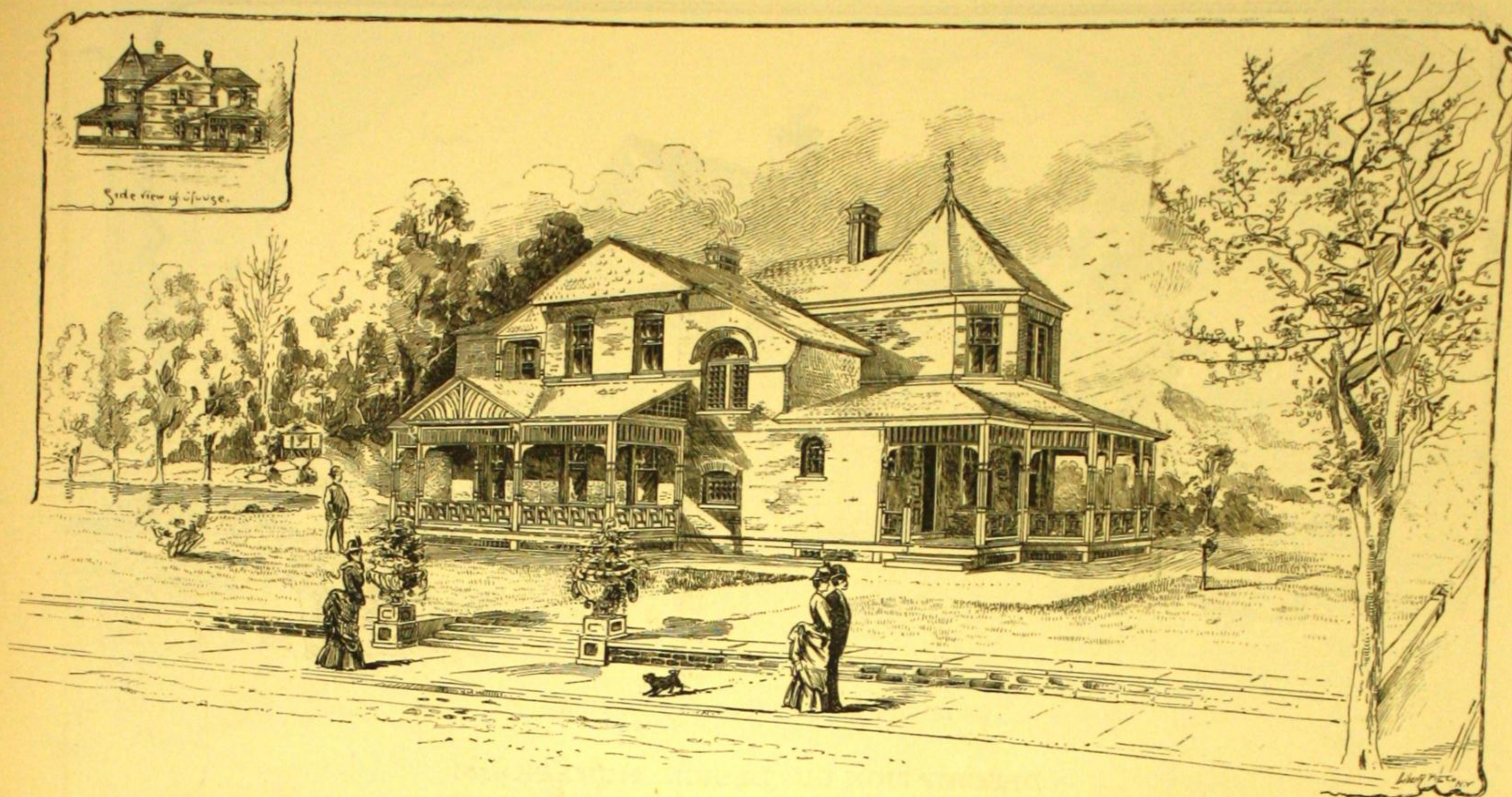
If a cellar is wanted, say under the whole house, the additional cost for excavating and building the foundation walls to a greater depth would be about \$200.



FIRST FLOOR. NO. 408



SECOND FLOOR. NO. 408



DESIGN No. 409. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 409

SIZE OF STRUCTURE: Front, 28 ft., 4 in. Extreme width, including verandas, 53 ft. Side, 68 ft., including front veranda.

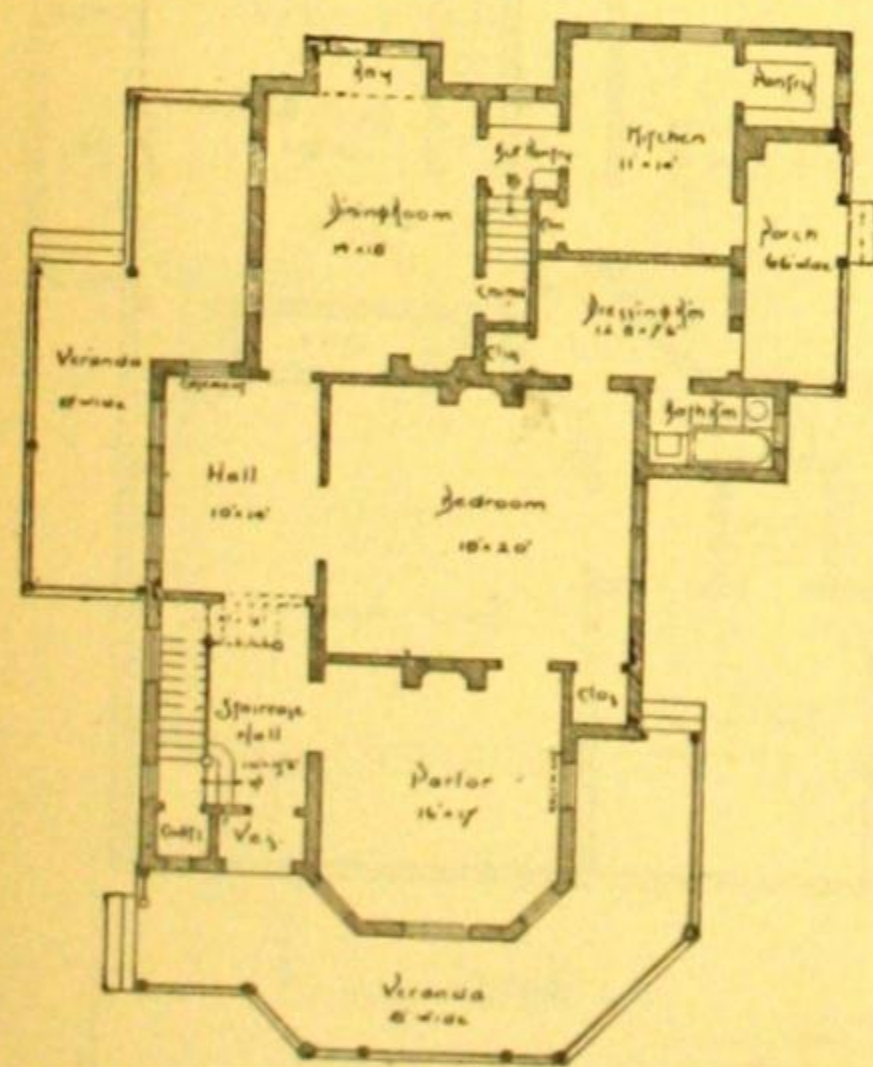
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft., 6 in.; Second Story, 11 ft.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Gables, shingled; Roof, shingles.

COST ; \$6,500, complete, except mantels.

[See page 219 for information about details, specifications, bill of quantities, and working plans of this design.]



FIRST FLOOR. NO. 409.

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Draw-

ings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A brick house. The walls are faced with select stock brick, and the arches, belt courses and water table made with pressed brick; all laid up in red mortar and washed down and oiled at completion.

The shingling is simply oiled and allowed to take a weather stain.

This house was designed for a warm climate; has large rooms, high stories and wide verandas.

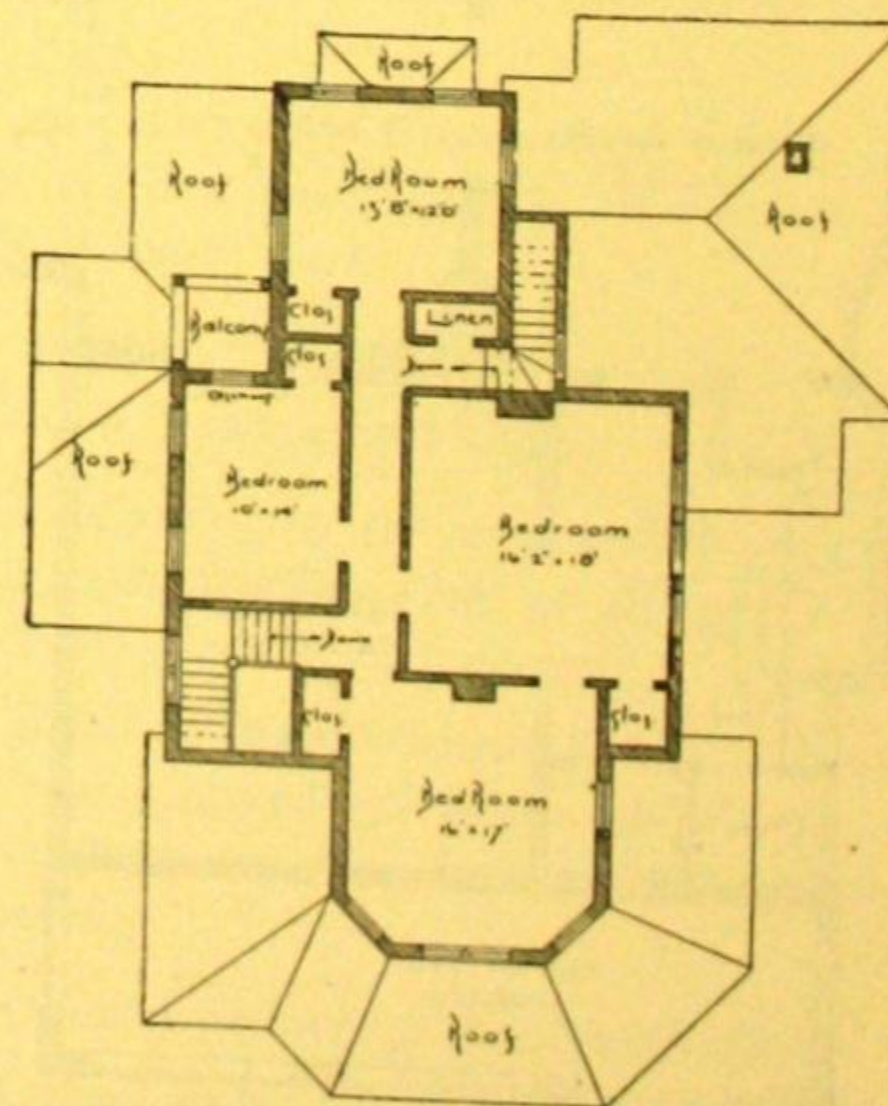
The rear hall, separated from the front hall by a portiere, makes a music-room or library. One window in this room goes down to the floor to afford access to the veranda.

Stained cathedral glass in the staircase windows and in the window at the side of the vestibule door.

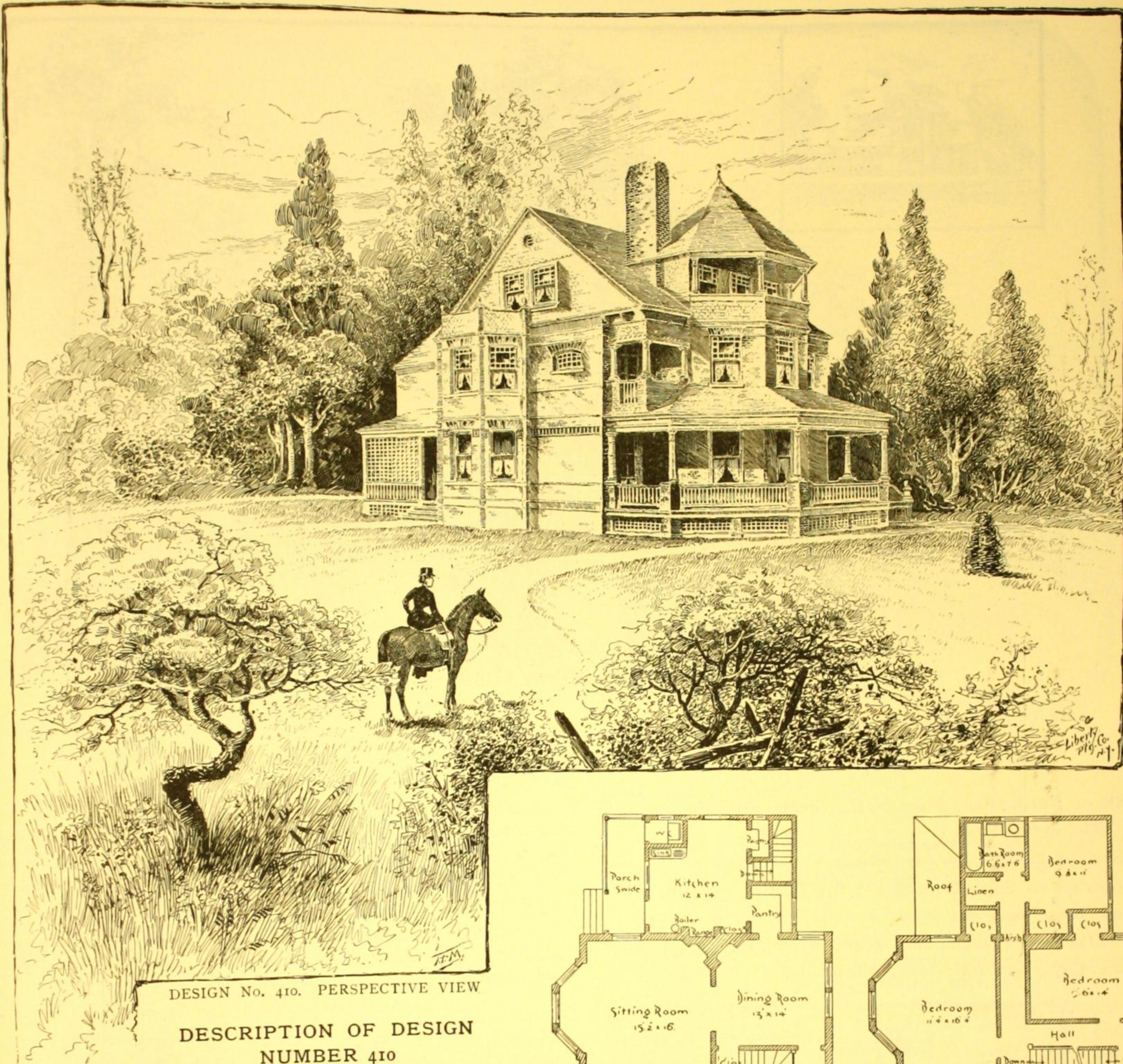
The large bedroom on the ground floor, connected with a dressing-room and a bathroom, is a desirable feature under some circumstances.

The attic is available for storage only.

Cellar under front portion of the house.



SECOND FLOOR. NO. 409



SIZE OF STRUCTURE: Front, 31 ft., 4 in. Side, 54 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Attic Story, 7 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Gables, shingles; Roof, slate.

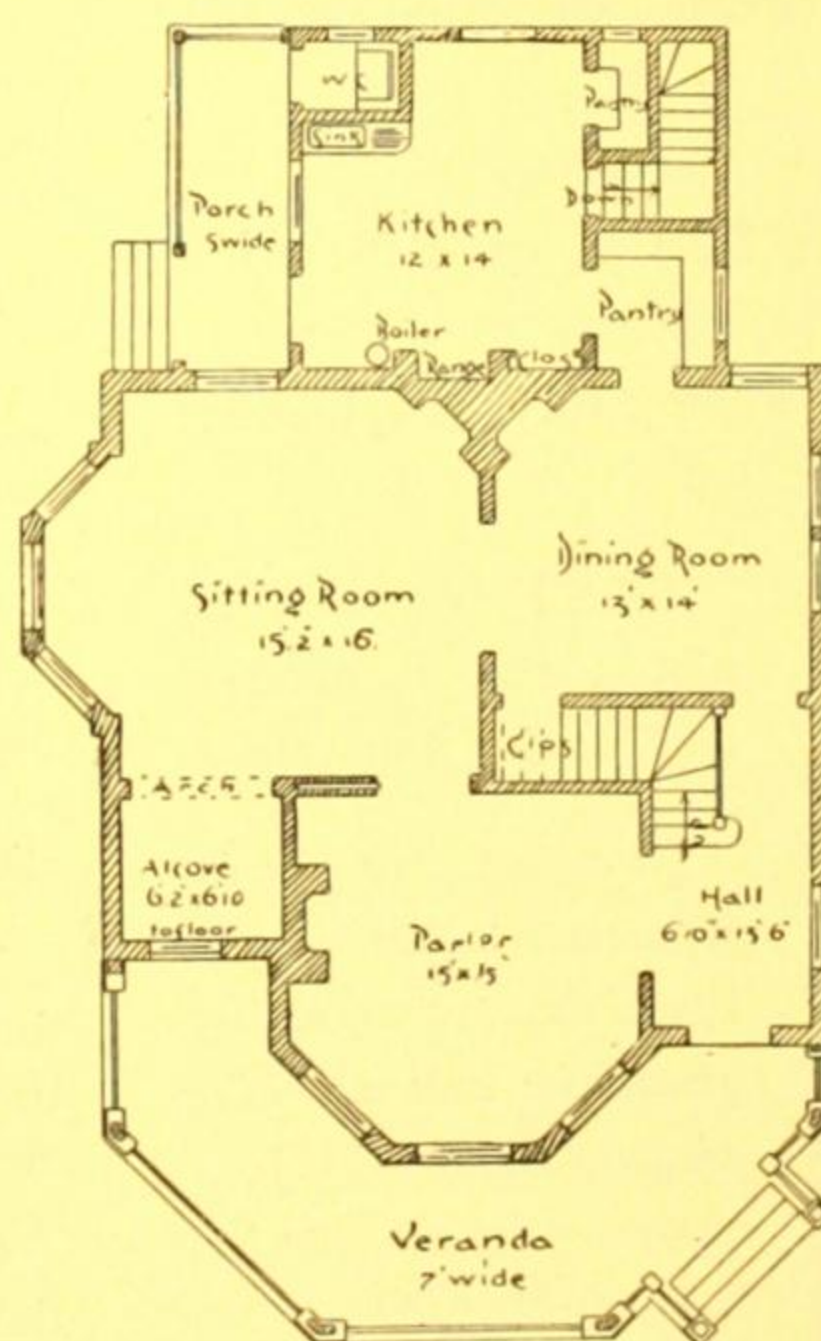
COST: \$4,500, complete, except mantels and range.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

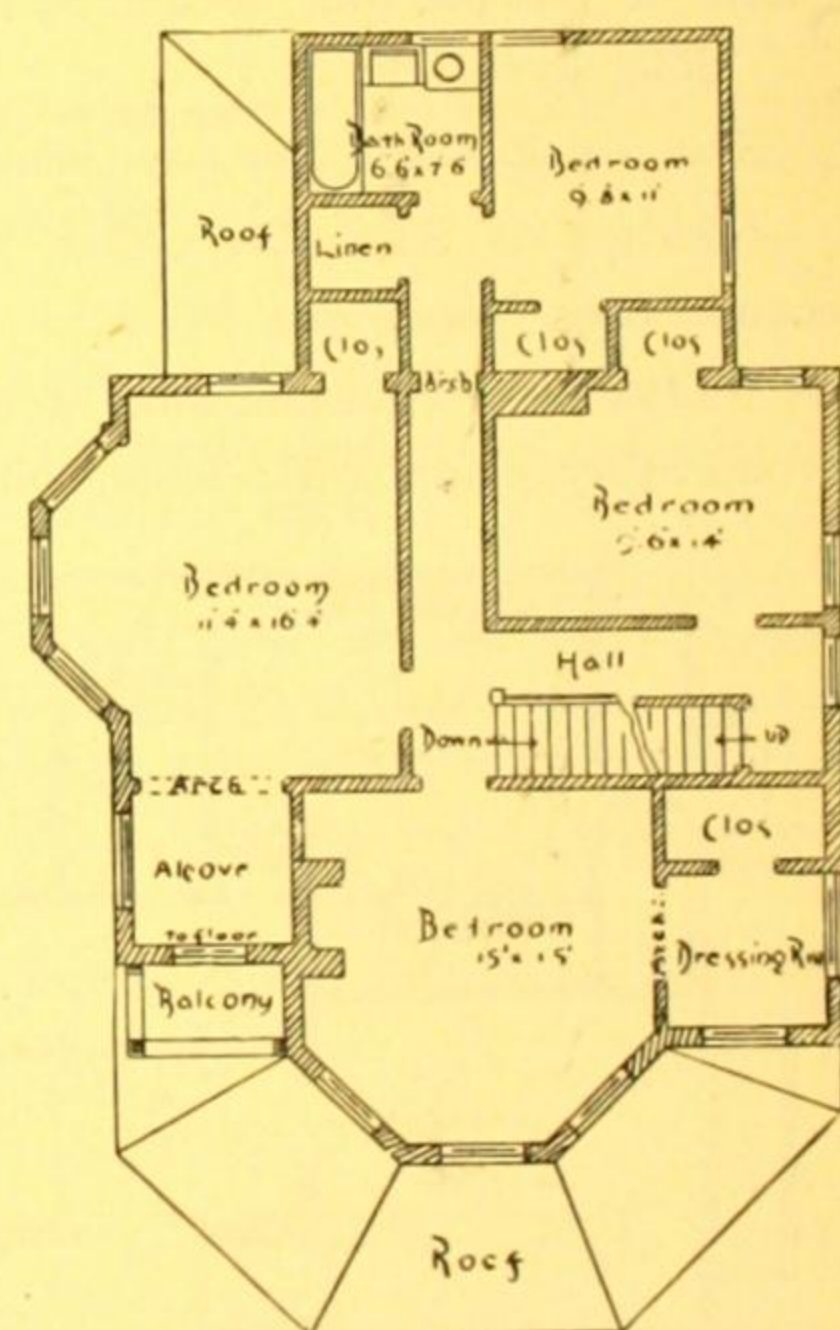
SPECIAL FEATURES.—A brick house. The walls are faced with select stock brick; trimmings of pressed brick.

Open fire-places in parlor, sitting-room, dining-room and front bed-room.

A sliding door connects the parlor and sitting-room; double folding doors connect the sitting and dining-room.



FIRST FLOOR. NO. 410



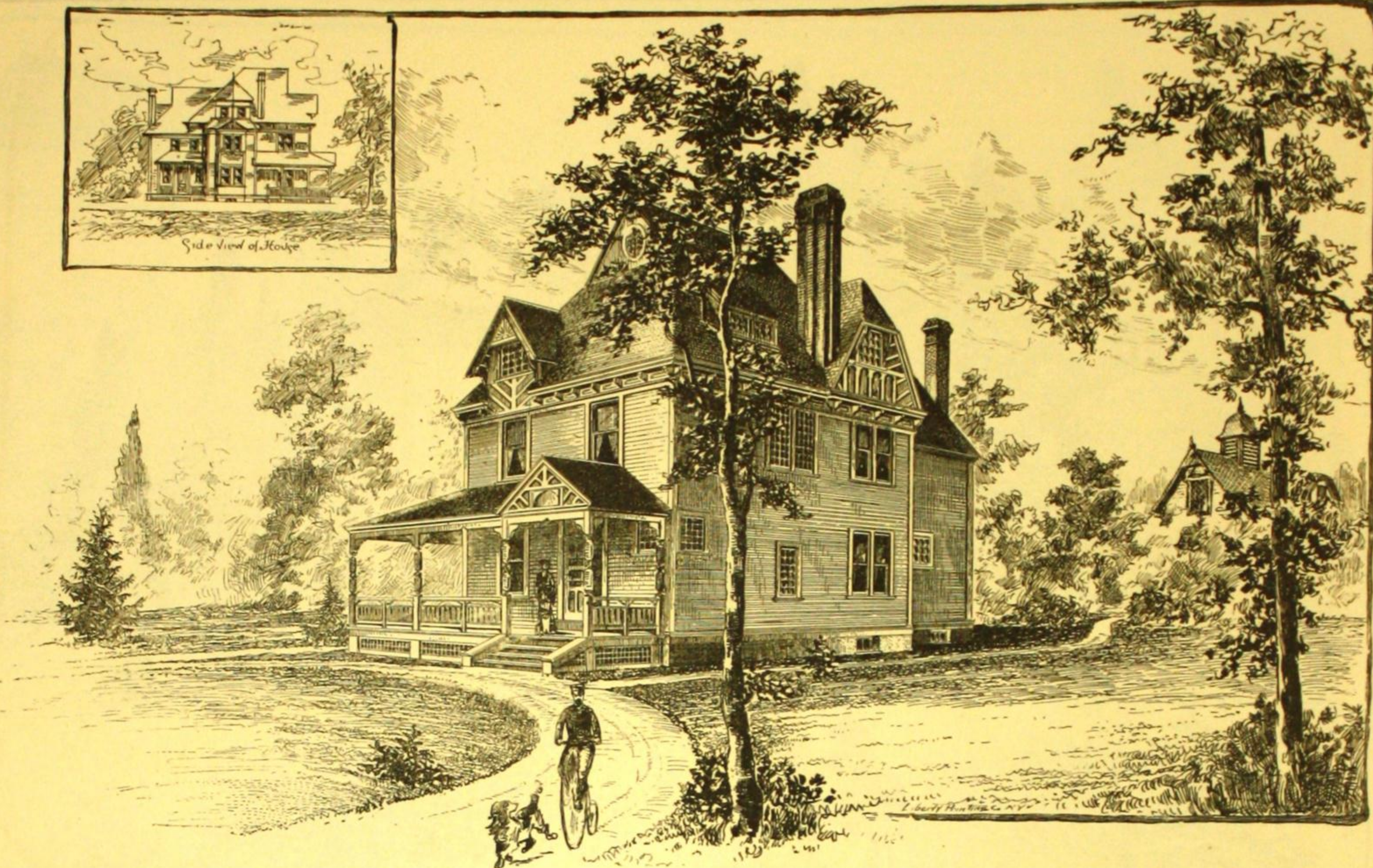
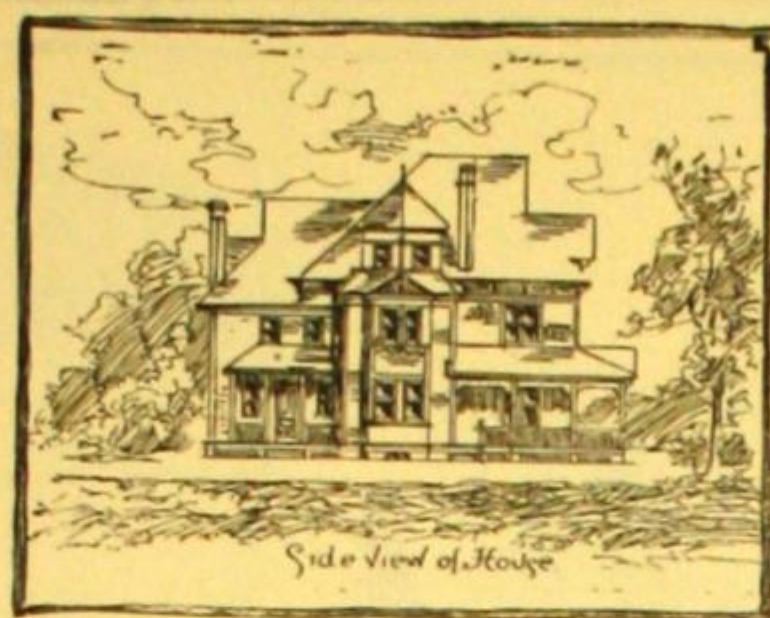
SECOND FLOOR. NO. 410

The rear porch is enclosed with lattice to seclude the entrance to the servants' W. C.

Four bedrooms and large closets in the second story; balcony over the veranda.

Two rooms and the hall are finished in the attic; the front room has a door giving access to the open balcony.

Cellar under the kitchen only.



DESIGN No. 411. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 411

SIZE OF STRUCTURE: Front, 29 ft., 6 in., not including veranda. Side, 49 ft.

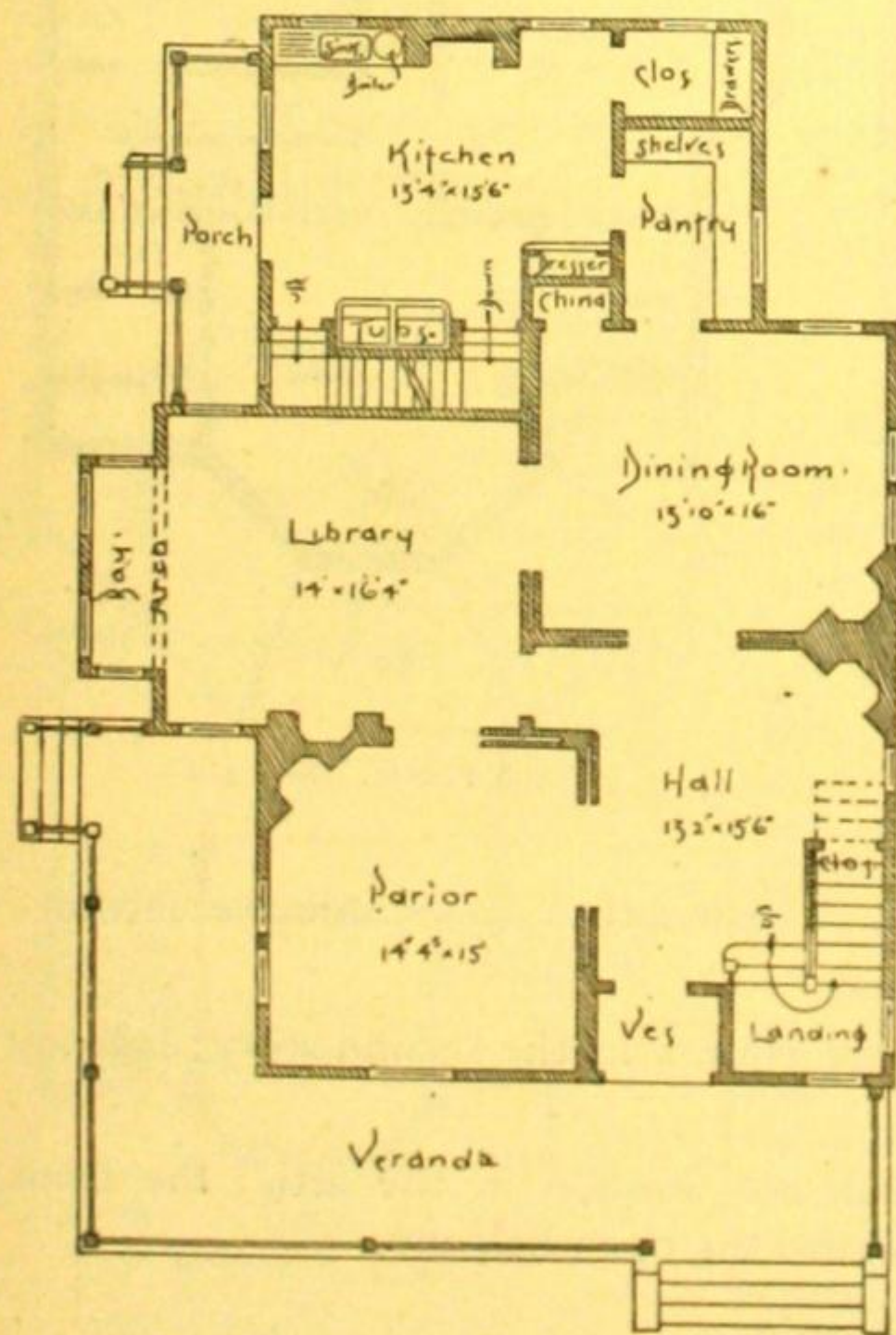
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 4 in.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Roof, shingles.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 411

COST: \$4,700, complete, except mantels and heating apparatus.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, Sept., 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—A large fine hall, with fire-place. The principal rooms are connected by sliding doors.

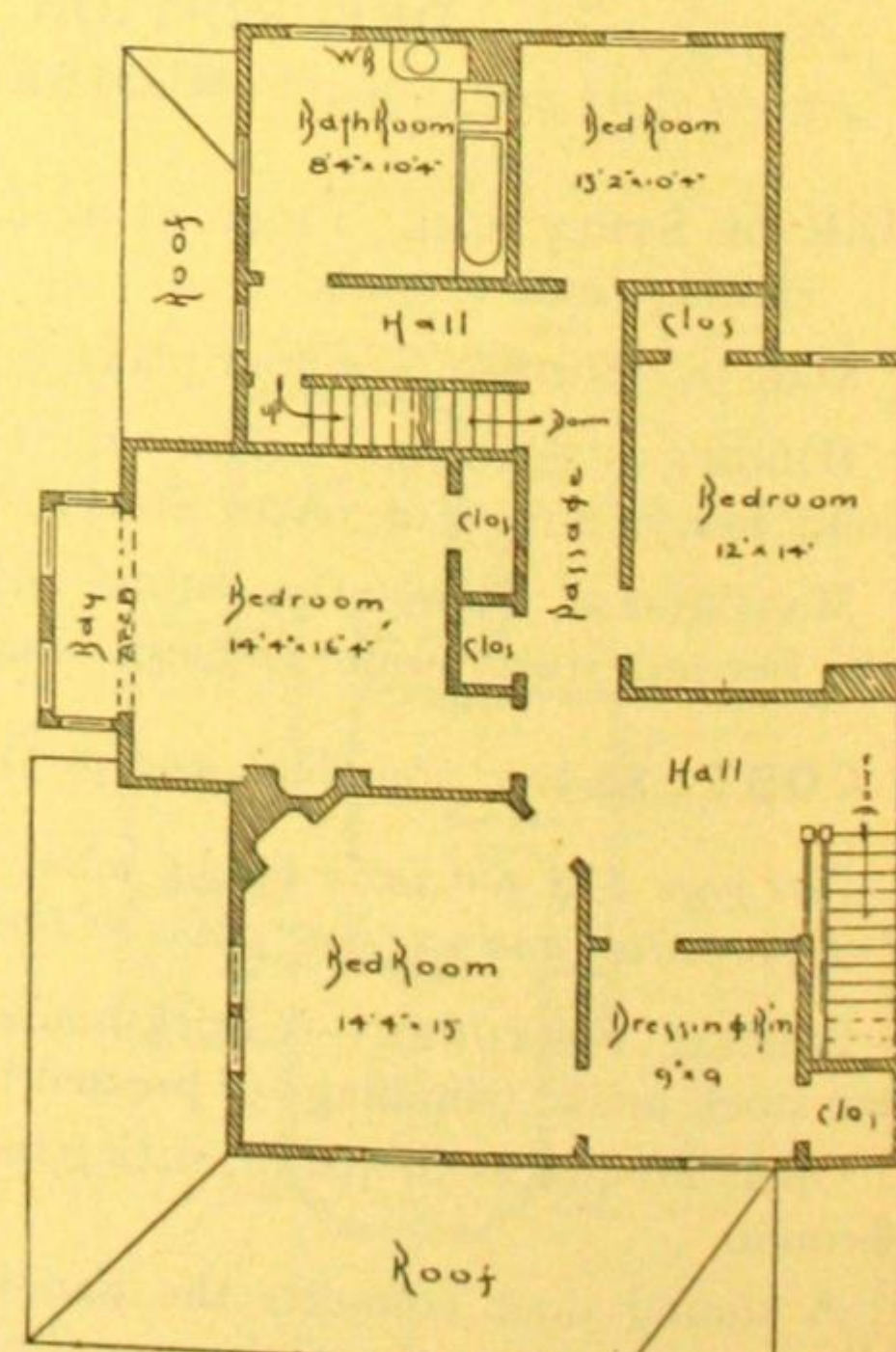
The two library windows which open onto the front and rear porches are carried to the floor.

Open fire-places in all the principal rooms.

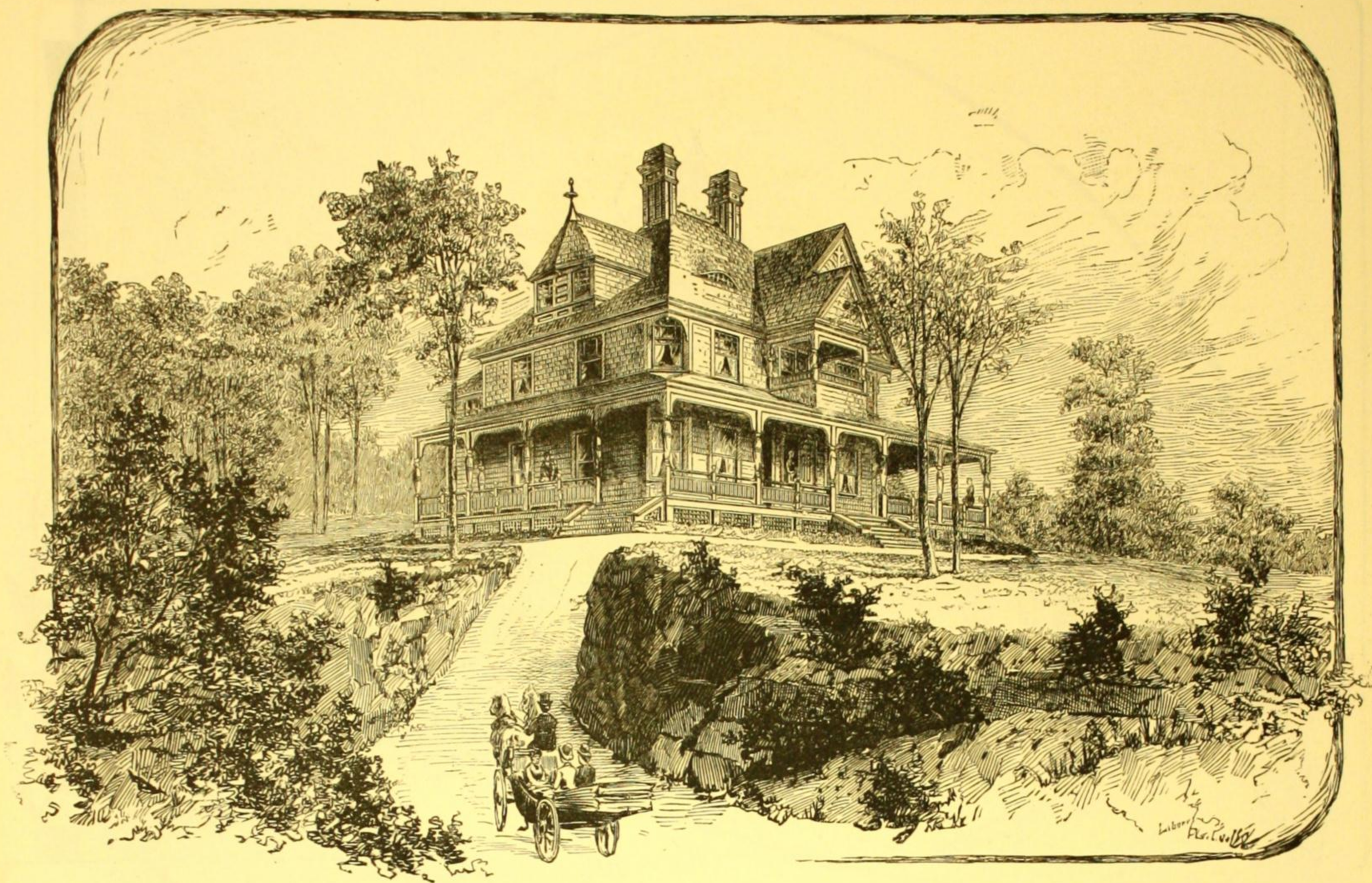
The bay window is 3 ft. by 9 ft., inside measurement.

Large pantry and butler's pantry. Veranda 8 ft. wide.

Cellar under the whole house, with outside entrance to the same. Attic is unfinished.



SECOND FLOOR. NO. 411



DESIGN No. 412. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 412

SIZE OF STRUCTURE: Front, 37 ft., not including veranda. Side, 44 ft. 6 in., not including veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

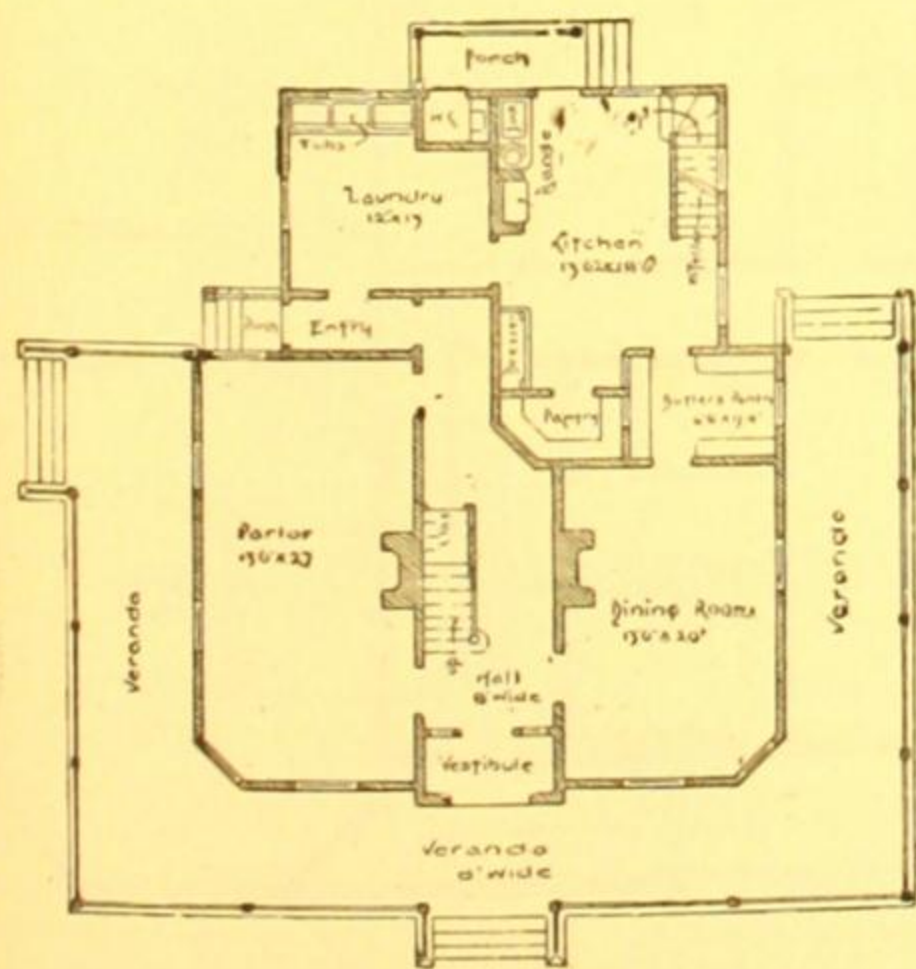
MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$4,800, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



FIRST FLOOR. NO. 412

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c., (these constitute the principal and distinguishing beauty of modern houses,) are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

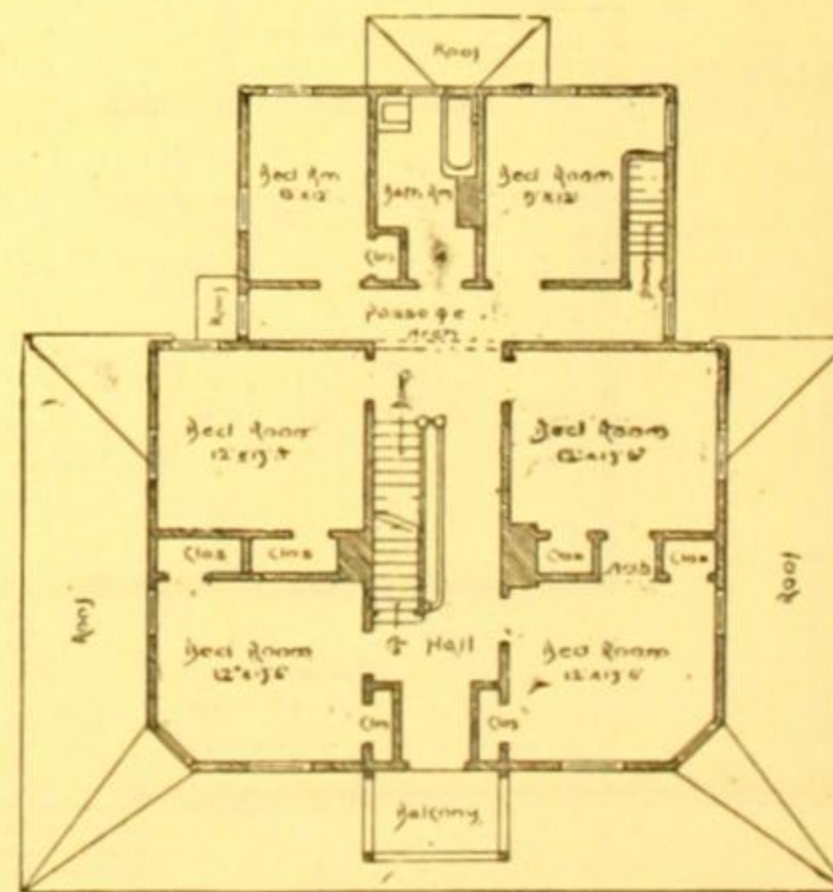
SPECIAL FEATURES.—The kitchen is thoroughly isolated from the rest of the house by the side entry and laundry, and by the butler's pantry. From the latter there are two windows, one opening into the pantry and the other into the kitchen. These are not glazed but are fitted with wire gauze. When the butler's pantry window is open, as it is in summer weather, an air current passes through the butler's pantry, into and through the pantry, and into and through the kitchen. This arrangement thoroughly ventilates this part of the house and is calculated to prevent flies from passing through to the front rooms.

The cross hall or passage on the second floor connected with the front hall, causes a draught that passes by the doors of all the chambers, and we believe, insures their coolness and comfort in the most oppressively hot weather.

Servants' stairway from the kitchen to the rear hall of the second floor.

Cellar under the kitchen and front hall.

Furnace pipes and registers are provided. Three rooms are finished in the attic.



SECOND FLOOR. NO. 412



DESIGN No. 413. PERSPECTIVE VIEW

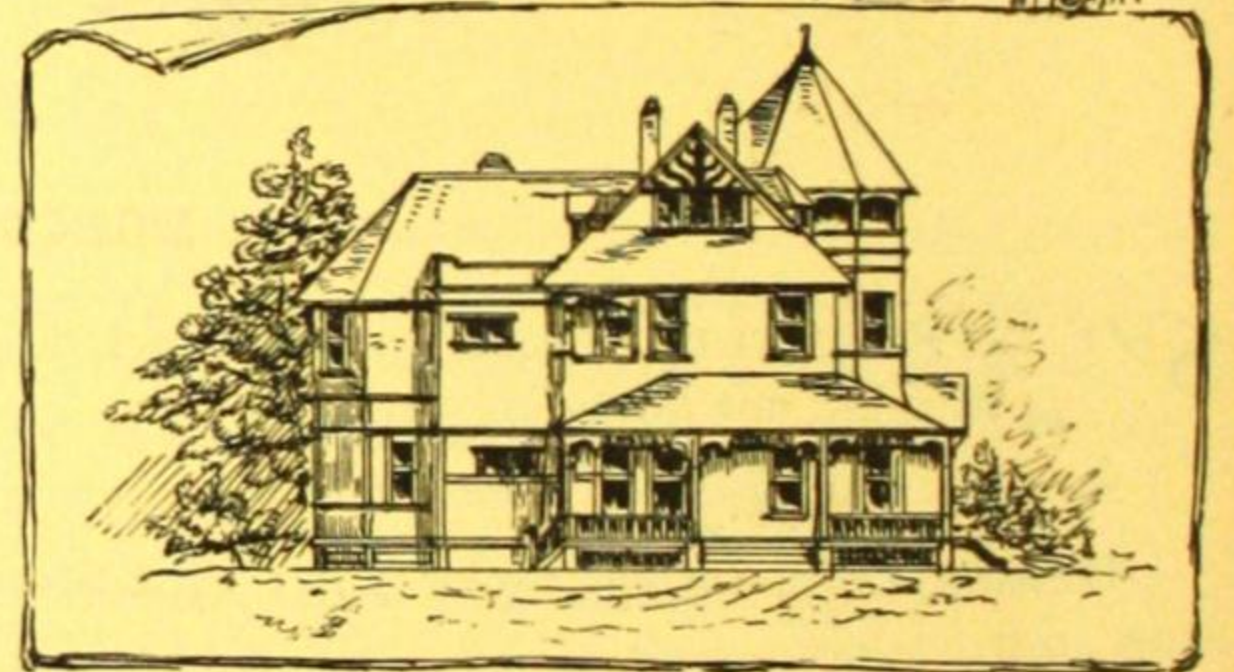
DESCRIPTION OF DESIGN NUMBER 413

SIZE OF STRUCTURE: Front, 56 ft., not including veranda.
Side, 58 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 13 ft.; Second Story, 12 ft.;
Attic, not finished.

MATERIALS: Foundation, brick piers; First Story, clapboards;
Second Story, shingles; Roof, shingles.



COST: \$5,700, complete, except mantels.

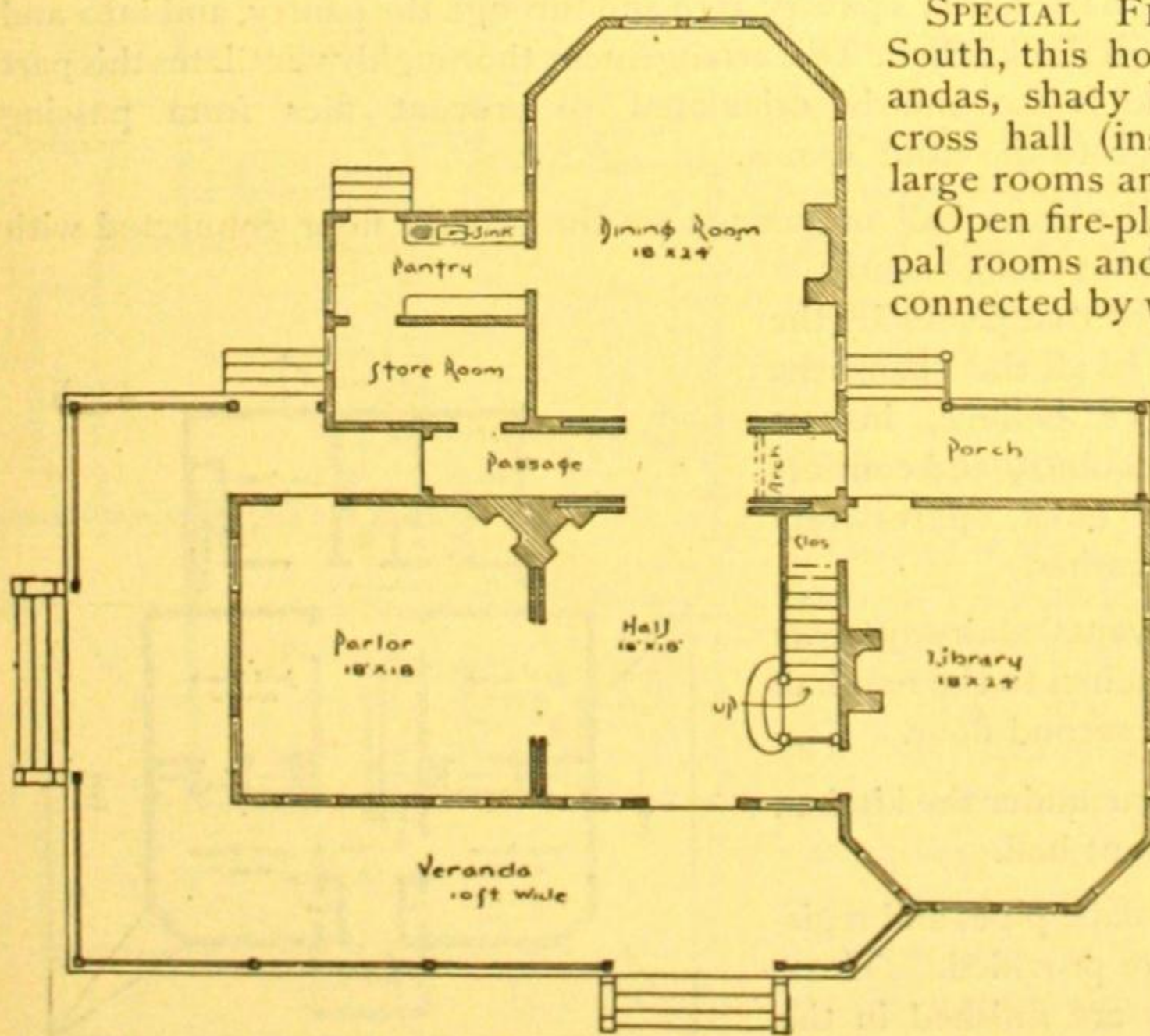
[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed for the South, this house has long and wide verandas, shady balconies, a large hall and a cross hall (insuring a current of air), very large rooms and high stories.

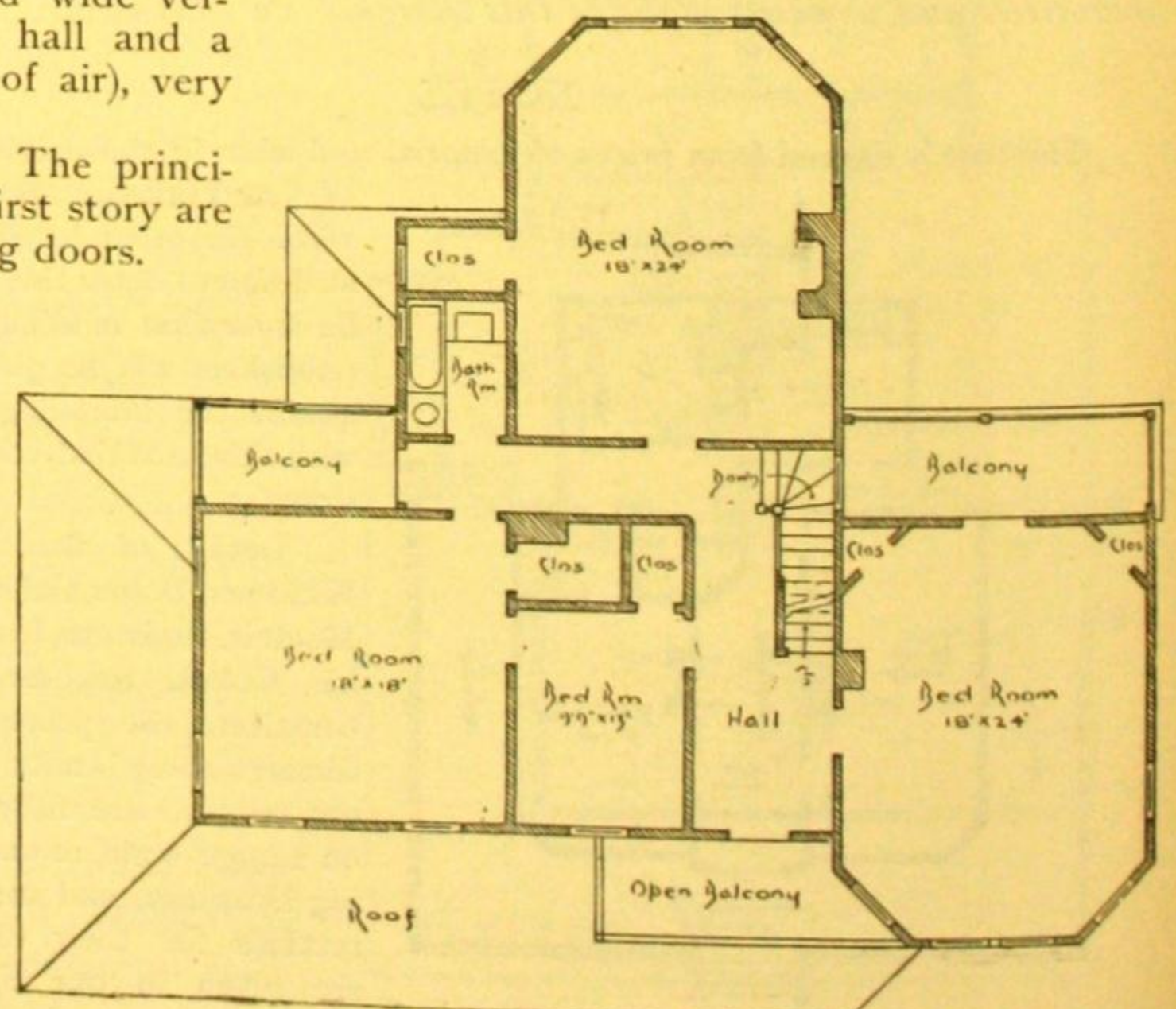
Open fire-places throughout. The principal rooms and the hall of the first story are connected by wide double sliding doors.

The attic is floored but not finished. The house is set upon a foundation of brick piers. There is no cellar.

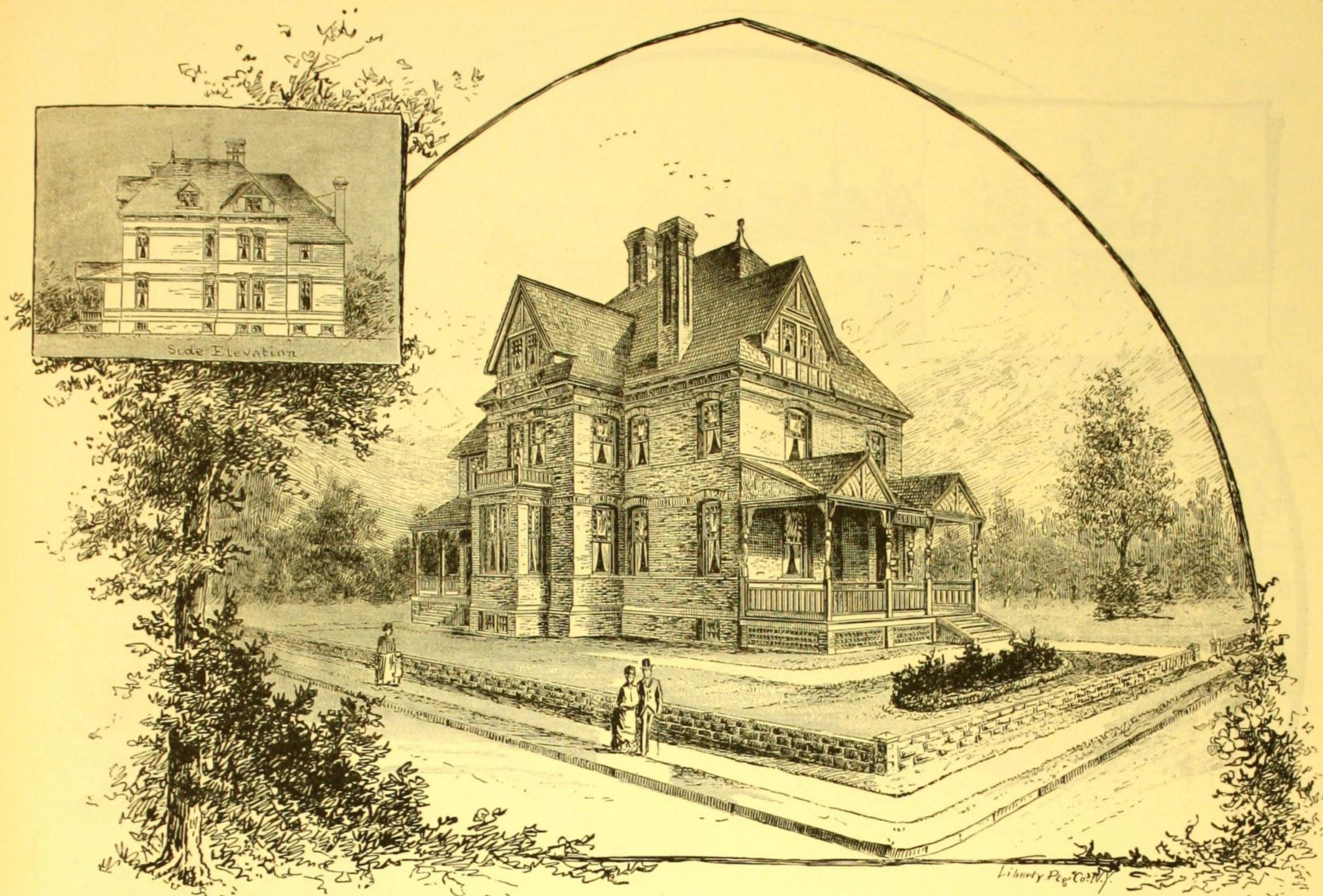
In many parts of the South this house can be built for one-quarter to one-third less than our estimate of cost.



FIRST FLOOR. NO. 413



SECOND FLOOR. NO. 413



DESIGN NO. 414. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN
NUMBER 414

SIZE OF STRUCTURE: Front, 23 ft., 8 in.; extreme width, 38 ft., 6 in. Side, 59 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Roof, slate.

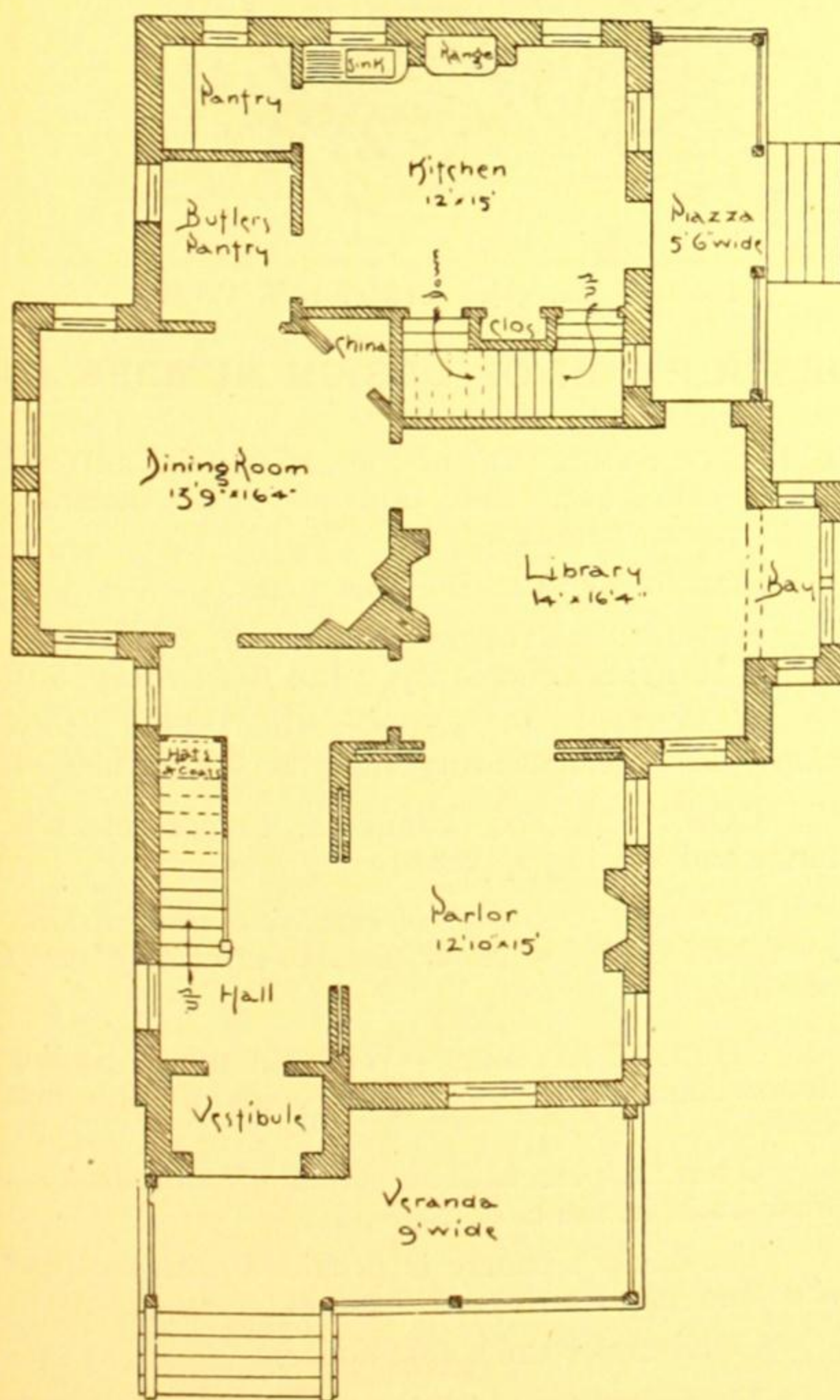
COST: \$6,000, complete, except mantels, range and furnace.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

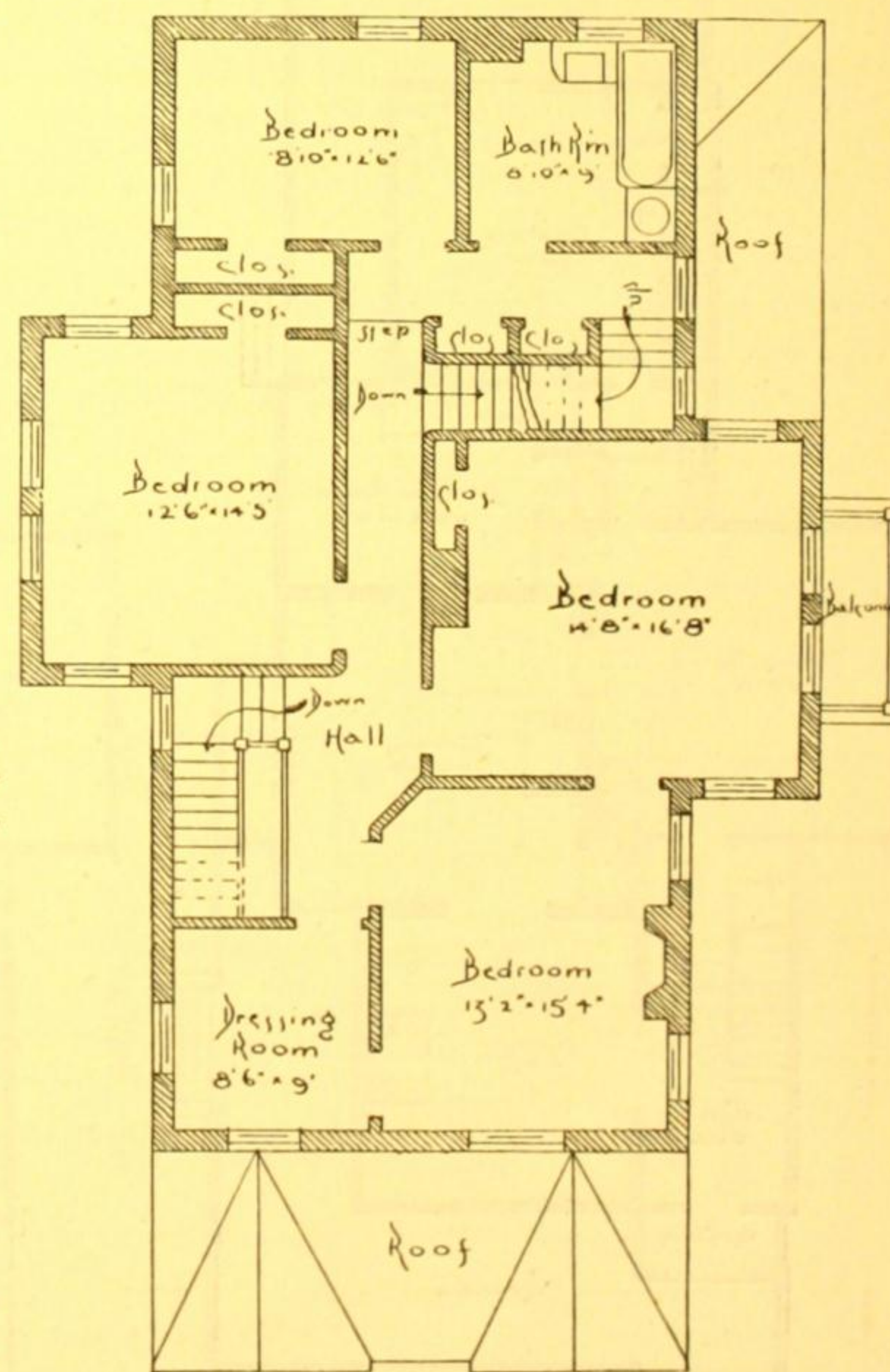
SPECIAL FEATURES.—A brick house. The walls of first story are 12 in., and those of second story, 8 in. thick. They are faced with select stock brick, the arches, belt courses, &c., of pressed brick.

Three bedrooms and a trunk room in the attic, besides closets.

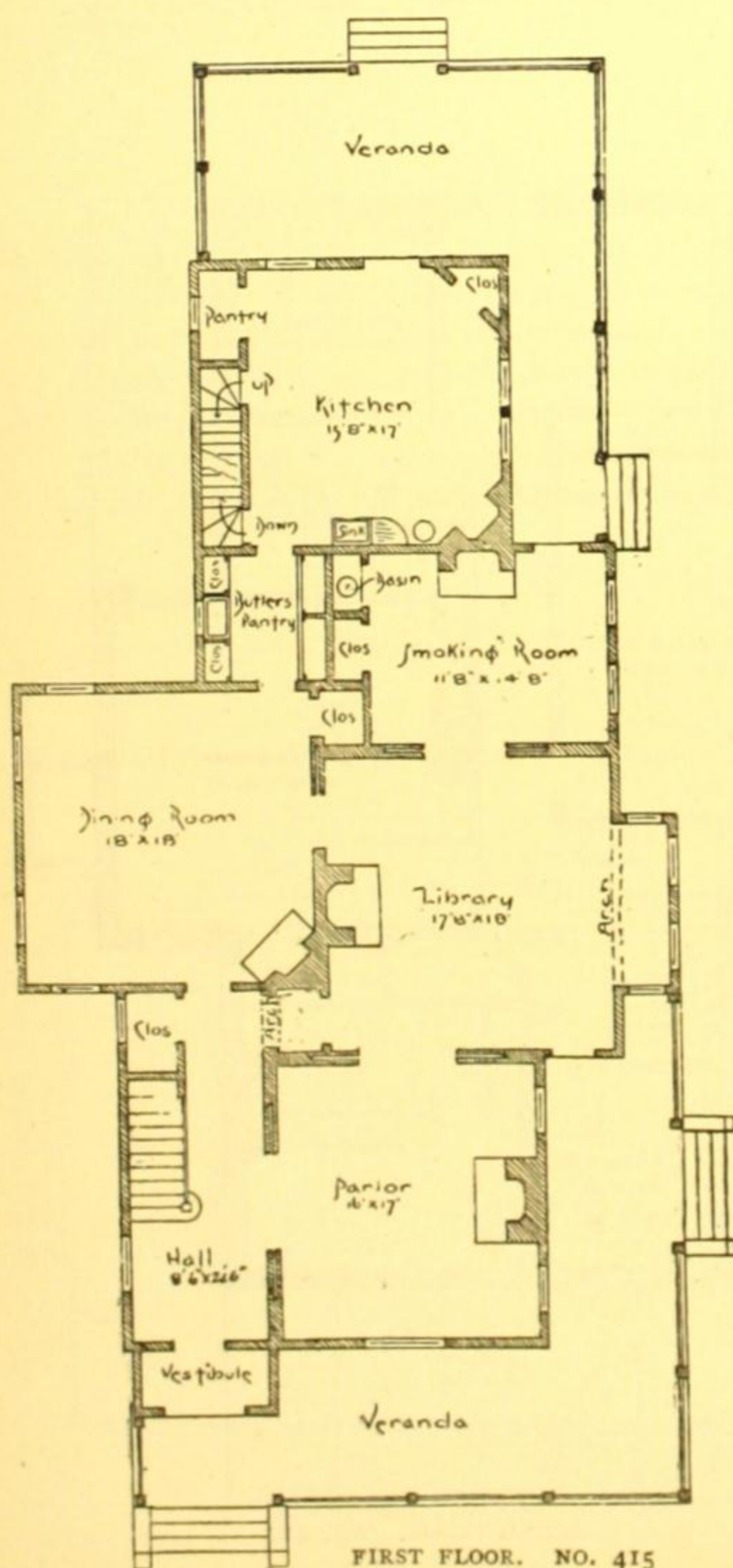
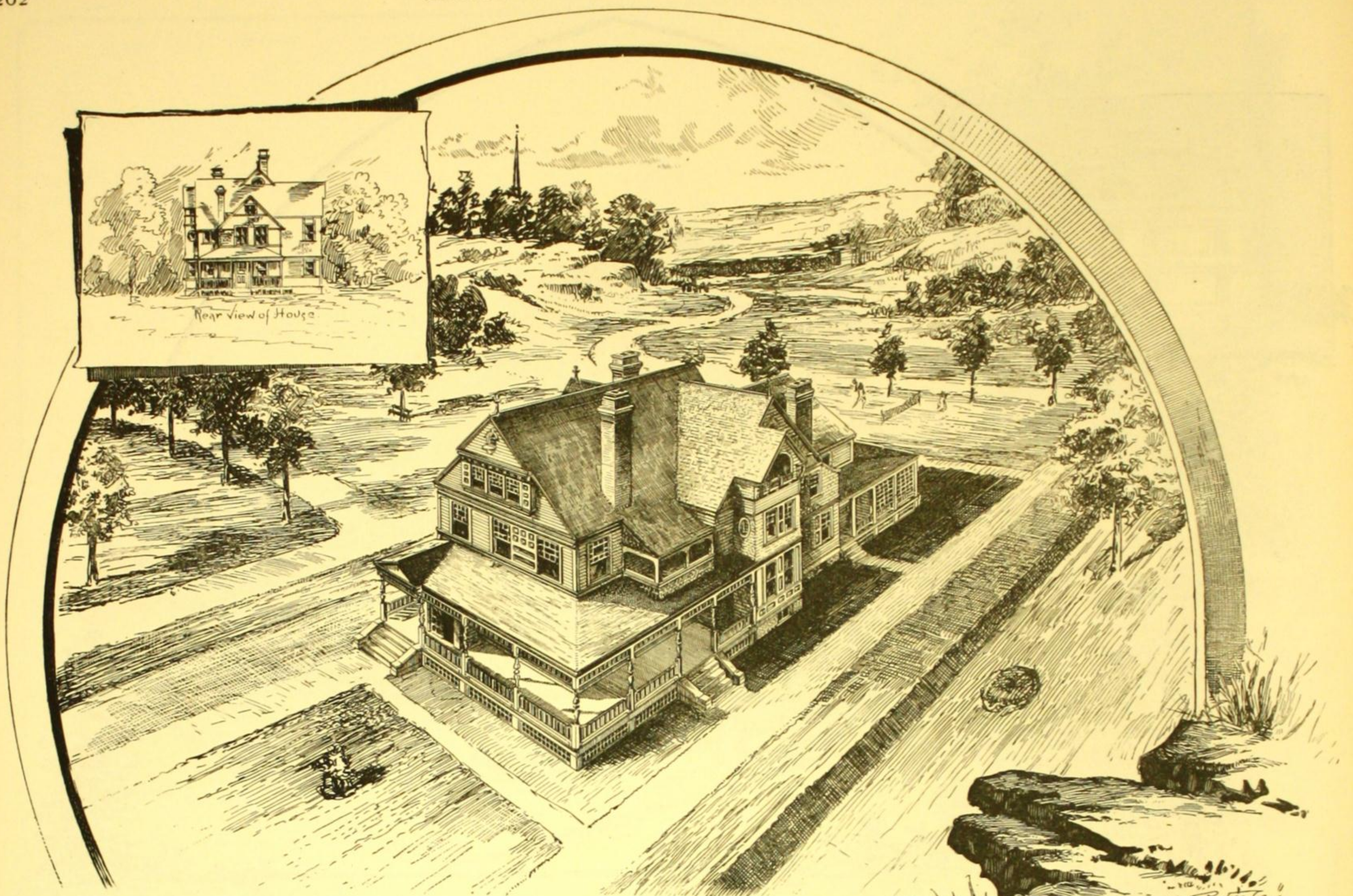
Cellar under the whole house; laundry under the kitchen. Heater pipes and registers are provided.



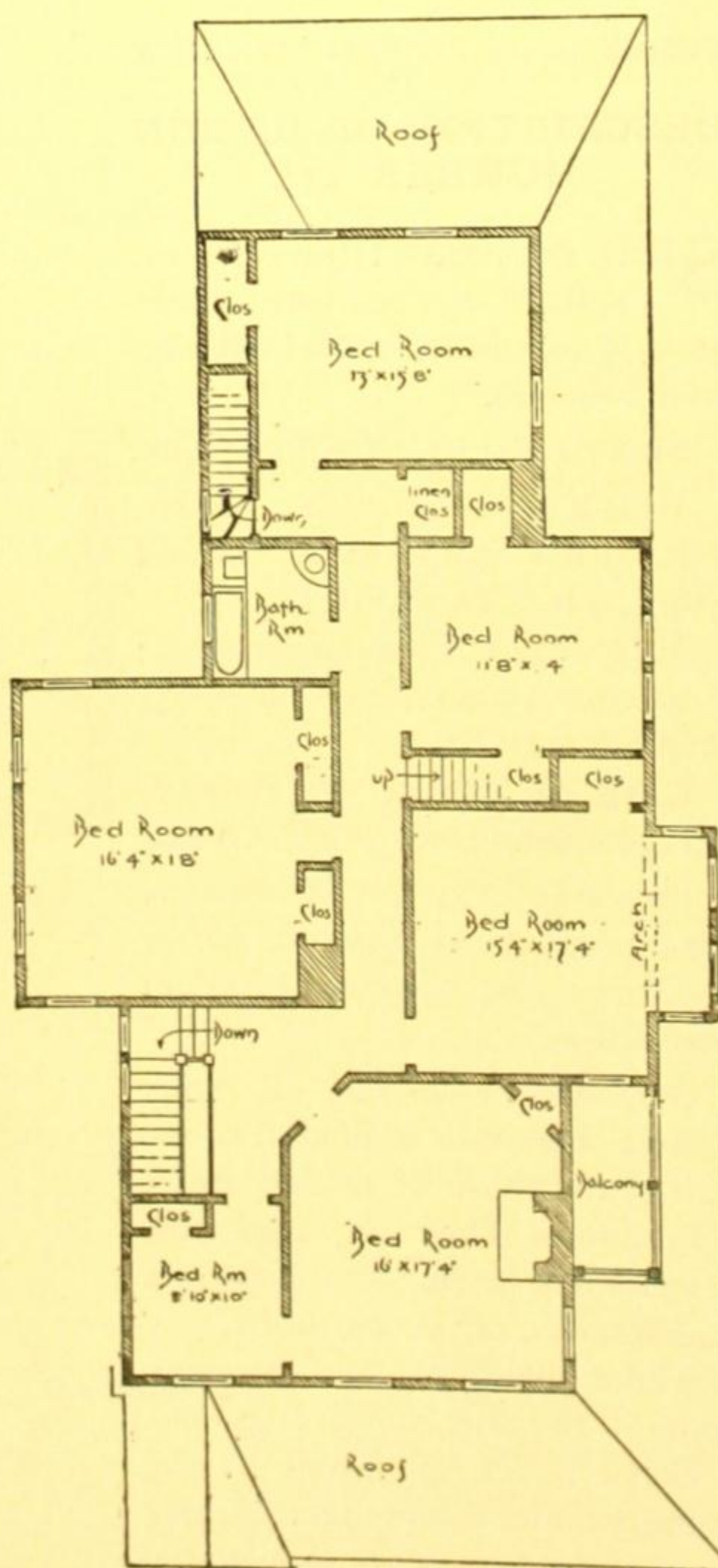
FIRST FLOOR. NO. 414



SECOND FLOOR. NO. 414



FIRST FLOOR. NO. 415



SECOND FLOOR. NO. 415

DESIGN No. 415. BIRD'S-EYE VIEW

DESCRIPTION OF DESIGN NUMBER 415

SIZE OF STRUCTURE: Front, 26 ft., 6 in., extreme width, 41 ft. Side, 66 ft., 6 in., not including front or rear veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$5,800, complete, except mantels, range and heating apparatus.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

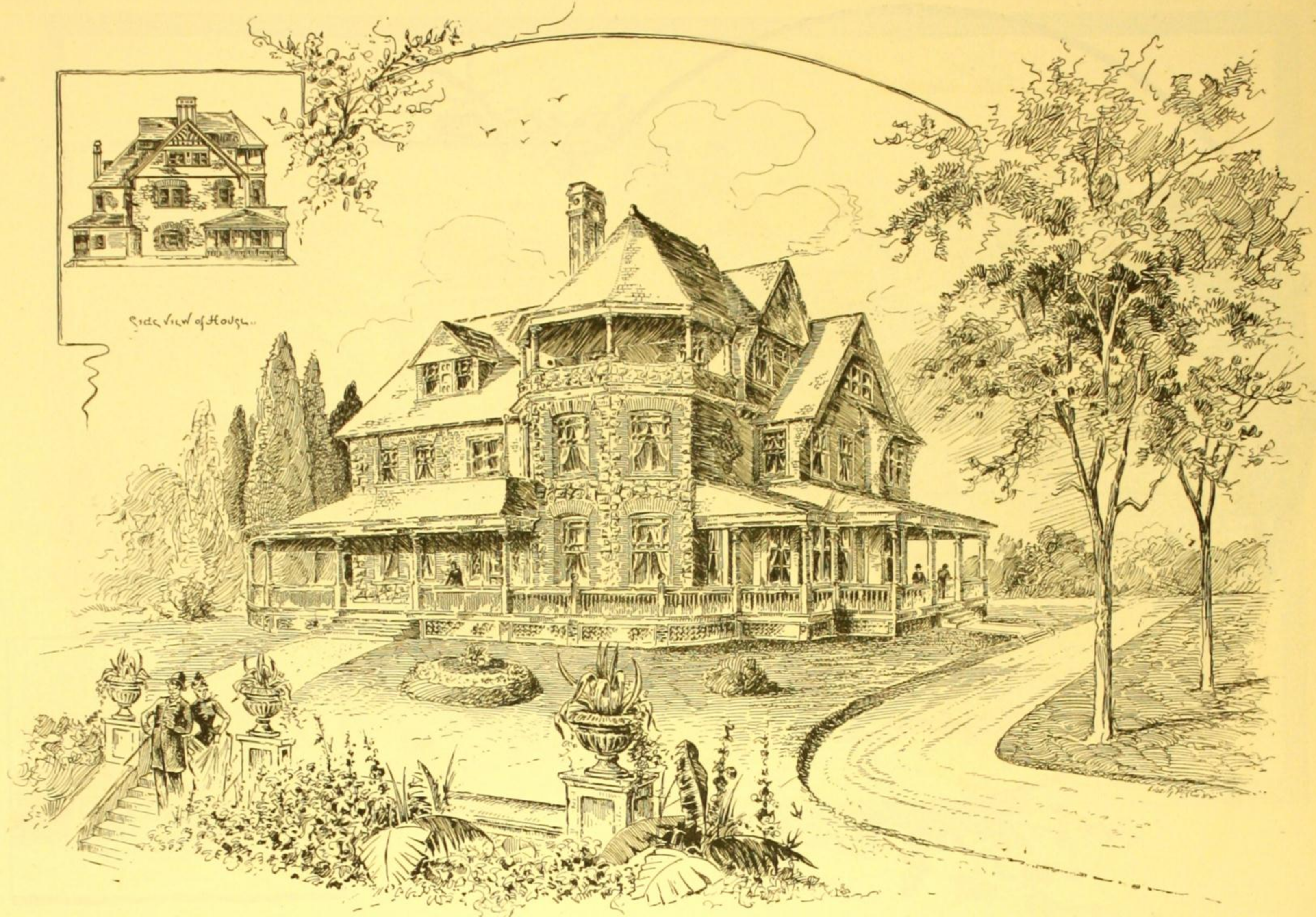
SPECIAL FEATURES.—Wide verandas. Sliding doors connect the principal rooms of the first story.

Open fire-places. The smoking-room has a set wash-basin in the closet.

The butler's pantry is provided with a copper sink and cupboards and drawers.

Cellar under the whole house.

Three bedrooms in the attic, besides a storage room.



DESIGN No. 416. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 416

SIZE OF STRUCTURE: Front, 46 ft.; extreme width, 74 ft. Side, 61 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, front portion, stone; rear extension, clapboards; Second Story, front portion, stone; rear extension, shingles; Gables, shingles; Roof, shingles.

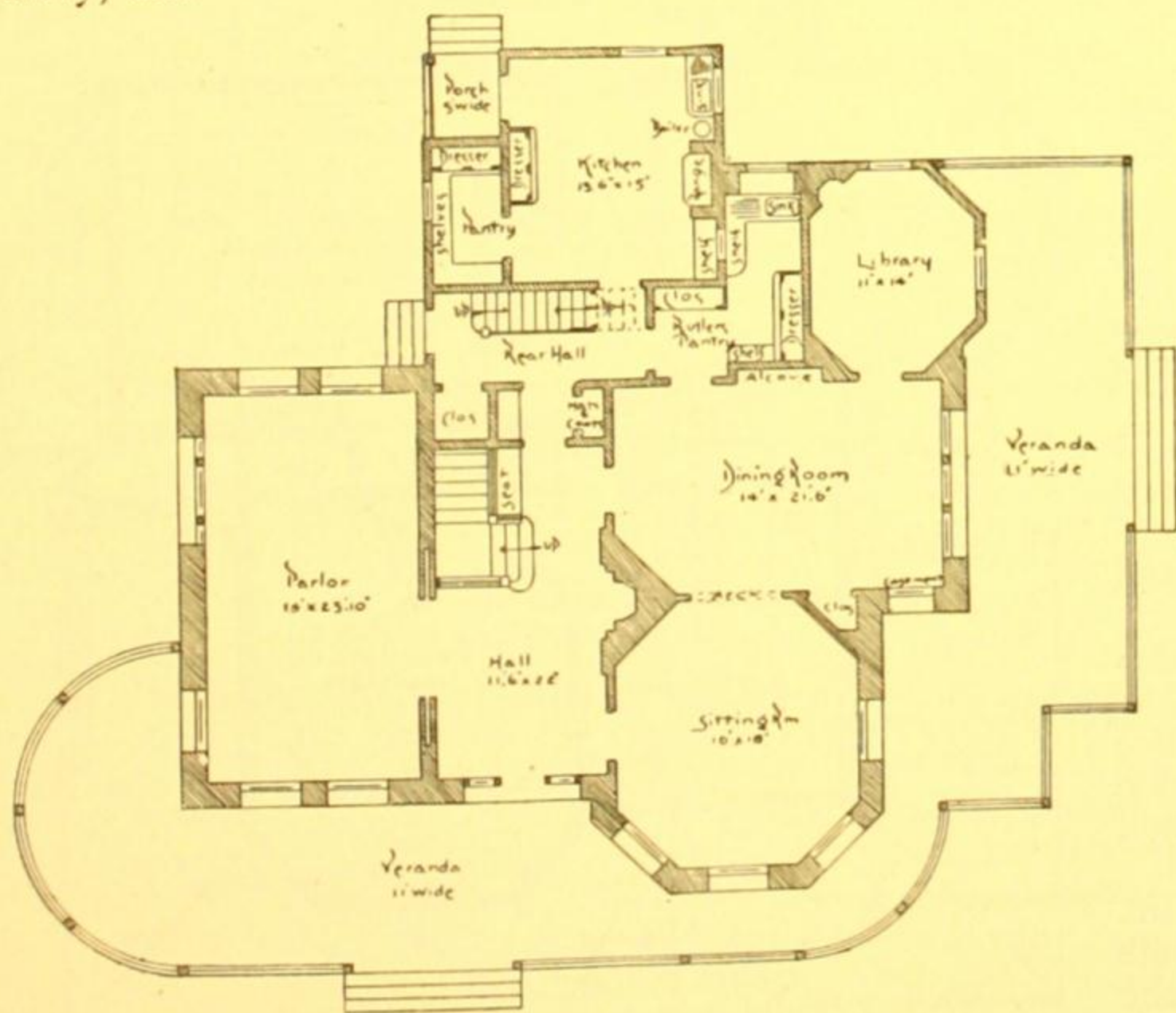
COST: Complete, except mantels, range and heating apparatus, \$6,000 to \$7,000, according to locality, proximity to stone quarry, &c.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

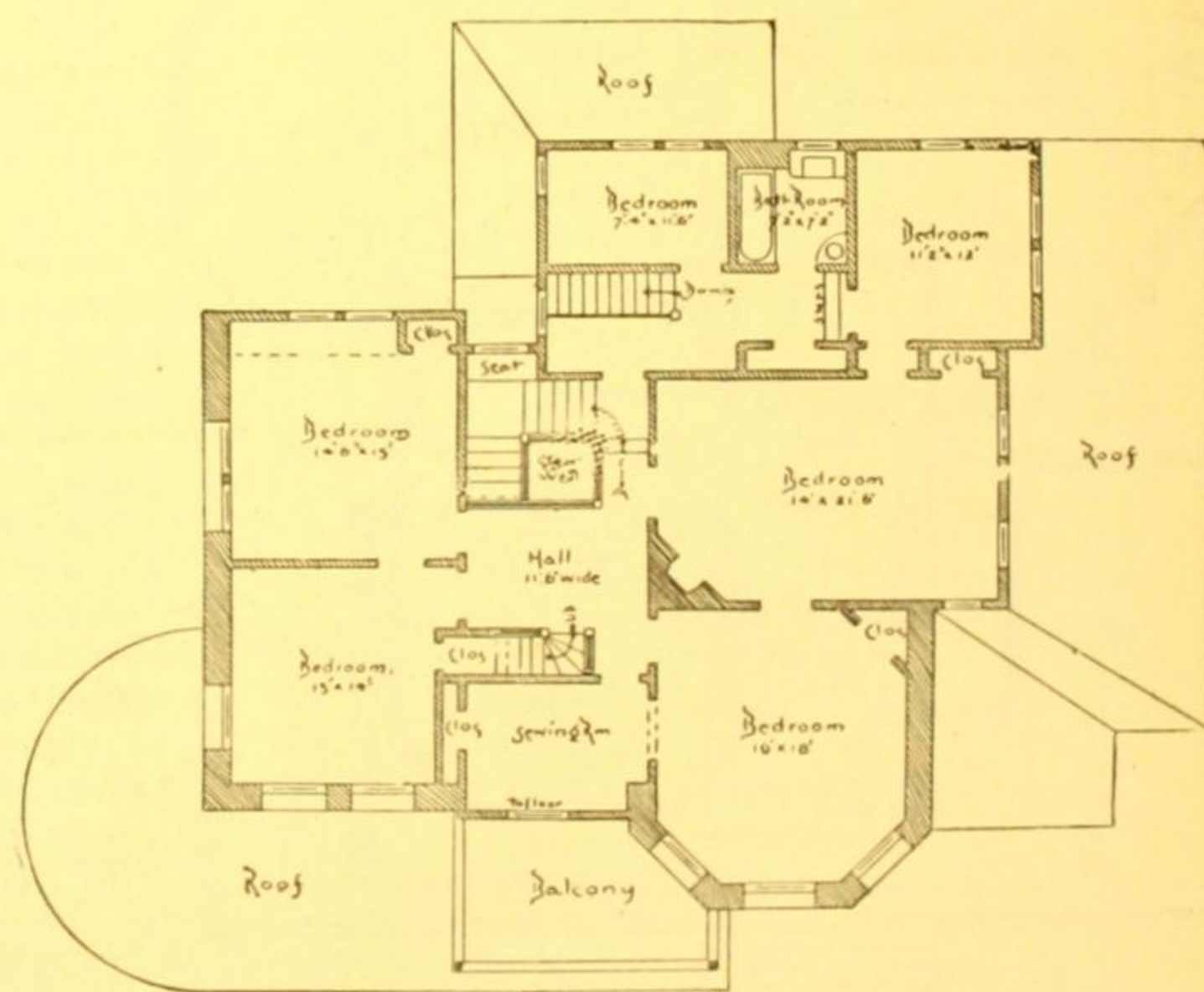
SPECIAL FEATURES.—The main or front part of house is built of quarry faced stone, up to the attic floor beams. The arches and jambs of windows and doors are pressed brick. If the stone used is light colored, Milwaukee or buff brick to be used; if dark colored, red brick to be used.

In summer, an awning can be stretched over the front balcony, for which purpose two ornamental iron standards are provided.

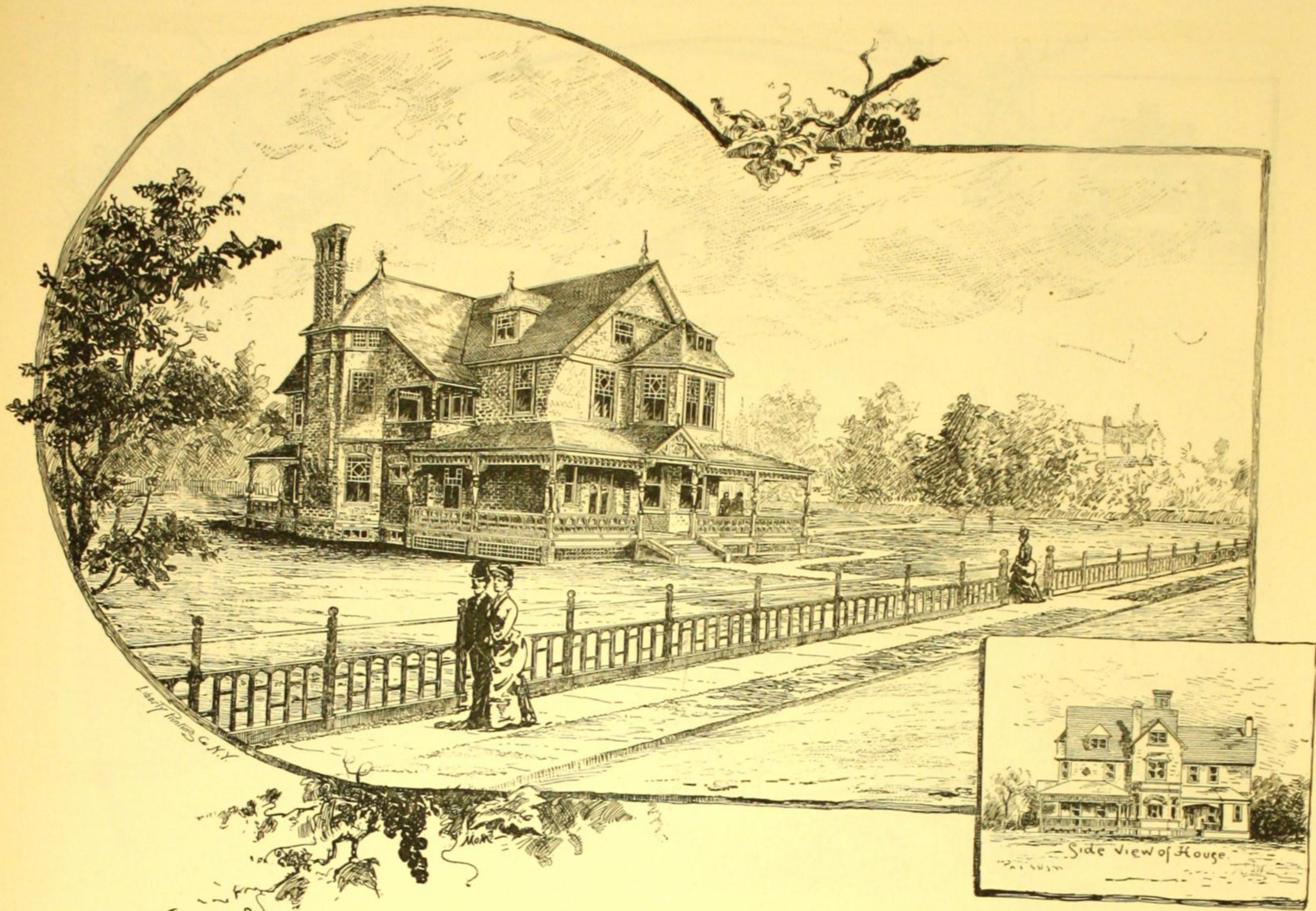
Three bedrooms and a store-room in the attic, also a large balcony. Cellar under the whole house.



FIRST FLOOR. NO. 416



SECOND FLOOR. NO. 416



DESIGN No. 417. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 417

SIZE OF STRUCTURE: Front, 27 ft., 8 in., including verandas, 44 ft. Side, 62 ft., including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft., 6 in.; Second Story, 10 ft.; Attic Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, brick; Second Story, shingles; Gables, shingles; Roof, slate.

COST: \$6,500, complete, except mantels and heating apparatus.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Large rooms, all connecting. Open fire-places.

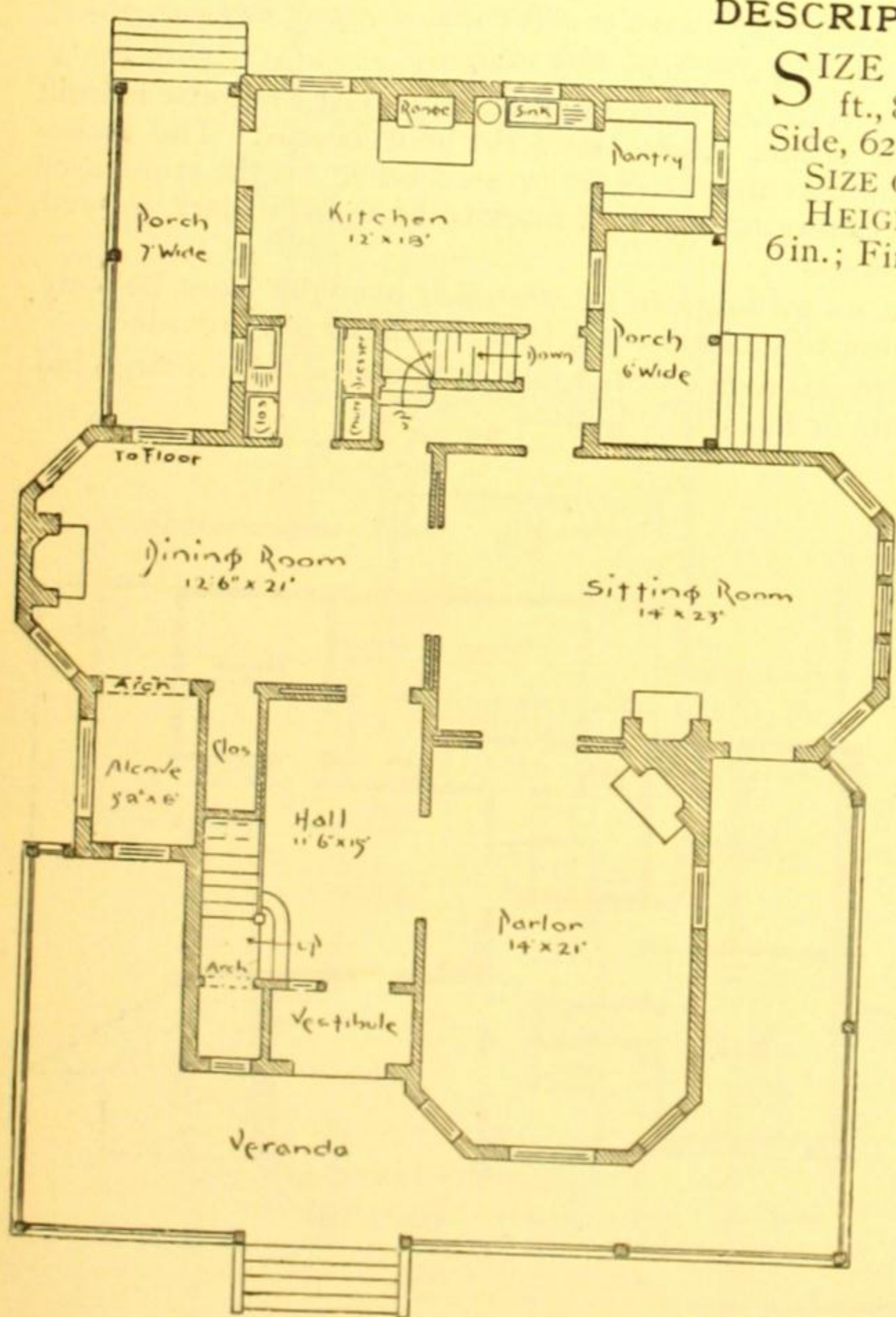
The verandas are 9 and 8 ft. wide, respectively.

Large hall, with handsome staircases.

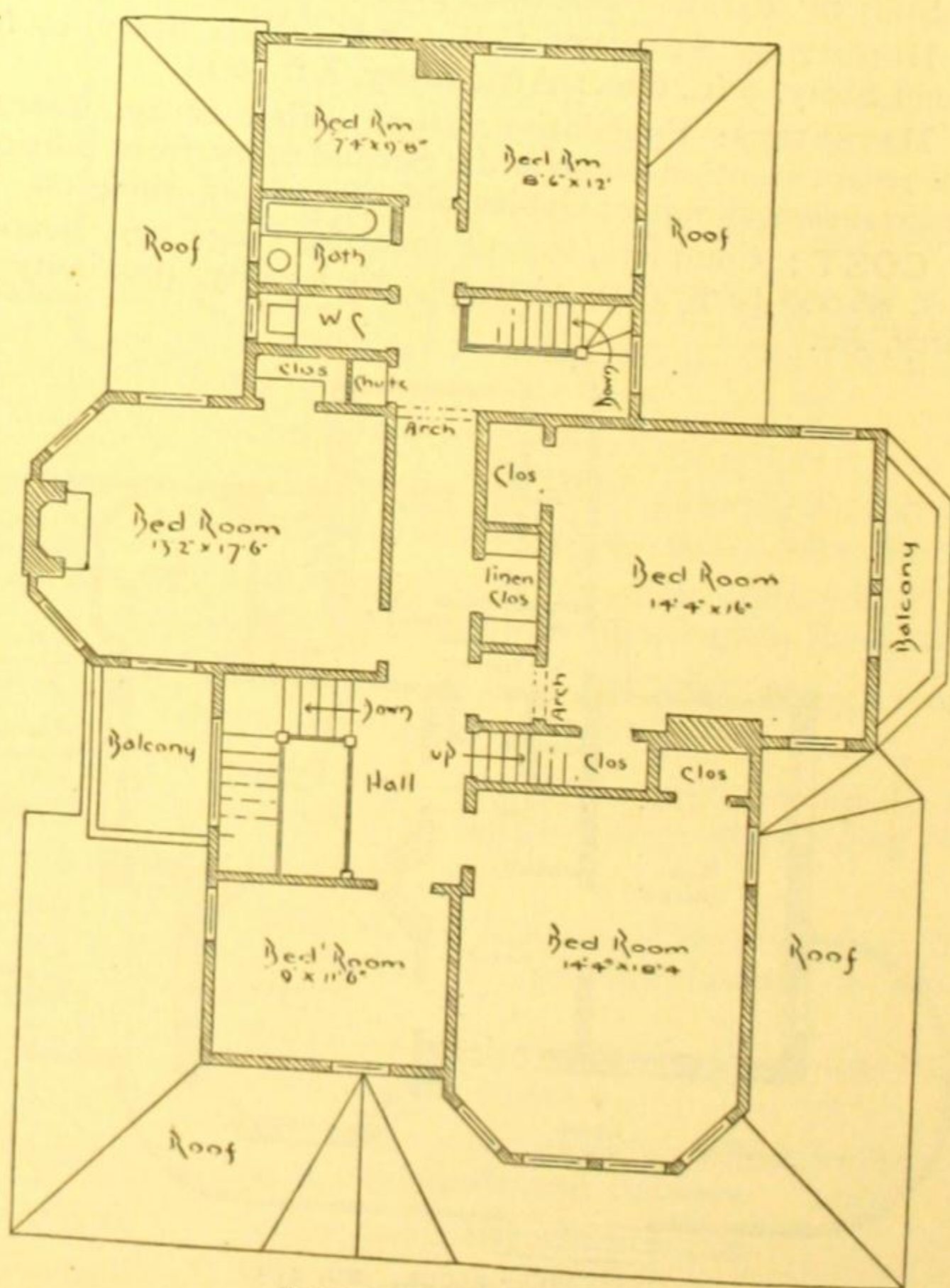
The floor of the entire first story is laid double with hard wood, finished for rugs.

Three rooms in the attic.

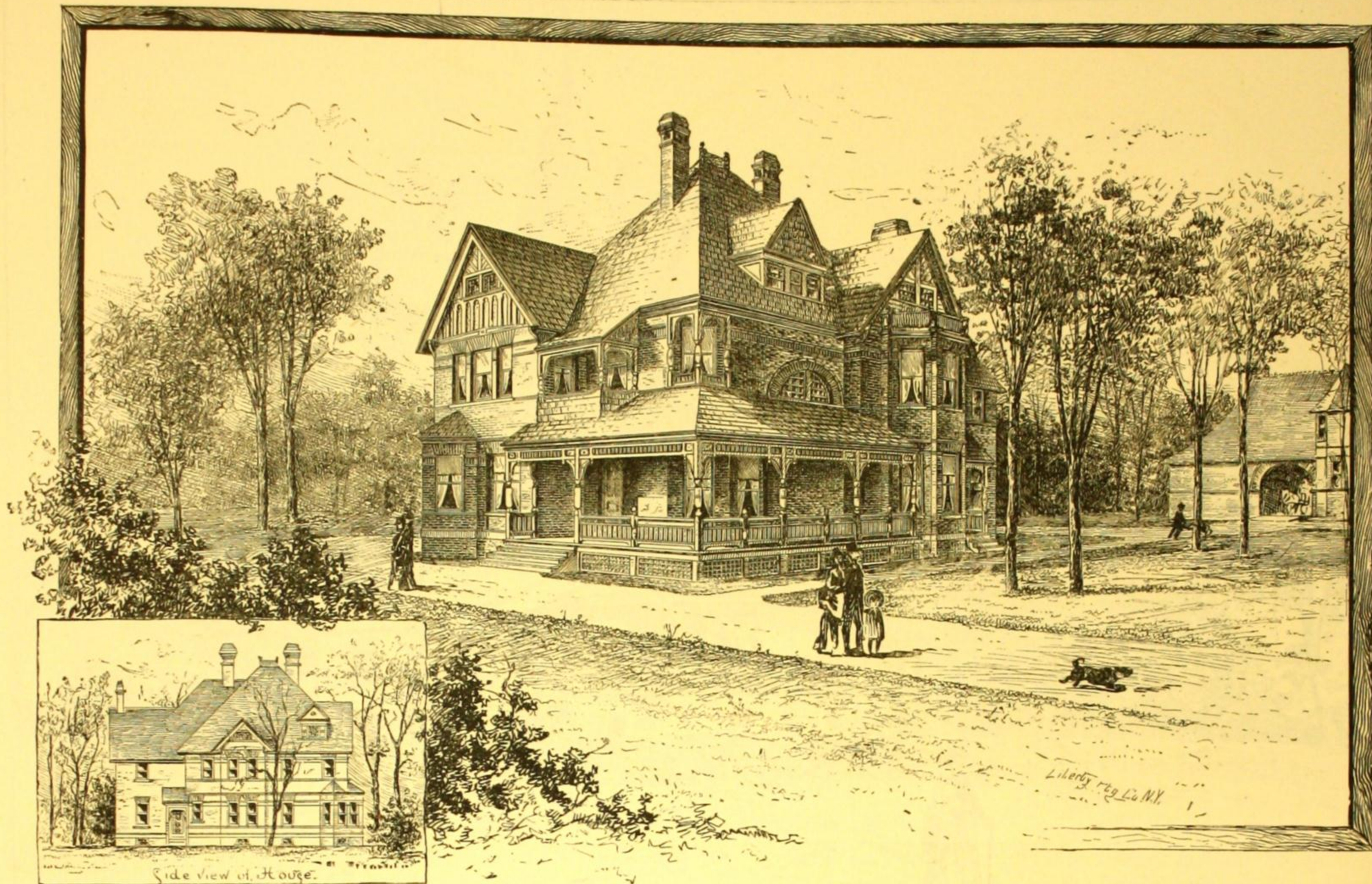
Cellar under the whole house, laundry under the kitchen.



FIRST FLOOR, NO. 417



SECOND FLOOR, NO. 417



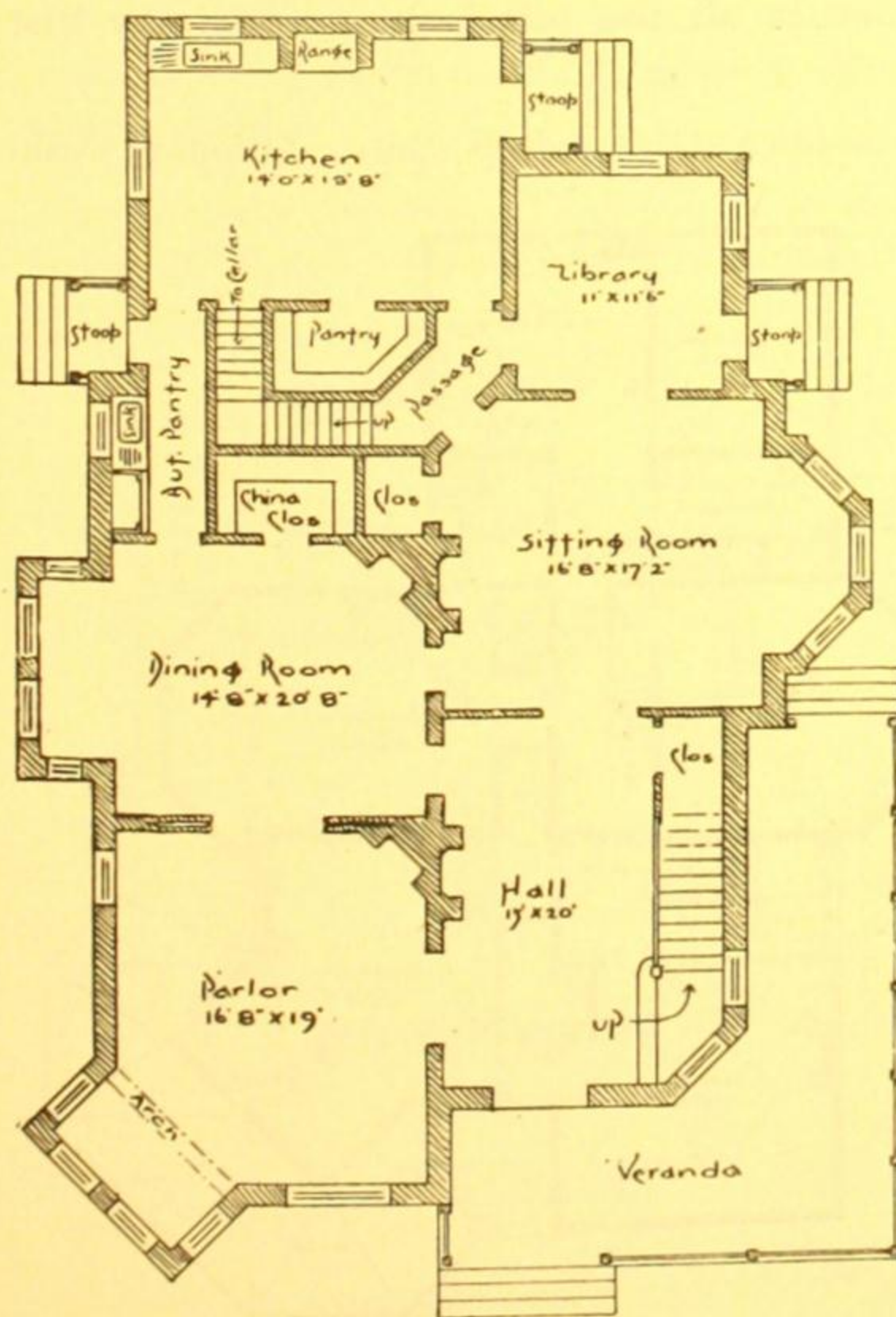
DESIGN No. 418. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 418

SIZE OF STRUCTURE: Front 35 ft.; extreme width, 47 ft., 6 in. Side, 68 ft., over all.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 12 ft.; Second Story, 10 ft.



FIRST FLOOR. NO. 418

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Gables, half timber and cement; Roof, slate.

COST: \$9,000, complete, except mantels and heating apparatus.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different

dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

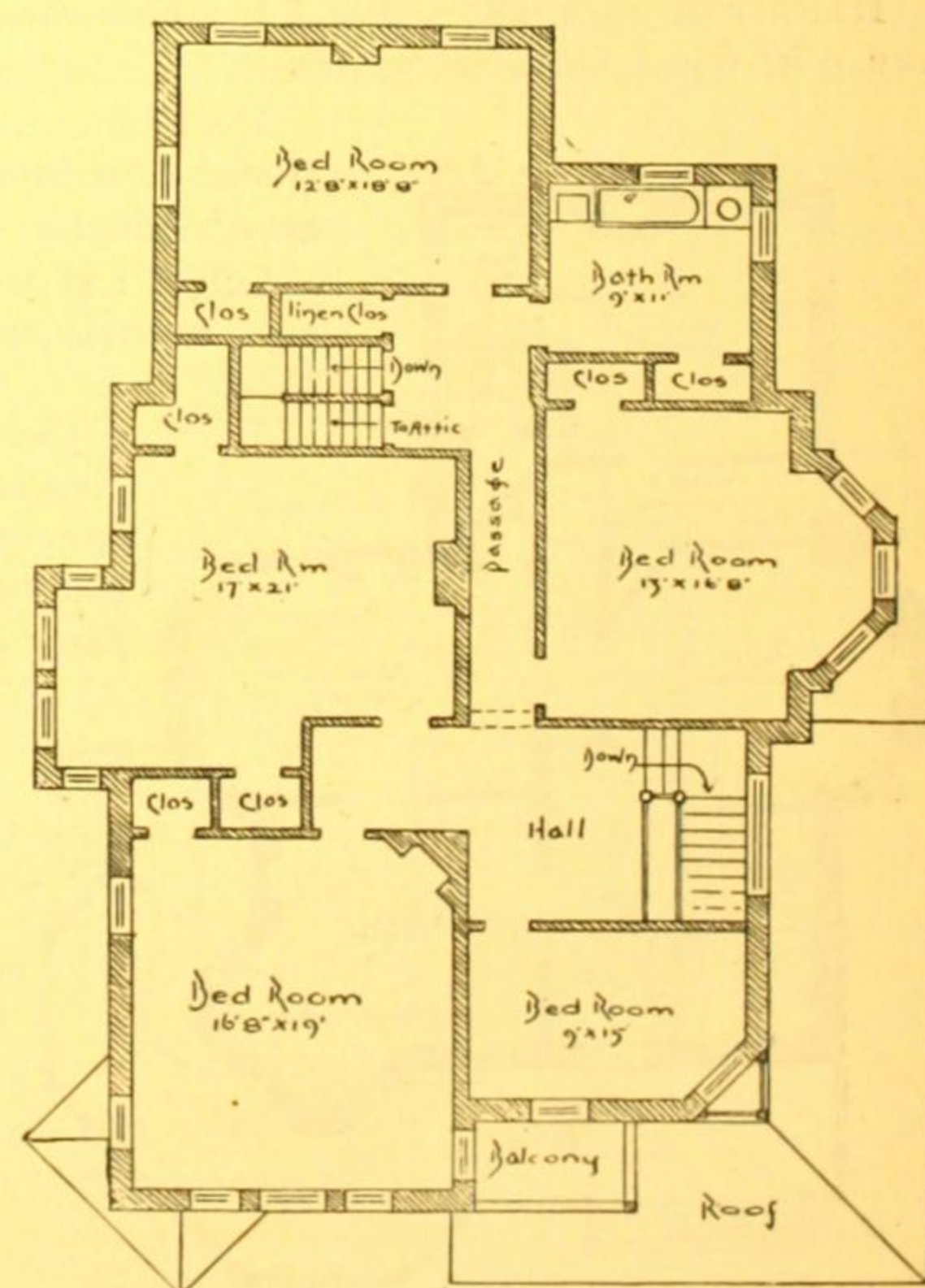
SPECIAL FEATURES.—A brick house. The walls are faced on the outside with select stock brick; for the trimmings such as belt courses, arches, etc., red pressed brick are used. The whole oiled at completion.

Wide verandas. A large hall with fire-place and an oak staircase.

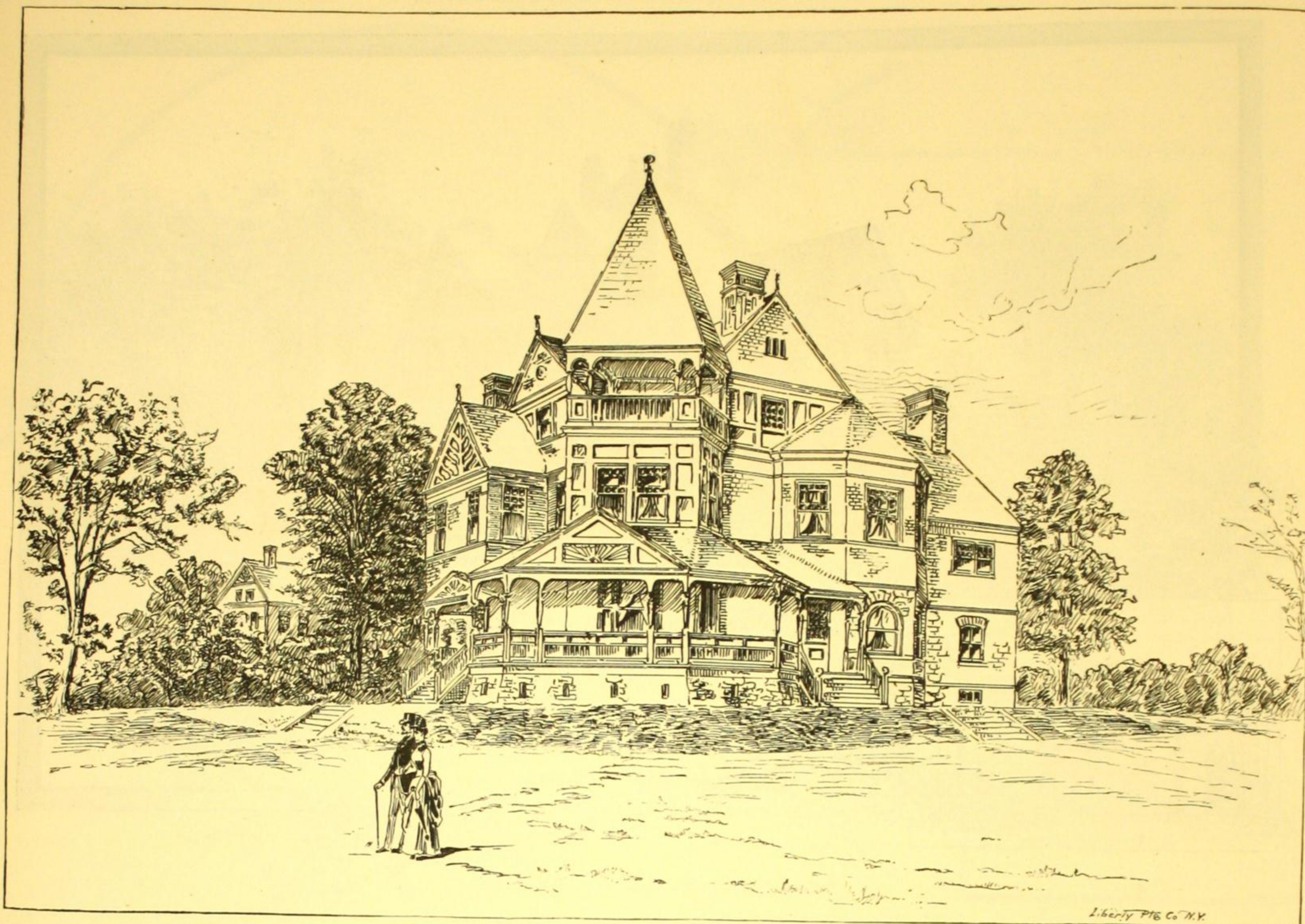
A good house for the South, as the rooms are large and the ceilings are high.

Three good bedrooms in the attic.

Cellar under one-half of the house.



SECOND FLOOR. NO. 418



DESIGN No. 419. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 419

SIZE OF STRUCTURE: Front, 54 ft., including veranda. Side, 74 ft., including the projection of front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 10 ft.; Second Story, 9 ft., 6 in.; Third Story, 9 ft.

MATERIALS: Foundation, stone; First Story, stone; Second Story, shingles; Roof, slate.

COST: \$8,500, complete, except mantels and heating apparatus.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The irregularity of the plan and the broken roof lines give a very picturesque appearance.

The first story walls are quarry-faced stone, the superstructure is frame shingled.

The large platform of the staircase has a fire-place and a seat.

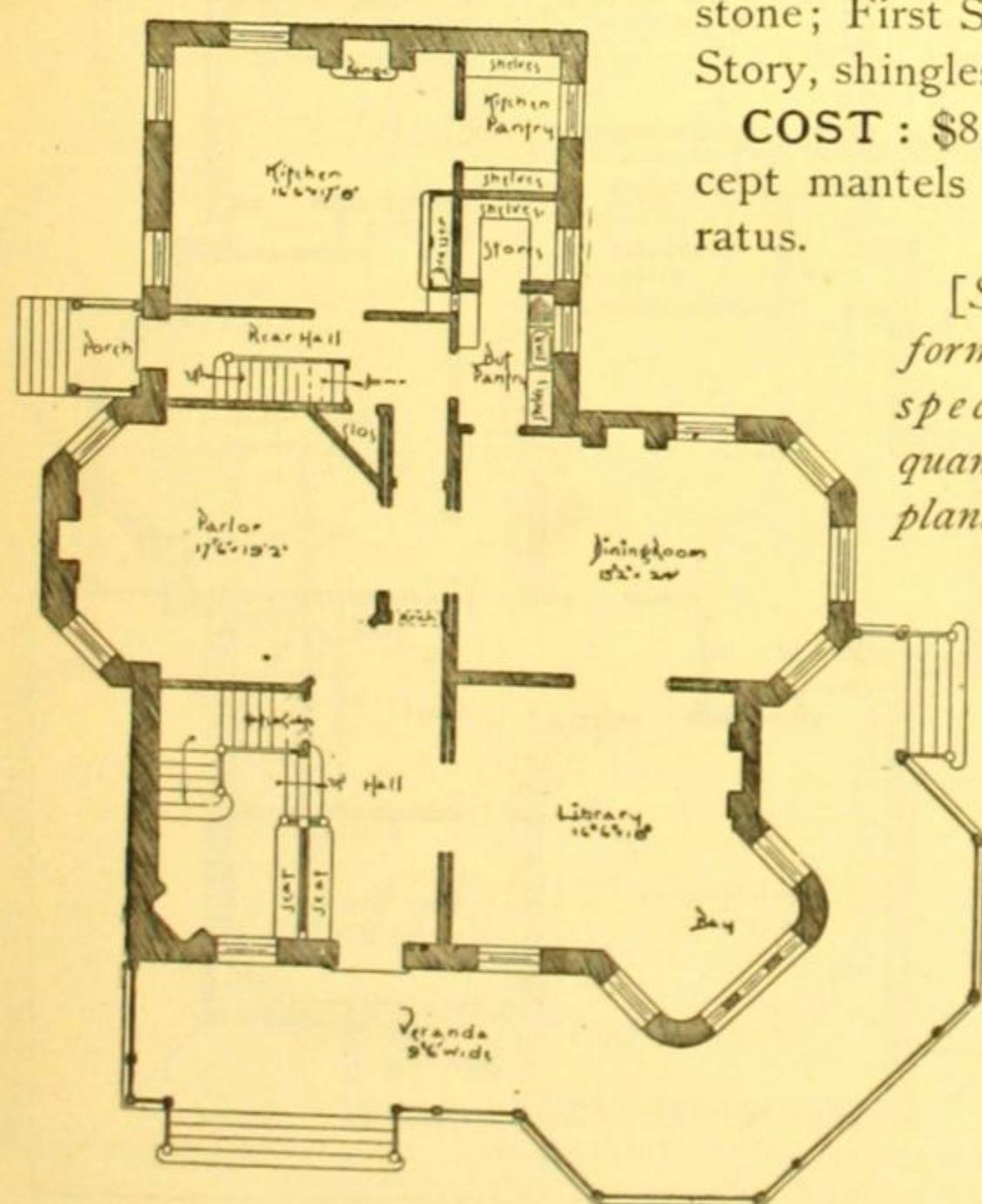
Sliding doors connect all the principal rooms of the first floor.

Open fire-places both down stairs and up stairs; stationary wash-basins in the dressing-rooms.

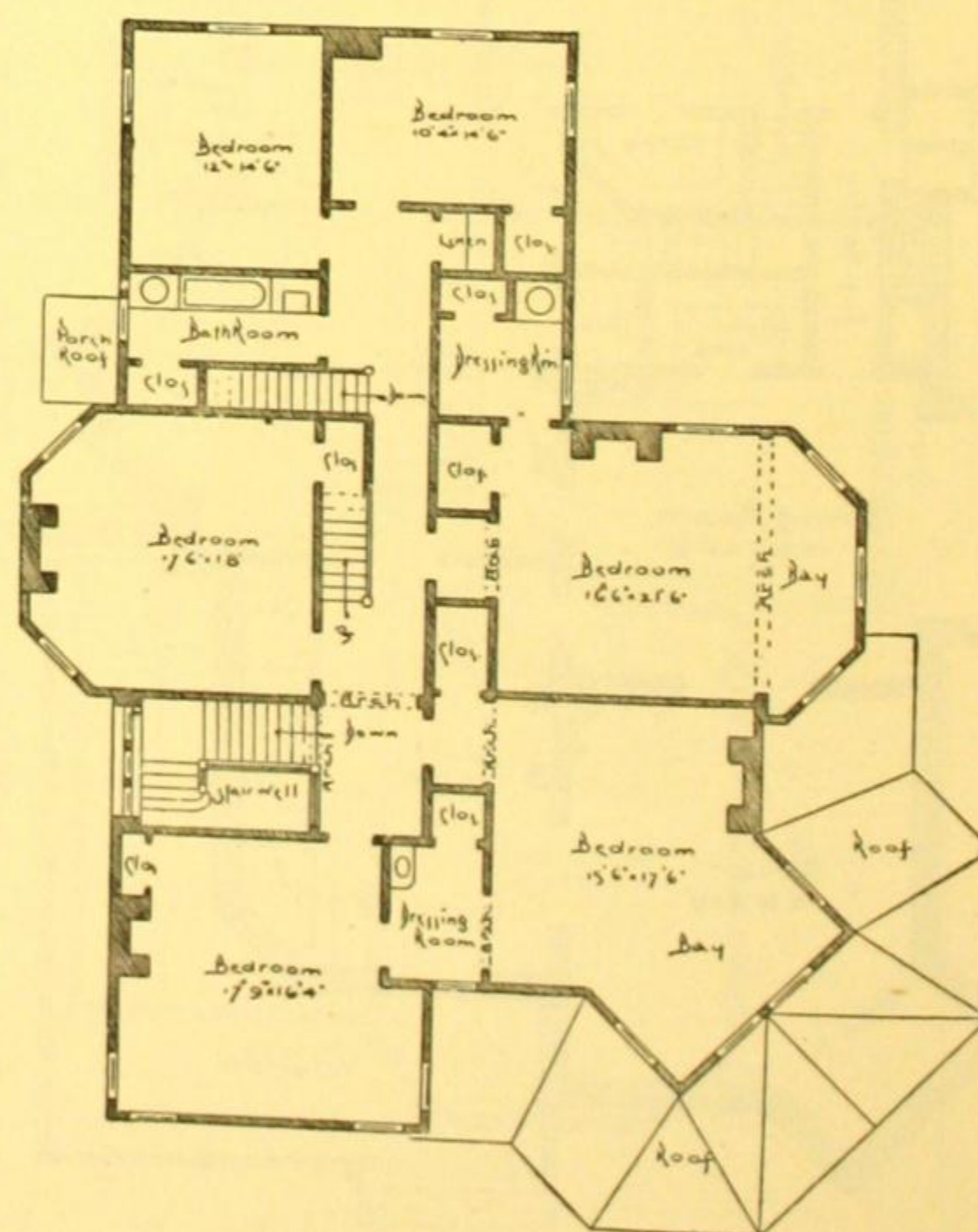
Cellar under the whole house; laundry with stationary tubs under the kitchen. Servants' water-closet, well ventilated, in the cellar.

Ash-pits in the cellar for each fire-place, with a flue leading to the same from the fire-places so that no ashes need be carried through the house.

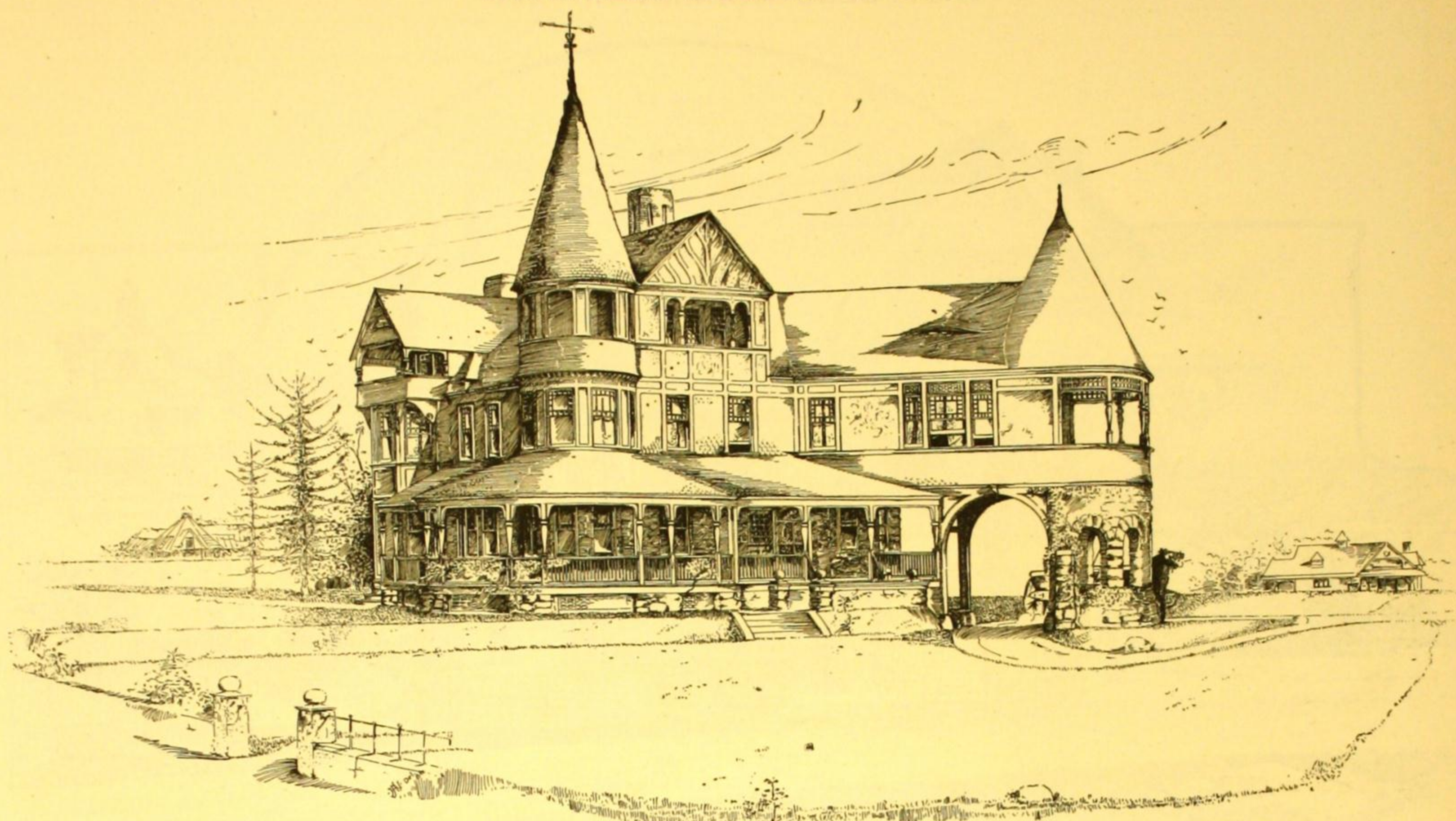
Five bedrooms are finished in the attic.



FIRST FLOOR. NO. 419



SECOND FLOOR. NO. 419



DESIGN No. 420. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NO. 420

SIZE OF STRUCTURE: Front, 48 ft. Extreme width, including carriage porch and veranda, 77 ft. Side, 80 ft., over all.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft., 6 in.; Third Story, 8 ft.

MATERIALS: Foundation, stone; First Story, stone; Second Story, shingles; Roof, slate.

COST: \$15,000, complete, including hard-wood trim throughout first and second stories, mantels and heating apparatus. The cost can be reduced to about \$12,000 by using a less elaborate interior finish.

[See page 219 for information about details, specifications, bill of quantities, and working plans of this design.]

SPECIAL FEATURES: The first story is built of quarry-faced stone; the second story is shingled with cypress or pine shingles.

A very large reception hall, with oak staircase, 5 ft. wide, and cushioned seats below.

A large open fire-place in the hall for burning wood, built of pressed brick and terra cotta, with hardwood shelf and oak over-mantel.

The ceiling of the hall is all of Georgia pine, panelled; front entrance and door of oak.

All of the fire-places are built of pressed brick and terra cotta. Sliding doors throughout the principal rooms of first story. Lavatory and water-closet in the rear hall, first story. Servants' bath and water-closet in the attic; a water-closet in the basement also.

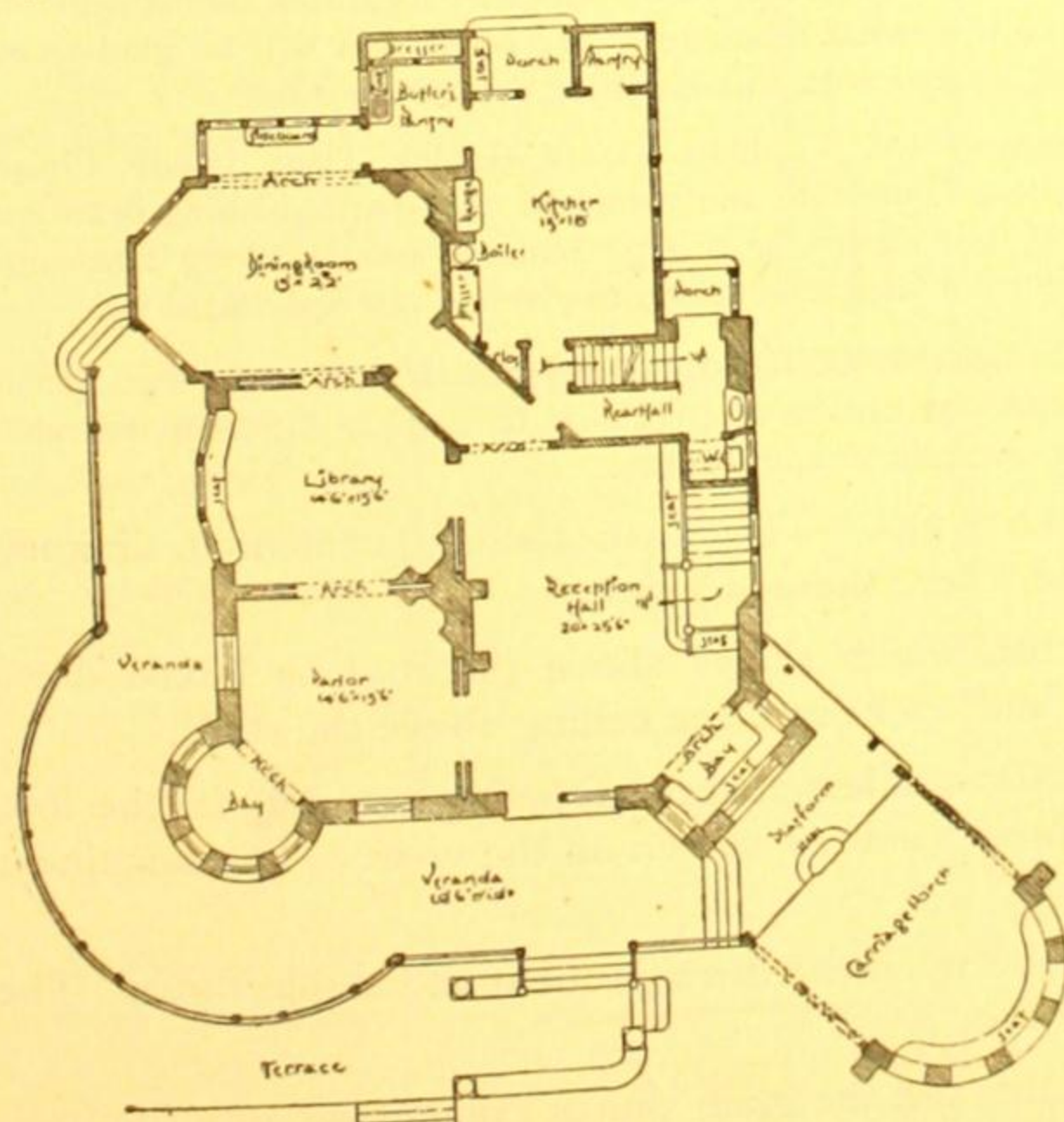
Two spare bedrooms and two servants' bedrooms in the attic. Cellar under the whole house.

NOTES

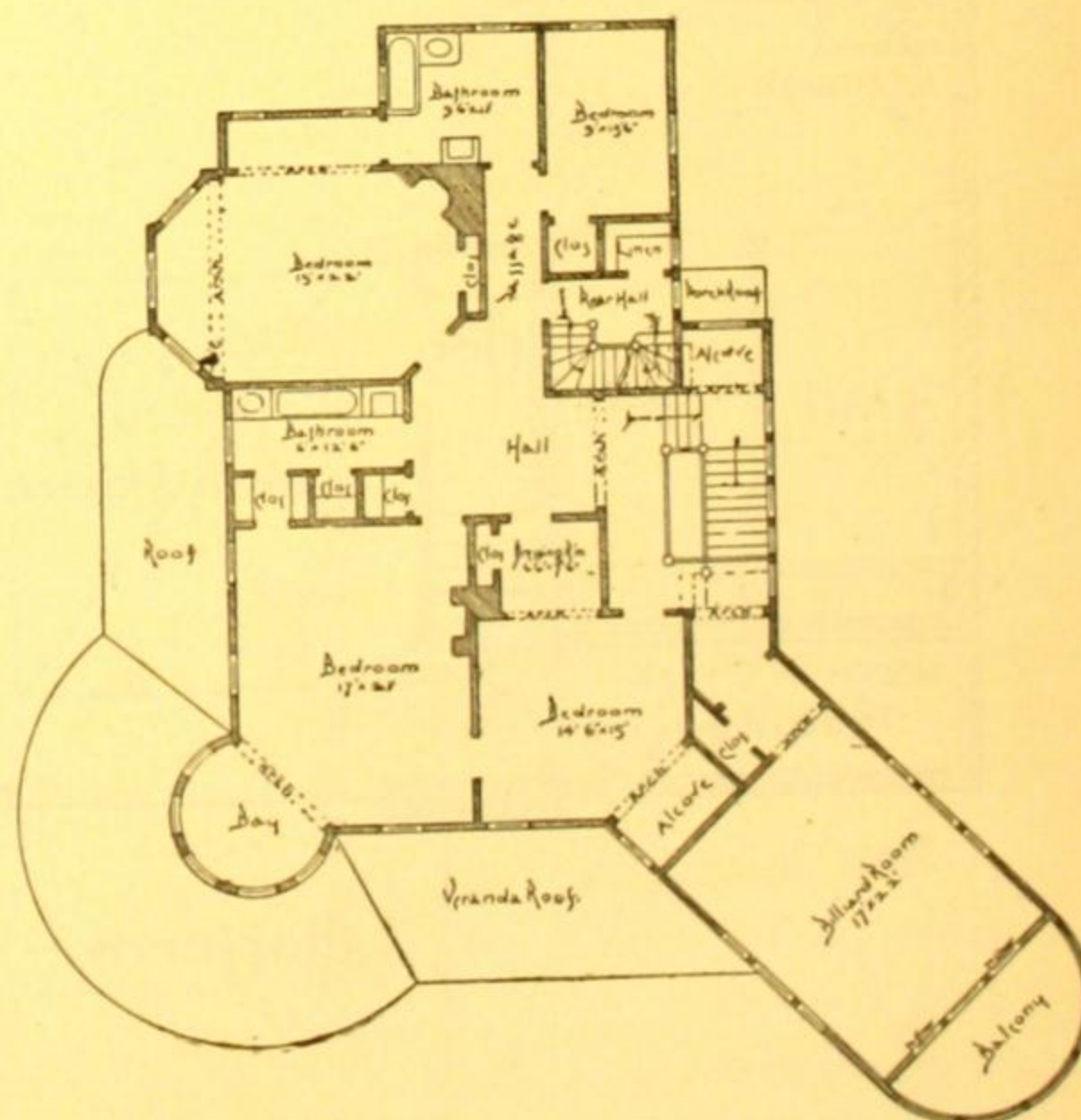
The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, etc., etc. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

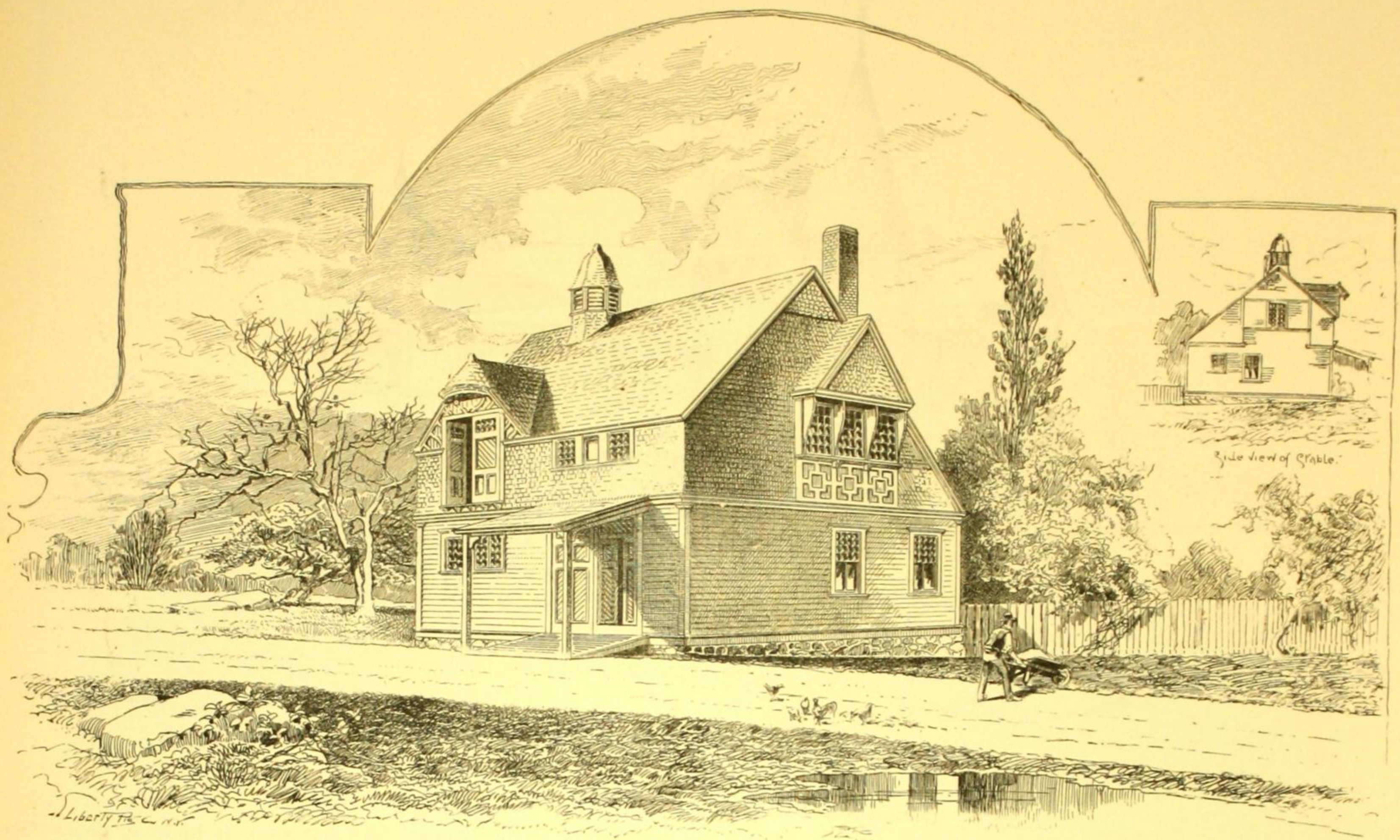
This design can be reversed, enlarged reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 420



SECOND FLOOR. NO. 420

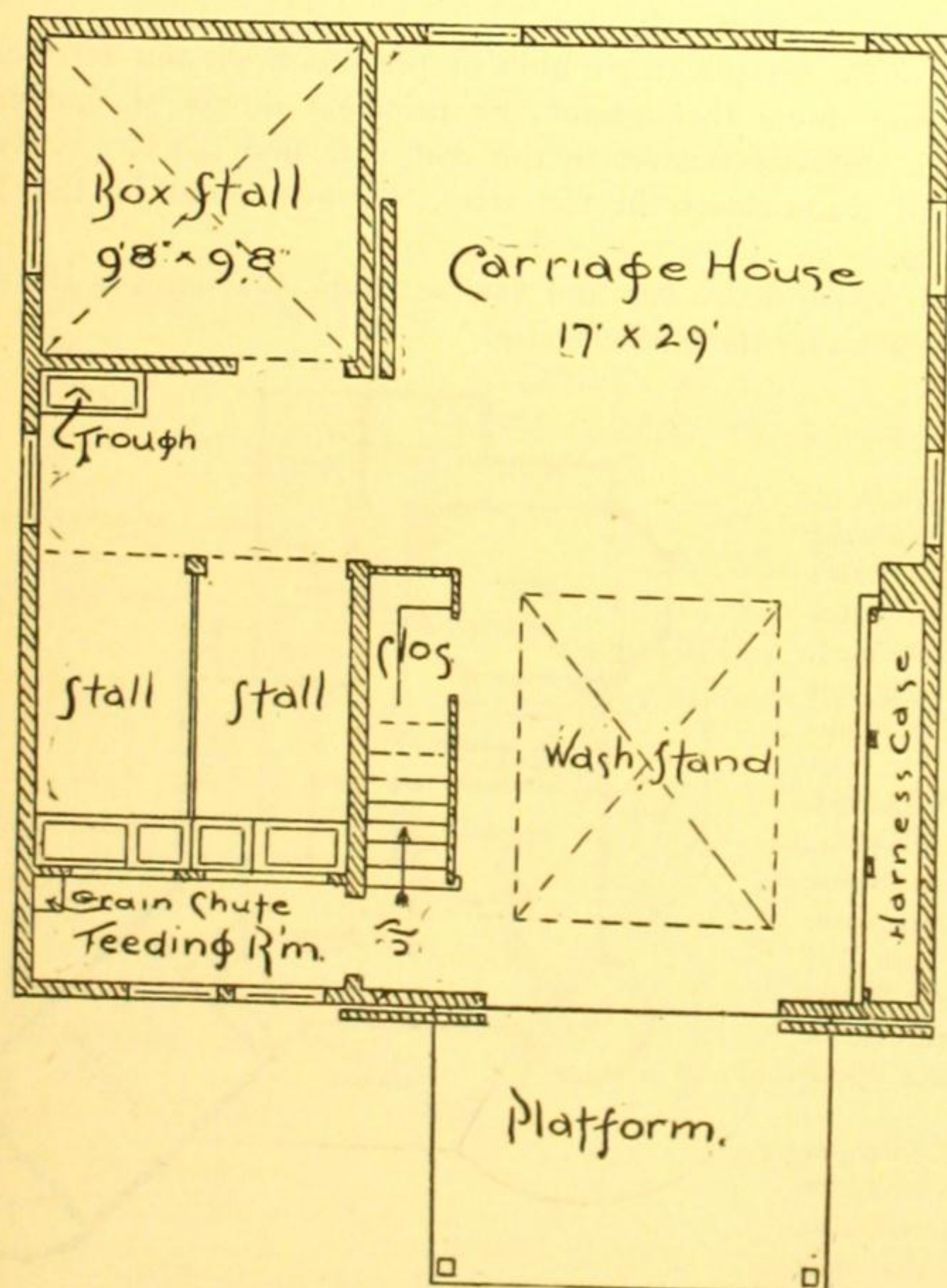


CARRIAGE HOUSE AND STABLE, DESIGN No. 421. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 421

SIZE OF STRUCTURE: Front, 28 ft. Side, 30 ft.

SIZE OF ROOMS: See floor plan.



GROUND PLAN. NO. 421

HEIGHT OF STORIES: First Story, 10 ft.; Loft, 6 ft. on wall at front; 14 ft., 6 in., at highest point.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$850, complete, except ironwork of stalls, and drains.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

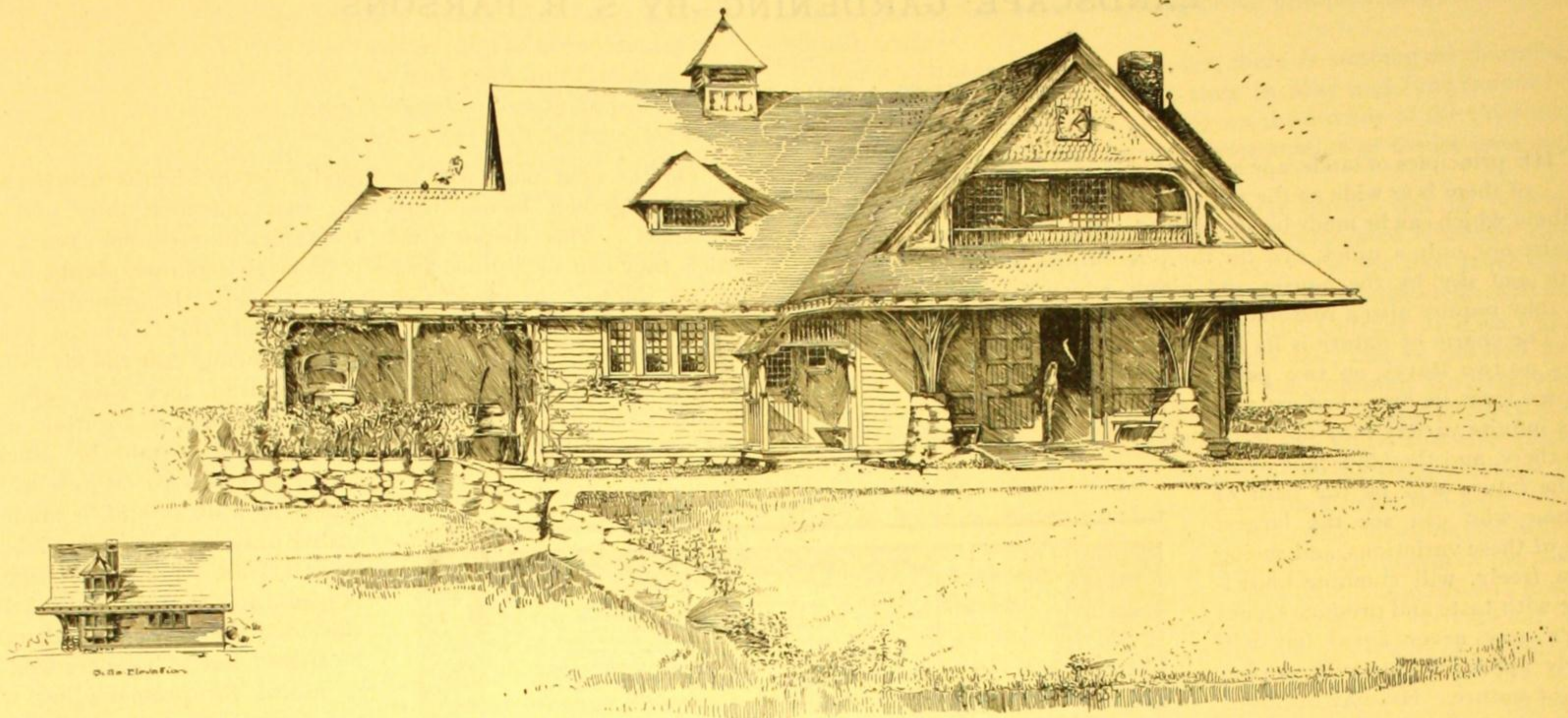
SPECIAL FEATURES.—The wash-stand is cemented, draining toward the centre where there is a sink.

The ventilator, which shows above the roof, is boxed down through the loft and opens into the ceiling above the stalls.

Two rooms for stablemen are finished (plastered) in the loft, lighted by the three windows shown on the view. The remainder of the loft is open.

Sliding door between the carriage room and stable room. The front doors slide also.

The hay shute and the grain shutes come down into the feeding-room.



CARRIAGE-HOUSE AND STABLE DESIGN No. 422. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 422

SIZE OF STRUCTURE: Front, 64 ft., 8 in., including shed. Side, 37 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.

MATERIALS: Foundation, stone; First Story, clapboards, Gables, shingles; Roof, slate.

COST: \$2,500, complete.

[See page 219 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, September, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mar-tels, Staircase,

Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

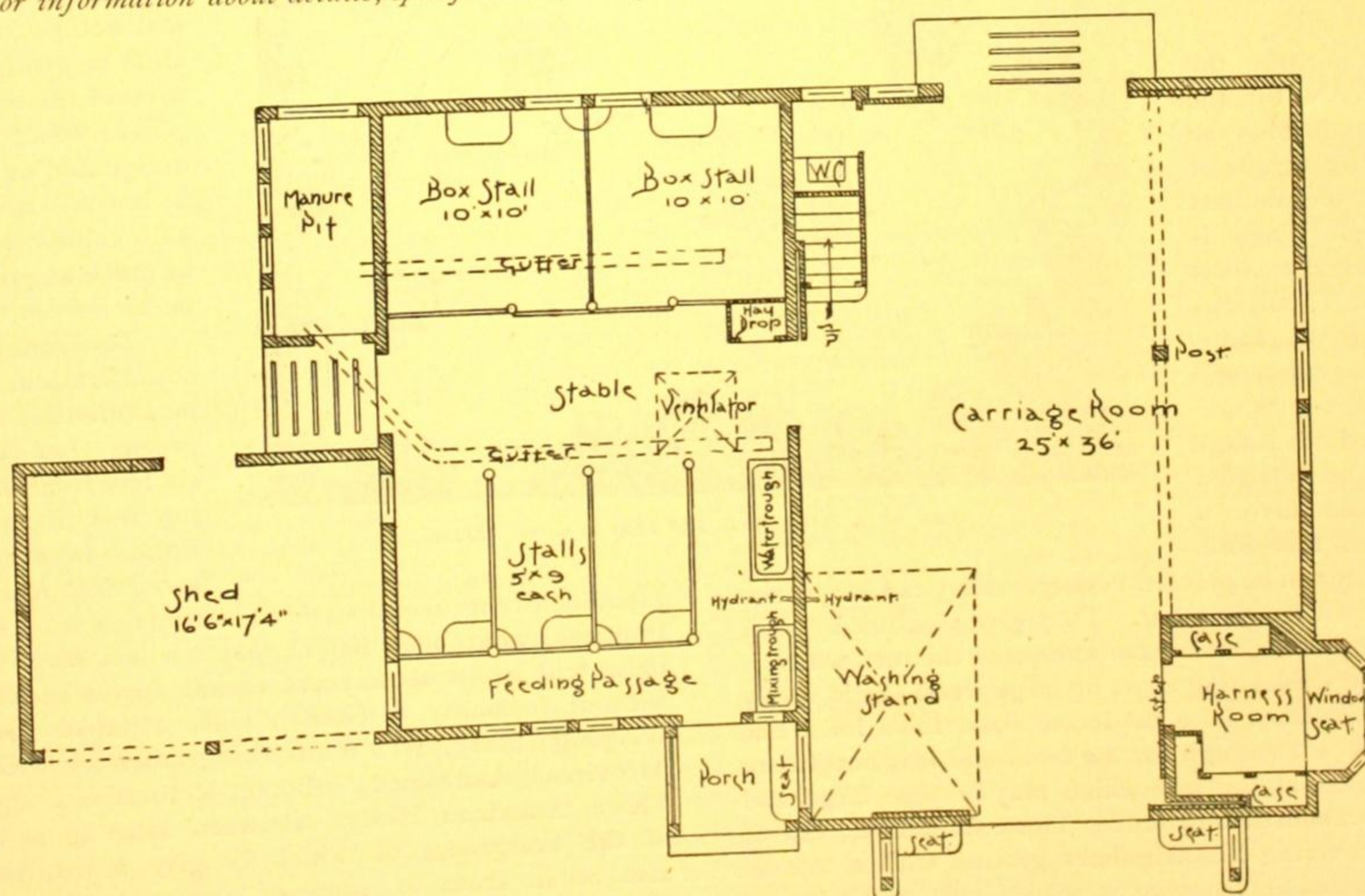
SPECIAL FEATURES.—Accommodations for five horses. Large carriage-room. Cemented washing-stand.

A water-closet under the stairway, entered from the carriage-room, with a window for light and ventilation.

The shed is for the shelter of visitors' vehicles.

Large harness-room with two cases. The loft is large, 30 by 45 ft., and is open to the roof except over the harness-room, where a room is finished off and plastered, for the stableman.

The entire interior of the first floor is ceiled with Georgia pine.



GROUND PLAN. NO. 422

LANDSCAPE GARDENING—BY S. B. PARSONS

I.—PLANTING A SMALL PLOT FACING SOUTH

THE principles of landscape art are few and simple; the application of them is as wide as the variety of plants and the combinations of them which can be made by the skillful artist. These combinations require not only a quick eye for the possibilities which are given by earth and sky, by the houses and plants which are already located, but they require also a reasonable knowledge of trees and shrubs.

The charm of nature is its infinite variety of expression; no two trees, no two leaves, no two petals are precisely alike; each one has its own form, its own shading, and its own curl; no one has its fellow. This infinite variety may not be apparent to the casual observer, but, it is there, and the landscape artist of the future will be the man or woman who can see the largest part of these variations, and seeing them freely, will combine knowledge with taste and produce scenes which may never equal but will nearly approach the wild perfection of nature. He may do more, and as the highest art is the idealizing of nature, he may succeed in throwing an ideal charm over his work in presenting more clearly to our limited conceptions, the infinite variations and combinations of beauty which are hidden from all but the careful observer. He may be, in comparison with others of his profession what Thoreau was and Burroughs is, in comparison with ordinary observers. Yet the ideal is based upon the actual, which for landscape adornment is a knowledge of trees, shrubs and plants. Without this knowledge there cannot be success, and with it there cannot be entire failure.

For our present purpose the highest art is not needed, for the size of the lot treated forbids the use of large trees; only shrubs or perhaps a few trees of the smallest class can be employed. There is needed no reaching for sky effects nor for deep shadows. Judicious grouping and grading of plants, with a careful eye to color, will give us all we desire.

There is a decided advantage in shrubs, they can be removed readily if study would favor a change of position, and therefore, for immediate effect they can be planted closely. They can be pruned freely if they interfere with each other. They give pleasure by their flowers as well as their foliage, and leave uninjured the turf which is often destroyed by the exhausting roots of large trees. It is rarely justifiable to plant large trees in a moderate sized town lot. The trees upon the sidewalk are enough for the front and it is not just to a neighbor to plant trees at the side which may become large and thus overshadow and exhaust his ground. There should be a law to prevent a man from covering his neighbors ground with a tree as there is now one to prevent his covering it with a part of his house. The golden rule is a good one, but it does not operate with all men.

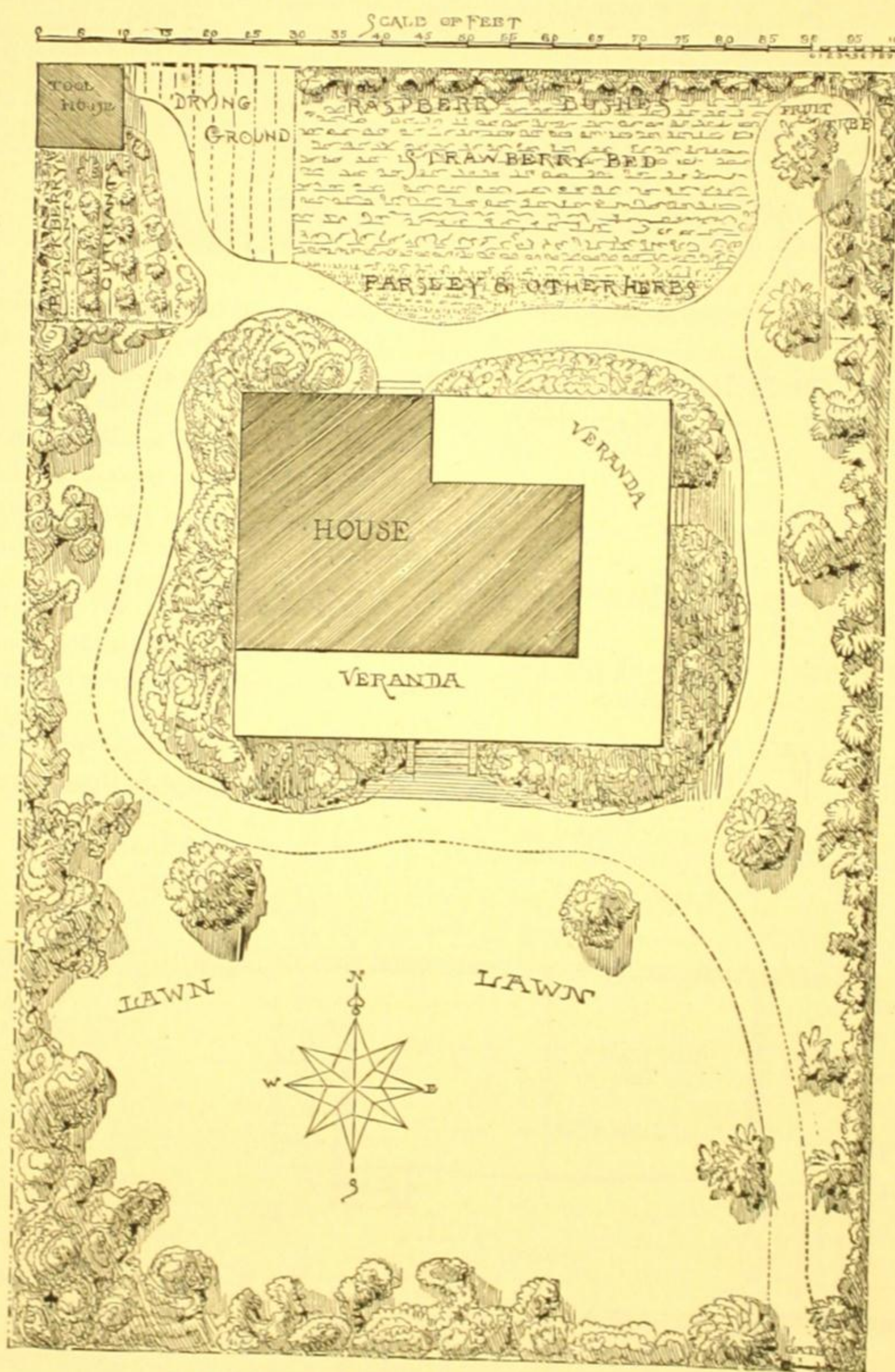
On the next page will be found a list of shrubs which can be planted eighteen inches from the east and west lines and four feet apart. This distance will be sufficient for some years, after which they can be pruned to keep them as separate plants, or they can be allowed to grow together as a belt. If immediate effect is desired the list can be doubled and they can be planted two feet apart, to be removed when growing too thickly. These shrubs are located for a lot one hundred feet wide and one hundred and fifty feet deep, fronting south. If fronting north, west or east, the location of certain kinds would be different.

The walks are as few as possible. A walk should be made for utility only, as it requires labor to keep it clean. The smooth dry turf is pleasanter to walk upon. With this idea the western walk might be spared, but it balances well and is useful for promenading when the grass is wet.

The first shrub on the list for the side lines should be planted three feet from the front and eighteen inches from the side. The others should be continued in a straight line, according to the list, eighteen inches from the side, and four feet apart. The stiffness of a straight line will be broken by other shrubs to be planted against them.

The lines on the east and west side being planted, those on the list designated as second can be planted two to four feet inside the others. It is difficult to locate these without seeing the ground, for they will not be in a straight line but must be grouped at the side or in front of the others to produce the general effect which is sought to be designated on the plan. It should be borne in mind to keep the plants with colored leaves on the outside as much as possible, that they may be seen from the house.

The front line may now receive consideration. There trees may be admissible and should be evergreen. Let *Abies Alcockiana* be six feet from the west side line and ten feet from the front; *Abies Polita* twenty feet distant and seven feet from the front; *Picea Japonica* twenty feet distant and seven feet from the front, and *Abies Pungens* twenty feet distant and ten feet from the front. Between these will be for some years vacant spaces in which can be placed without formality a Golden Oak, a Japan Judas Tree, a Japan Weeping Cherry, and a White Fringe, then for further filling, *Fraxinus Atrovirens*, *Andromeda arborea*, *Retinospora squarrosa*, Evergreen Thorn, American Holly. Between these again can be placed any of the evergreens of which we give a list, some of which can also be in front of some of the projections on the side lines. The vacant spaces between the large evergreens can be filled up with shrubs, evergreens, roses, etc., as may be preferred.



PLAN OF A PLOT 100 X 150 FEET, FACING SOUTH

These can be removed after some years when the growth of the large trees shall encroach upon them.

The centre of the clump on the front lawn at the southwest of the house should be a Weeping Sophora planted six feet from the walk; the next opposite the southeast corner of the house should be Salisburia, planted five feet from the walk; the third should be Chinese Cypress also five feet from the walk. Nearly opposite the Salisburia and on the side lawn opposite the path in front of the house should be a Weeping Hemlock, planted five feet from the path. The leading shoots of the Sophora and Hemlock should be trained to a stake until they are eight feet high and then allowed to fall. If desired they can be carried twenty feet. On the west side of the front gate can be a group of eight Rhododendrons and on the east side a group of four Kalmias. At the corners of the house should be planted four Salisburias; with their long branches covered only with leaves, they make the very best ornament for training under the eaves. The Japanese Ampelopsis can be planted three feet apart around the house if it is desired to cover it with foliage. They are very beautiful, cling to wood or stone, require no training and the leaves hang over each other making a sort of thatch which protects the house from rain.

The ground between the paths and the house should be turfed after there is grouped in it the low-growing shrubs and evergreens, such as *Spiraea crispifolia*, *Mahonia aquifolium*, *Biota elegantissima*, *Biota semper aurescens*, *Thuya Columbia*, *Thuya aurea*, *Thuya Vervæneana*, Silver Japan Juniper, Golden Japan Juniper, *Picea Hudsonica*, Golden Sun-ray Pine, Golden *Retinospora filifera*, Dwarf R. obtusa, Weeping R. obtusa, Golden R. plumosa, Golden Yew, *Andromeda Catesbaei*, *Azalea amœna*, *Daphne Cneorum*, Tea Roses, *Geraniums*, &c. A *Tamarix Indica* should go in the middle of the plot, south of the house, five feet from it, and west of the front steps, and an African tamarix in the middle of the plot, on the east side of the house, and north of the side steps a tree box can be planted each side of the front steps. Six Japan Maples could also be grouped together on the east side. A group of *Taxus* can be made on the south side of house. *Limonia trifoliata* trained on its south wall is very effective.

It is important that the soil immediately around the house and between it and the paths should be of the very best quality. Therefore, when the excavation is made for the house let the black soil be placed on one side, and with other black soil be used for grading from the house to the path.

It should be borne in mind that these shrubs being of nursery size, will be small enough for several years to leave space around them for the planting of all the roses and summer flowers that may be needed.

We have provided nothing for the outside of the sidewalk. If the lot faced west we should advise the Salisburia. It is always de-

sirable to keep open the view of the western sky and the remarkable sunsets of our climate; as the public requirement will not allow the absence of street trees, some sort must be placed there, and there is no tree like the Salisburia for giving broad glimpses between its leaf-clothed arms.

For a southern exposure, however, there is nothing so charming as the Schwerdler Maple; its rich tints in May and June cannot be surpassed. These should be planted on the outside of the sidewalk, those at the end twelve feet from the continuation of the lot lines and three others twenty-five feet apart.

Over the tool-house, in the northwest corner, can be planted vines of *Akebia*, *Aristolochia*, *Halleana* and variegated Honeysuckles, and on the south side *Tecoma grandiflora*. On the west fence near the tool-house can be planted five Early Wilson Blackberries, and between these and the walk six White Grape Currant and six Fay's Currant. On the east fence, opposite the last, can be planted five Kittatinny Blackberries, and near them six Downing Gooseberries. All these berry plants should be four feet apart. A Stump Peach tree can go in the centre of the path near the north fence, and after planting there may be found room for two more Peach trees—George IV and Old Mixon. The vacant space on the back fence will hold something less than two hundred Charles Downing Strawberries which should be planted in rows three feet apart, with plants in the rows fifteen inches apart. These should be allowed to make runners in the rows, but all young plants between the rows should be kept cut off. In odd places room can be found for half a dozen plants of Liemaen's Rhubarb, with, perhaps, a frame for early Lettuce.

Around the drying ground will be required high posts to hold the wires. On these can be placed grapevines, the best six of which are El Dorado, Golden Gem, Berckmans, Martha, Niagara and Miles. There are many other fine varieties which mildew and other causes make uncertain. For many reasons the autumn is the best time for planting deciduous things and the spring for evergreens. When everything is ready, however, in the spring, planting should not be delayed.

We think that our plan, if reasonably followed, will give pleasure and the interest in it will grow with its growth. Every plan, however, needs additional touches after the main planting is finished, as the true sculptor uses his chisel after the statue has come from the hands of his workman. This can be done year by year as growth shows the need of it. Our chief object now is to furnish a ground-work, every individual of which will give pleasure, for after all it is the individual element in material things that gives the enjoyment which the distant observer finds in masses. In a future number we will treat a larger space of ground where room can be found for many large growing trees which produce the sky and shadow effects that constitute the charm of ample and well planted grounds.

PLANTS FOR WEST SIDE, NEXT TO THE FENCE

Lilac President Massart
" Common White
" Josikæ
" Chinese White
Euonymus Europæus
" latifolius
" alatus

Eicagnus longipes Weigela rosea
Colutea halepica " Lavellee
Calycanthus floridus
Cornus alba sanguinea
Viburnum oxycoccus
" japonicum latifolium
" plicatum
Lonicera fragrantissima
Spiraea prunifolia flore pleno
" Reevesiana flore pleno
Exochorda grandiflora
Forsythia viridissima
Rhodotyus kerrioides
Hydrangea paniculata grandiflora
" nivea

PLANTS FOR EAST SIDE, NEXT TO THE FENCE

Double Carmine Peach
" White
Paul's Hawthorn
Malus Halleana
Red Flowering Dogwood
Magnolia Thompsoniana
" atropurpurea Magnolia stellata
Stuartia Rose Acacia

Sambucus laciniata
Berberis atropurpurea
Deutzia candidissima flore pleno albo
Symphoricarpos racemosus
Celastrus orixia
Clethra alnifolia
Cydonia japonica Mallardii
" " simplex alba
" " Moerlosii
Spiraea opulifolia aurea
" Douglasi
Ribes Gordonianum
Philadelphus coronarius
Prunus triloba

PLANTS FOR EAST SIDE, SECOND ROW

Golden Elder
Prinos verticillata
Hydrangea quercifolia
Hypericum aureum
Dwarf, Double White Almond
" " Red
Deutzia gracilis
Viburnum nana
Weigela variegata
Spiraea Thunbergii

PLANTS FOR WEST SIDE, SECOND ROW

Golden Leaved Syringa
Californian Privet
Berberis Thunbergii
Euonymus nanus erectus
Itea Virginica
Cydonia japonica tricolor
Daphne Genkwa Daphne Mezereum

PLANTS FOR FRONT LINE

Abies Alcockiana
" polita
Picea japonica
Abies pungens

PLANTS FOR FRONT LAWN

Weeping Japan Cherry Japan Judas Tree
Golden Oak White Fringe
Retinospora squarrosa Evergreen Thorn
Audromeda arborea American Holly
Fraxinus atrovirens Weeping Sophora
5 Salisburia Chinese Cypress
Weeping Hemlock 4 Kalmias
Weeping Silver Fir 8 Rhododendrons
Weeping Norway Spruce 10 Hardy Azaleas
Hemlock macrophylla 10 Hardy Roses
Dwarf Black Spruce

BETWEEN PATHS AND HOUSE

Tamarix indica Tamarix africana
Spiraea crispifolia Mahonia aquifolia
Biota elegantissima
Biota semper aurescens
Thuya Columbia
" Aurea
" Vervæneana
2 Tree Box

PLANTS BETWEEN PATHS AND HOUSE

Silver Japanese Juniper
Golden " "
Picea Hudsonica
Golden Sun-ray Pine
Golden Retinospora filifera
" " plumosa

Dwarf Retinospora obtusa
Weeping " "
Golden Yew
Andromeda Catesbaei
Azalea amœna
Daphne cneorum
18 Japan Ampelopsis
Limonia trifoliata
Washington Yew
6 Japan Maples—east of path
Tree Pæony

PLANTS FOR STREET

4 Schwerdler Maple

PLANTS FOR THE TOOL-HOUSE

Akebia
Aristolochia
Honeysuckle Halleana
" variegata
Tecoma grandiflora

FRUIT PLANTS

5 Early Wilson Blackberry
5 Kittatinny
6 White Grape Currant
6 Fay's Red Currant
6 Downing Gooseberries
15 Cuthbert Raspberries
200 Charles Downing Strawberries
3 Peach Trees
6 Linnaeus Rhubarb
6 Grapevines—El Dorado, Miles, Golden Gem, Berckmans, Niagara, Martha

The Estimated Cost of the Plants in the foregoing list is \$175

ABOUT PICTURE HANGING AND PICTURE FRAMES

IF the owner of a home is fortunate enough to possess many good pictures, the problem of covering and decorating the wall spaces is simple. All there is to do is to paint, paper, or distemper the walls with such a tint as shall form a good background for the pictures. A rich brownish green will be found one of the best tints for this purpose.

Whenever elaborate and expensive wall decorations are proposed for a residence we feel that we must advise against it. Why? Because however fine they may be they scarcely excite a momentary feeling of interest and pleasure. In the place of elaborate decorations we suggest pictures—plenty of good pictures. Plain walls are the best to display pictures and the inexpensiveness of plain walls provides a fund, so to speak, to spend on art.

The arrangement of pictures symmetrically so as to produce a sort of uniformity in size and disposition is always pleasing, as is all true symmetry. In a small room the eye takes in the whole of the picture at a glance and rests with content upon such a disposition of parts. On the other hand, if the pictures are of all sizes and hung without any regard to this principle, they look incongruous, as if they were not worth the trouble of arranging properly. It is not always that our stock of pictures will be sufficiently near in size to enable us to distribute them equally. Still, if they are judiciously arranged, we may do away with the objection in a great measure. If it is engravings alone we have to hang, it is an easy matter to get them in pairs of a uniform size. With a mixture of oil paintings and engravings this cannot well be done, but with care and good taste even these may be so arranged that they will not clash with one another.

The practice of hanging pictures so that they shall project forward at their tops is a question of position as to light. When the light falls full upon a picture, whether a varnished oil painting or a framed engraving or water-color, there is a glare or brightness which prevents the whole of the picture from being seen. This is a common case, and the only means of avoiding it is to let the picture hang out from the top so that we can see the whole of it from any part of the room without this objectionable light upon its surface. This is effected by placing the rings of the frame low enough down to cause the picture to have the desired inclination. It is a good plan, when about hanging a room with pictures, to make a sketch of the proposed arrangement previous to commencing hanging. This saves much after-labor and vexation. The largest picture should always have a central position, so that those of a less size can be symmetrically grouped around it. The eye will be satisfied by such an arrangement. The character and form of the frames is a very important factor in the question. Engravings and water-color paintings should always have a broad margin to the mount and a narrow light frame. The margin serves to isolate the painting or engraving, and thus enables us to see its beauties to a much greater advantage. This is more especially the case if the wall upon which they are hung has a pattern upon it. These frames should be alike in make and breadth as far as possible.

Oil paintings require a different and much heavier frame than water-colors and engravings. The principal object in both cases is to display the painting to the best advantage. The broad margin does this with water-colors, but the oil painting having no plain margin we must depend upon the frame to effect its isolation. In our opinion a great mistake is often made in having these frames too elaborately ornamented, although some pictures will bear more ornamental frames than others. It is not the frame we want to exhibit but the picture.

In the hanging of pictures there are several points necessary to be attended to in order that they may be safe and easily adjusted. A picture molding firmly secured to the wall just underneath the cornice or frieze, upon which hooks are made to slide along, not only affords a firm support, but is an addition to the decoration of a room. This molding may be made and fixed by any ordinary joiner, or may be bought at most of the paper-hanging establishments, in gilt, black,

or in various woods in combination with gilt beads. The hooks also may be procured from the same source. Brass rods have been much used for hanging pictures from, but they are not so serviceable or neat-looking as a picture molding, they are also soon spoiled by the action of the gas and moisture in the room, which eats into and

destroys the lacquer. They are now but little used.

Strong wire, cord or line, both "gold" and "silver," is now made, of different thicknesses, for hanging pictures, and is admirably adapted for the purpose, being very thin but capable of bearing great weights. All picture cords of whatever kind should be as near the color of the wall upon which they are put as possible, in order to cause them to be but little seen. Too many cords are always objectionable.

It is better to hang the picture with straight cords, that is to loop the cord onto two hooks so that it shall be perpendicular at each side of the picture, and not looped onto a single hook or nail. When one picture is hung beneath another the bottom one should be hung from the one above and not from the top; we thus avoid multiplying the cords, which is always objectionable. Pictures may also be hung without any cords showing by crossing the cord through the rings at the back of the picture, and looping this into a nail or hook; neither cord or hook will then be seen. When picture moldings are not fixed, strong nails may be used having earthenware, china, or brass heads on them. These screw onto the head of the nail, so that the nail may be knocked into its place and the head screwed on afterward. These are very neat and have a good appearance, and always clean up well.

Pictures of all kinds should be kept free from dust at the back, for where this accumulates injury is sure to result. To effect this two pieces of cork at the bottom edge of the frame will keep the frame from the wall, relieve the pressure, and allow the dust to a great degree to fall down and be cleared away. Gold frames should never be dusted with anything but a feather brush, and when they become dirty, servants or inexperienced persons should not be allowed to attempt to clean them, as they will be sure to spoil them. In cleaning the glass of water-color paintings and engravings, the greatest

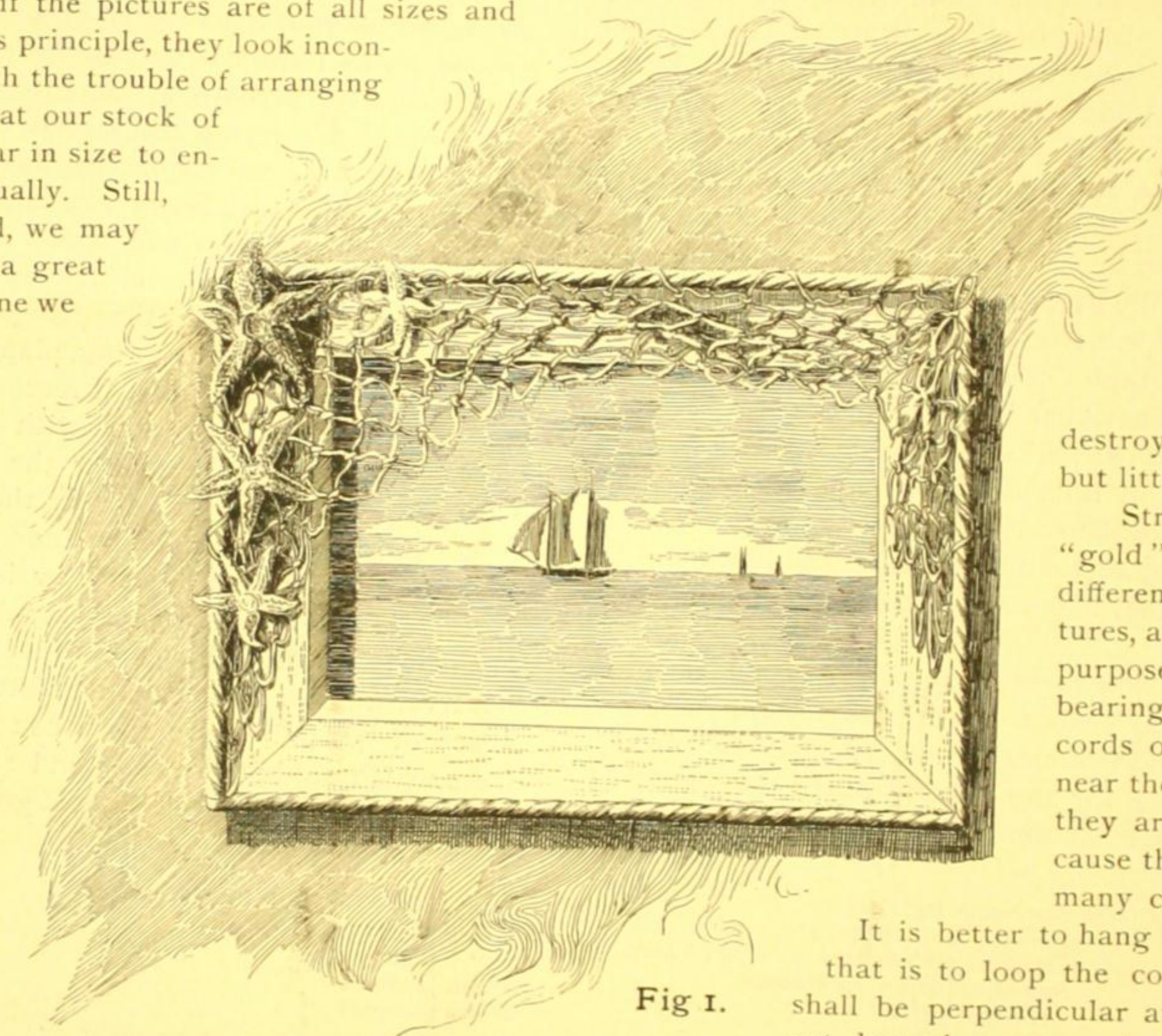


Fig 1.

care should be used to avoid rubbing the frames. They never should be wetted with the sponge or leather, or they will soon be spoiled.

We will conclude this article with a contribution by Miss Adelia B. Beard, which shows very plainly that we need not always patronize the dealers for our frames :

A picture frame as a rule, is quite an expensive article, but with a little ingenuity and good taste, almost any art student may manufacture frames, if not of equal finish, at least as durable and quite as artistic as any the dealer can produce.

The cost? The cost is the price of a wooden stretcher and a bottle of gold paint.

The first sketch shown here (figure 1.) will give some idea of the appearance of a frame decorated appropriately for a marine picture. The articles necessary for this frame are a stretcher, some rope,

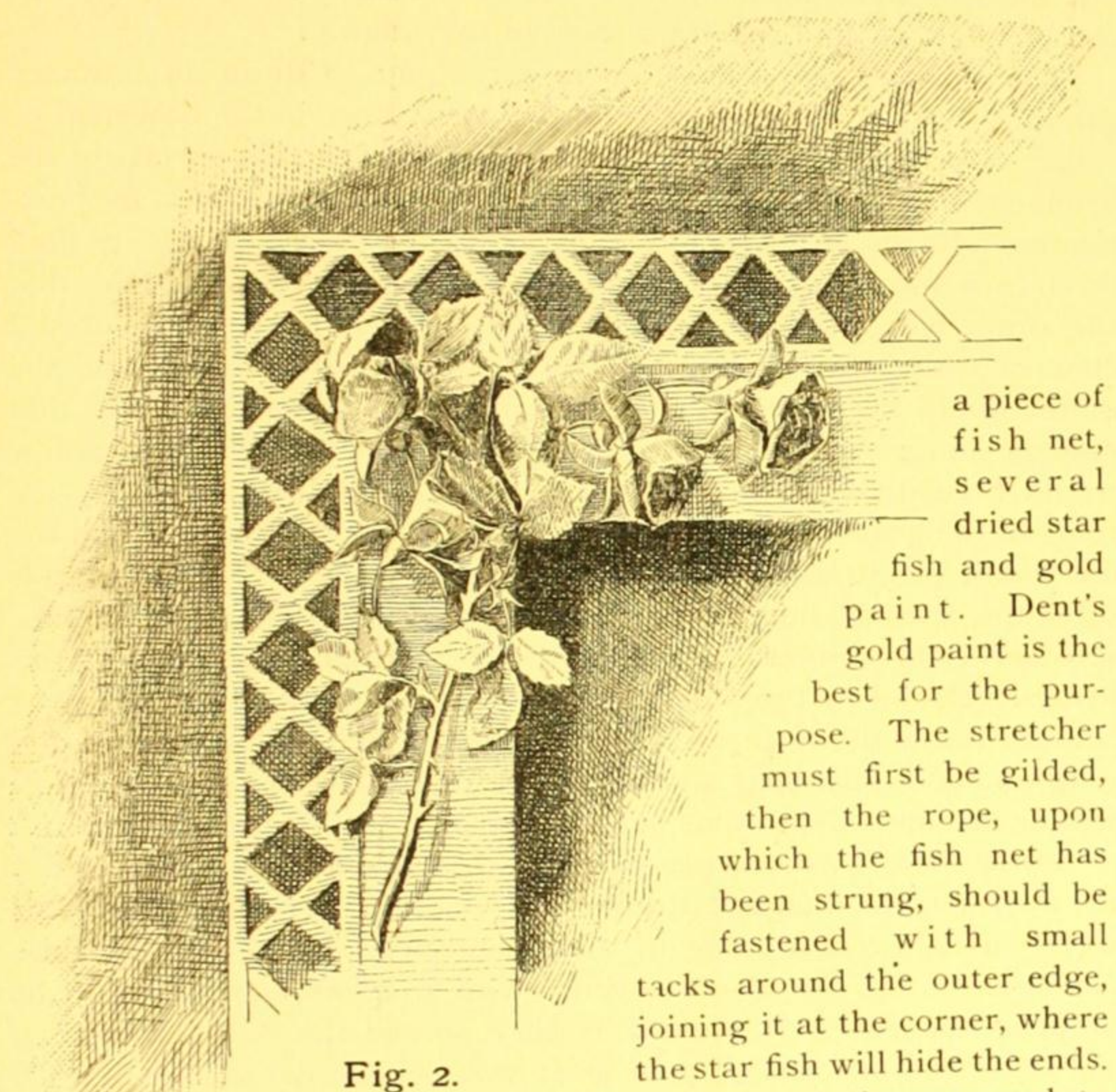


Fig. 2.

The net must be large enough to drape gracefully across one corner, along the top, and fall a short distance down the other side of the frame. When the star fish, graduating in size, are tacked around the draped corner and they, as well as the rope and net, are given a coat of gilt, a pretty, unique and substantial frame is the result. If star

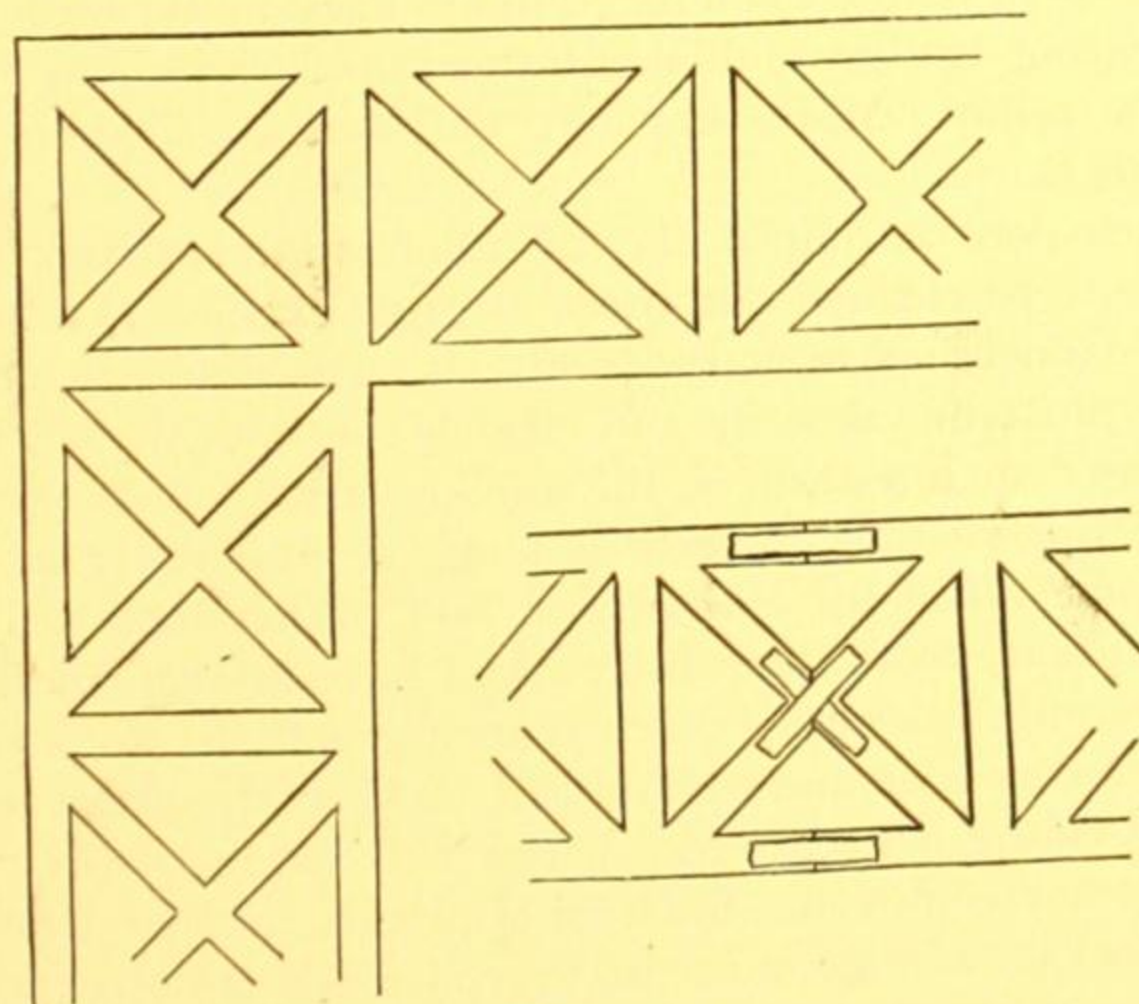


Fig. 3.

fish are not to be had, sea shells may be used instead (these of course will have to be glued in place), and if fish net is also out of reach, a piece of fine netted hammock can be used as a substitute.

For the benefit of those who spend their summers at the seashore where such things are obtainable, I would advise that a small collection be made of these quaint and pretty products of the place, as they will be found useful in various ways for decorative purposes. In drying star fish, wash them first in fresh water and then spread on a board in a dry place (not in the sun), and leave them undisturbed for a few days.

The next sketch (figure 2) shows a corner section of frame especially appropriate for a flower piece. The open lattice-like border is cut with a sharp penknife from stiff pasteboard and tacked along the edge of the frame.

The pattern shown in diagram is simple, quite easily made, and well suited for a border, though other and more elaborate ones may be used. This border must, of course, be made in sections. The edges to be connected should be cut to fit exactly, then after tacking them upon the frame the whole may be laid upon a table, face downward, and strips of paper pasted across the joints (see figure 3), which will hold them securely together. If the work is neatly done, when the gilt is applied all traces of the joints will disappear. The decorations of this frame consist of a spray of artificial rosebuds and leaves, gilded and tacked on the upper left hand corner. A few scattered rosebuds look well upon the lower part of the frame near the right-hand side.

The last sketch, figure 4, is the section of a frame which will look well on almost any kind of picture. It is made by tacking a small rope around the inside edge and then covering it and the frame with crumpled tin-foil, which, after it is pressed to fit the rope, is brought around and tacked on the wrong side of the frame, joining that edge which is turned over the top. Care should be taken while handling

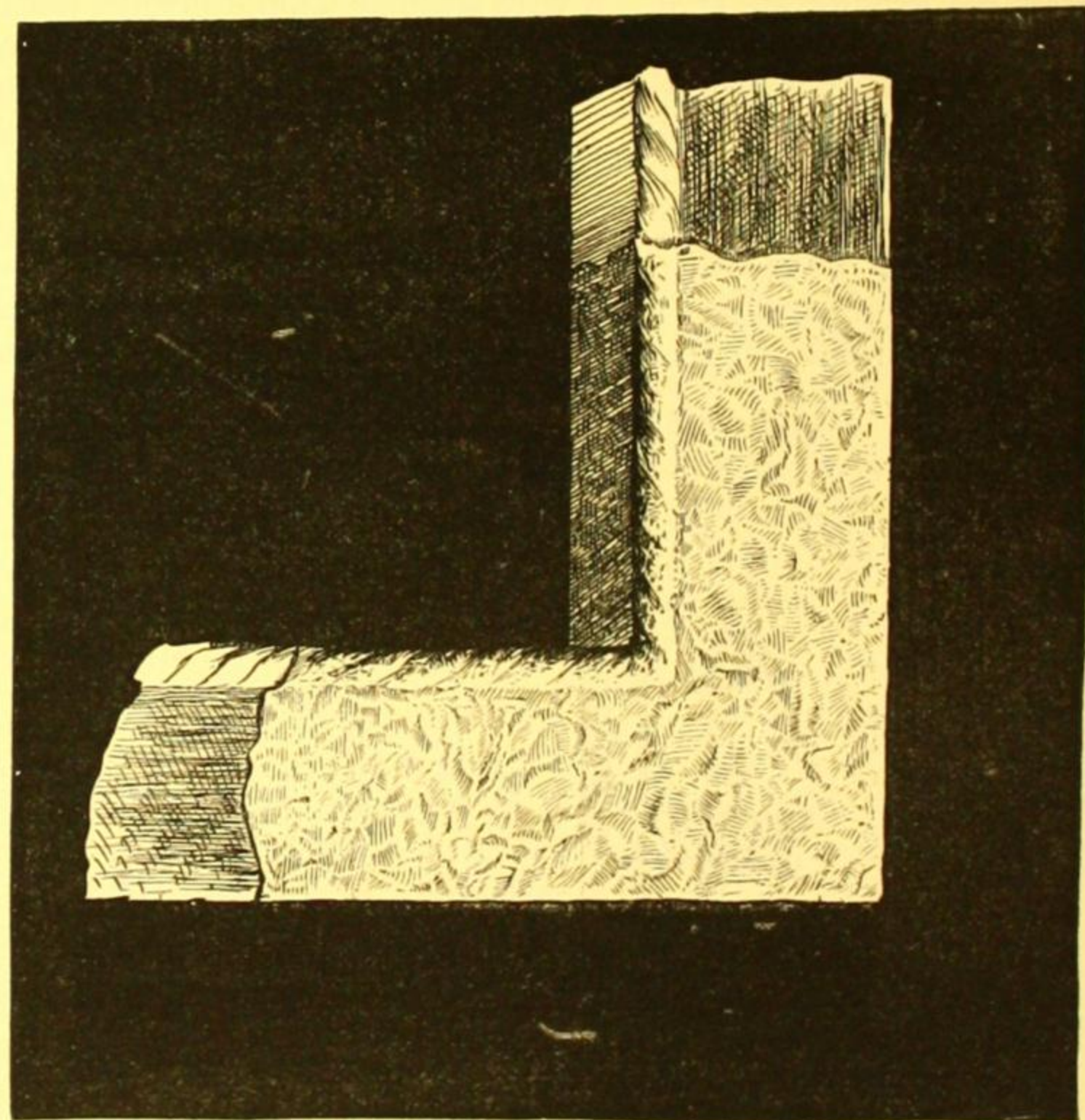


Fig. 4.

the tin-foil not to flatten it, as its beauty depends upon its roughness. The pieces are joined by simply lapping one edge over the other, the uneven surface hiding all seams. This frame like the others must be gilded.

A very effective rough surface on a frame can be produced by dabbing on it with a palette knife the scrapings of the palette. Of course this frame cannot be made in a day, but if every time the palette is cleaned the paint is used in this way, it will not be long before the surface is covered and ready for gilding.

There are as many ways of decorating frames as there are individual tastes. The descriptions given here are offered more as suggestions which an inventive mind may take hold of and alter to suit its own purpose, than as fixed styles which cannot be changed.

THE REMOVAL OF HOUSE SLOPS, &c.

BY CHAS. F. WINGATE, Sanitary Engineer.

WHERE householders have no interior plumbing, but are content with outdoor privies or earth closets, it is not necessary to provide any very elaborate arrangements for getting rid of the house slops. Under no circumstances, however, should they be thrown upon the ground near the house, as mischief will surely follow this nasty and uncleanly practice. Hundreds of cases of diphtheria and typhoid fever have developed from thus saturating the ground near to dwellings with slops. Instead of this reprehensible practice, let the householder provide an empty kerosene barrel on wheels which can stand near the back door entrance way and receive domestic slops, and afterwards be rolled to a safe distance and emptied at brief intervals. Such a barrel, if painted within and without, will not become an eye-sore or cause offense.

The accompanying sketch, Fig. 1, shows a simple plan of arranging a drain from a kitchen to receive waste water from a pump, and to act as a receptacle for kitchen slops. It is important that the tile drain should be laid close to the surface, with open joints, and have a good fall, and that the sink opening should be ample to prevent saturating the ground about it. A wire strainer should also be placed over the opening to exclude rags and other articles which might stop up the pipe. Such drains are common in many houses, but they are generally constructed of rough plank laid with little fall, and hence they accumulate slime and other refuse and become noisome. If they are let discharge into a stagnant ditch or muck heap or slough, they may breed dangerous odors, especially if they are not trapped, and the end terminates just inside the kitchen. It is therefore better to make such drains of smooth earthen pipe and have a clear outfall

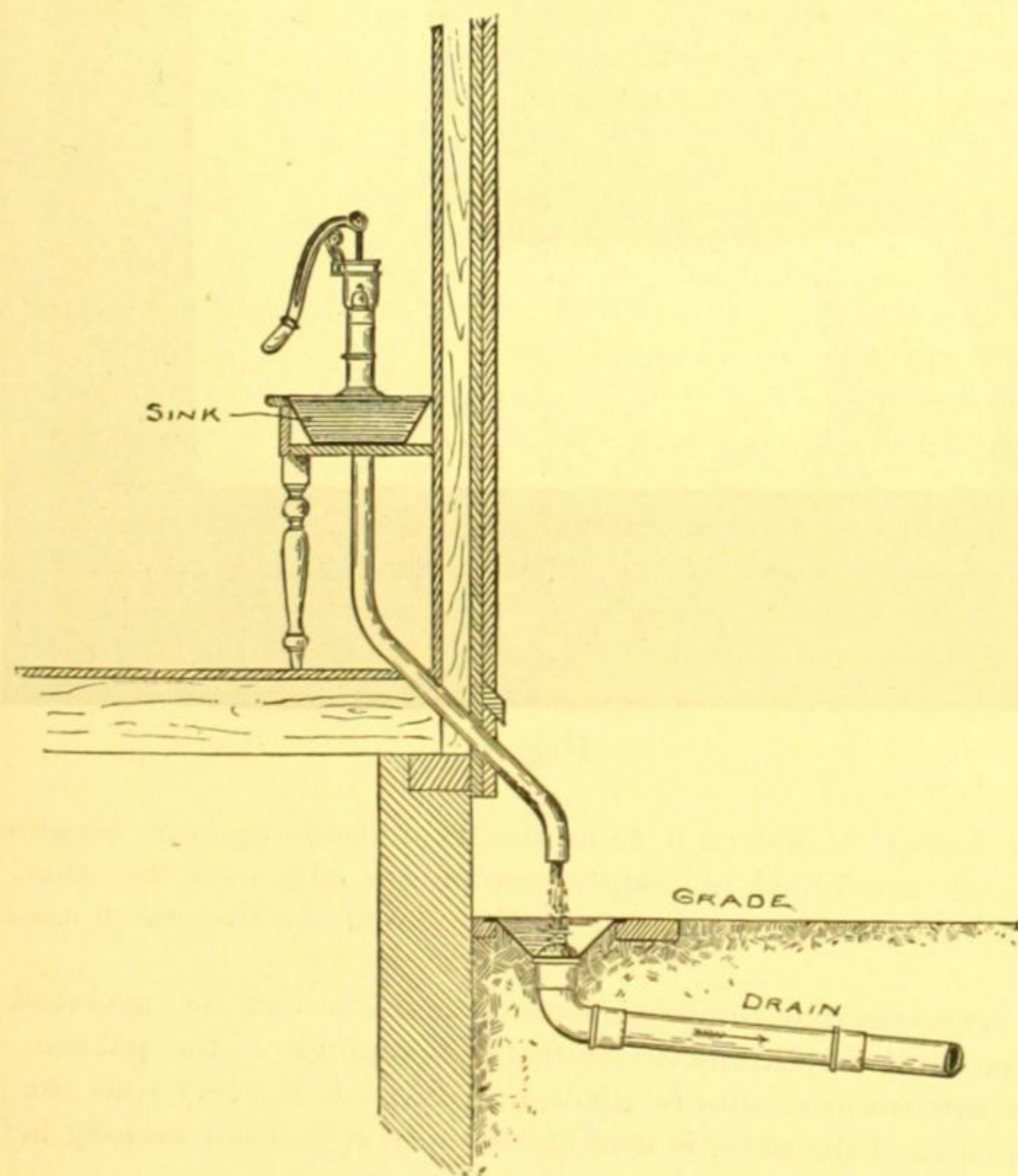


Fig. 1.

above ground, if possible, which may be in the barn yard or pig pen. The joints on this drain may be left open, and the fluid contents allowed to soak through them into the soil if it is sufficiently porous.

A good plan is to make a square wooden trough, raised above the ground, with a good slant, and running from the kitchen sink to the stable or other safe place. This can be covered with a board to keep out the sun and snow, and occasionally during a sharp rainfall this can be taken off and the drain scoured thoroughly.

The chief practical question in arranging to drain an ordinary dwelling is to avoid having superfluous fixtures in the basement or cellar, so that the main drain can be kept as near to the surface of the ground as possible, and the cess-pool thus be as shallow as practicable. If the drain could start from the house at the ground level, then supposing the cess-pool was fifty feet distant, and that the drain had a fall of even one in twenty-five, the drain would connect with it not more than two feet below the surface, and the outlet would be at the same level. The cess-pool need not in that case be more than six feet deep at the most, while any overflow would be distributed close to the surface of the ground, where the roots of the grass and trees would have a chance to absorb it, and the air would penetrate through the soil and oxidize it. But if, as is often the case, the house owner insists on having a set of wash tubs or other fixtures in his cellar, then the house drain must start at this lower level, and by the time it reaches the cess-pool it will be five or six feet below the surface if the ground is level. This requires digging an unusually deep and expensive cess-pool, while the overflow will be at such a depth that but little benefit can be derived from it.

In the majority of houses a cess-pool is the only available means for disposing of domestic drainage. As ordinarily constructed, it is merely a hole roughly dug in the ground with stone or brick sides and arched top, the whole covered with soil and sods so as to be hidden from view. If the soil is very porous the fluid contents of the cess-pool, or "soak" pool as it was originally called, will leach away, and on opening it there will be little solid material left to remove. But even in gravelly soil the ground directly under the cess-pool will in time become clogged with grease and other solids, and the liquids will be retained until the hole is filled up and then it will have to be abandoned and another one dug near by. It is common to find half a dozen such receptacles filled and thus left fermenting to be a source of possible danger. Too often it is only discovered that the cess-pool is full when its contents back up through the house drain, saturating the ground about the foundations and forcing its way into the cellar. More than one outbreak of sickness has been traced to this cause.

If the cess-pool is dug in clay or other tough soil, it will soon fill up and have to be cleaned out, often at great expense and annoyance. The drain connecting with the house is also liable to choke with grease, and must be taken up and cleaned periodically. The longer and the larger such a drain is, the quicker it will choke, especially if it has little fall, so that the flow is sluggish and the grease readily chills. I have taken up a thousand feet of five-inch drain almost closed with grease from this cause, and I have known similar lengths of pipe to require taking up every year at great cost.

It is therefore wise and economical to keep the grease out of the drain by providing a grease trap which will retain it where it can be easily got at and removed. Such an appliance as that shown in the annexed cut, Fig. 2, is good for the purpose and is not expensive. It will serve also to keep the cess-pool free from grease and thus assist soakage and cleansing. Bear in mind that the decomposing grease creates the worst stench, and that a kitchen drain or cess-pool smells viler than any vault or closet.

So long as pan water-closets with an insignificant flush were used, in most dwellings cess-pools were less liable to be filled up, but with

the modern improved water-closets, consuming a couple of gallons of water every time they are used, there is greater chance of cess-pools overflowing and their contents backing up through drains. Under such conditions the volume of sewage will be largely fluid, and hence can be easily pumped out and spread upon a garden. It therefore

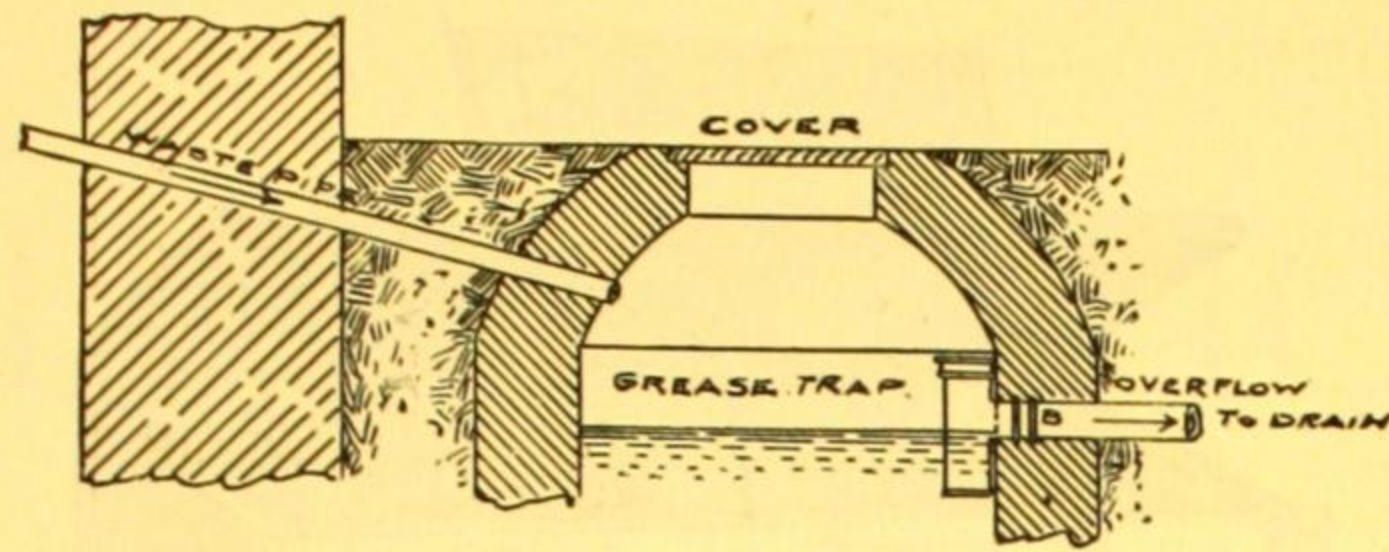


Fig. 2.

seems as if there was no alternative, and that either a cess-pool must be made large, and hence costly to construct, that it should have ample means of overflow, or that it should be frequently cleaned. This last remedy is expensive, and a householder may well object to spending \$100 or more every year to clean his cess-pool, when by a little more outlay he might abolish it altogether.

The risks from cess-pools are threefold. First: from the creating of foul and dangerous gases which have no escape except into the house. Second: from their contents overflowing and backing up, especially if rainfall is admitted into them and percolating into wells and cellars. Third: from permanent soil saturation, resulting through the constant pollution of the earth around. All these are grave, important dangers, worthy of serious consideration. The common belief that kitchen slops are entirely harmless, either in a cess-pool or when emptied on the ground, is a great mistake. Such refuse, as already stated, when putrid, is no less offensive than water-closet waste; and quite as much, if not more, care is therefore to be taken in disposing of it.

It is hardly necessary to warn householders of the danger of placing cess-pools near wells, in any soil and especially in a porous one. Even at a distance of fifty feet there is risk of pollution especially if the well is very deep and the soil below the cess-pool contains rifts or cracks through which its contents may seep into the well.

The overflows of cess-pools are often badly contrived. It will not do to allow the superabundant sewage to lie upon the ground, exposed to the sun, and polluting the atmosphere. Nor is a shallow ditch, without fall or flushing current, much better. Such arrangements are certain to cause trouble in time. So long as the material is spread over a sufficient area to be quickly and freely absorbed by the soil, and to be sucked up by the roots of grass and other vegetation, no fault can be found; but what is specially objectionable is to allow the surplus sewage to remain exposed over a limited space, where it cannot be absorbed and where it must stagnate and breed miasma. Some persons throw stable manure under their cess-pool overflow and compost the material. This is not a bad arrangement if it is looked after carefully, but such material is not very absorbent and must be frequently replaced.

As to the ventilation of cess-pools there seems to be a difference of opinion. Most persons pile planks and stone and sods carefully over them, and thus prevent any escape of air excepting through the drains leading from their houses. Colonel Waring says that sometimes ventilated cess-pools give offense, and E. S. Philbrick remarks that there may be a down draft in the ventilator. It seems to me that the whole question depends upon the amount of ventilation, and that, if sufficient openings are made to admit the air freely, all foul gases will be oxidized and their offensive properties destroyed. Again, persons are very apt to fancy that they perceive an unpleasant smell if there is an opening from a cess-pool in sight. The imagination has much to do with these things. In ventilating cess-pools one opening will not suffice, as may be illustrated by the following simple experiment: Close a common wide-mouthed pickle bottle with a bung. Into this put a piece of tubing of any kind, about a foot long. Fill the bottle with smoke from a pipe stem or glass tube. Then blow across the top of the pipe, and it will not clear the bottle of its smoke. Now, repeat the experiment, but previous to doing so, make a hole in the bung, into which place another short piece of pipe, then blow across the

upper opening, and the bottle will be cleared of smoke as if by magic.

Where, as is common, a cess-pool is covered with a piece of flagging, I usually advise having the latter raised a few inches by placing a brick under each corner, so as to allow the air to escape around the sides, where foul odors may be partly absorbed by the vegetation, and this has generally been found satisfactory. If the soil-pipe of a house is carried up to the roof and has few openings upon it, it may do to ventilate the cess-pool through this pipe, provided there is a large grating at the top of the latter, but it is always preferable to have a trap on the main drain between the house and the cess-pool, with an air inlet opening at some convenient point. This is to avoid the chance of cess-pool air being drawn through traps or possible leaks into living rooms, a possibility at all times with our highly heated houses, and it is best to avoid the risk. Mr. J. C. Bayles recommends covering cess-pools with a flagstone, having a hole about eight inches square in it, containing a wooden chimney six feet high, into which wire screens covered with charcoal as a deodorizing material may be placed. The chimney should have a cover open at all sides to exclude rain and to keep the charcoal dry, and one side should be hinged like a door to give free access, so as to remove the wire screens from time to time. This arrangement seems feasible, though I do not know if it has been practically carried out.

In many thousands of towns and villages where the expense of sewerage is too great for the resources of the property owners, or where the latter are not sufficiently intelligent to appreciate the benefit of such outlay, some other method of drainage must be provided. There is a large field for experiment in this direction. Often sewers are impracticable from the difficulty of obtaining an out fall. Again, the ground may be too level to secure a proper grade, notably at the sea-shore; while the risk of causing a dangerous nuisance forbids discharging sewers into ponds, streams, or even into the ocean in the neighborhood of occupied houses or bathing places. Some other method of drainage must therefore be employed. The cess-pool system may do with modifications. Irrigation farms have been constructed to dispose of the drainage of many European towns, but it is not always possible to obtain land that is suitably located, or that is cheap enough for the purpose. Neighboring residents will object to living near a sewerage farm, and will insist that it is a nuisance and dangerous to health. If it is placed far away from thickly settled centres, then the cost of reaching will be heavy, and there are other difficulties to be overcome. Of some of these methods of domestic sewage disposal I shall speak on another occasion.

PRIVIES

No water, garbage, ashes, house slops or other refuse should be thrown into a privy vault. By excluding such material and keeping the vault dry and well ventilated, the annoyance from flies, mosquitoes and spiders will be greatly reduced. The contrast between a privy that is well cared for and one that is not is surprising.

By planting quick-growing vines around an out-house it may be hidden from view and thus the important requisite of privacy will be secured. It will also be shielded from the hot sun; the vegetation will assist in purifying the air, and the roots will suck up the valuable fertilizing material from the soil. A wind-break of evergreens should also be provided to shield the place in winter and an arbor to keep off the rain, while a board or gravel walk will be a valuable addition. If we must have these outdoor necessities let us at least see that they are as little objectionable to the eye and other senses as possible.

EARTH CLOSETS

In every country house where there are no plumbing conveniences, an earth closet should be provided for the use of invalids and delicate persons and for women and children in severe weather. This appliance was first recommended for modern use by the Rev. Mr. Moule, an Englishman, and it has been extensively introduced with excellent results. Its simplicity, economy, and convenience are readily apparent. Its features are briefly as follows: A cemented box or vault which can be readily cleaned or removed, with a supply of dry earth or sifted ashes,—say a barrelful for an ordinary household—a portion

of which is daily deposited over the contents of the vault. The effect of this slight covering is to deodorize the material, absorb all liquids, and render the whole innocuous, as well as to preserve its full value as manure. There is thus no waste in economy, no risk to health, and no source of offense to the senses. If the earth closet is situated conveniently, yet not too near to living-rooms, and is promptly cleaned, it is a wholesome arrangement in private dwellings. A number of patented devices of this kind have been introduced and are to be had, but they are expensive, and while claiming to be automatic are very liable to get out of order. Sometimes the deodorizing material will hang suspended in the reservoir, and has to be jarred down before the discharging apparatus will work. But the principal difficulty is that it is seldom thrown where it is most needed, and that the dust is inconveniently deposited on the seat.

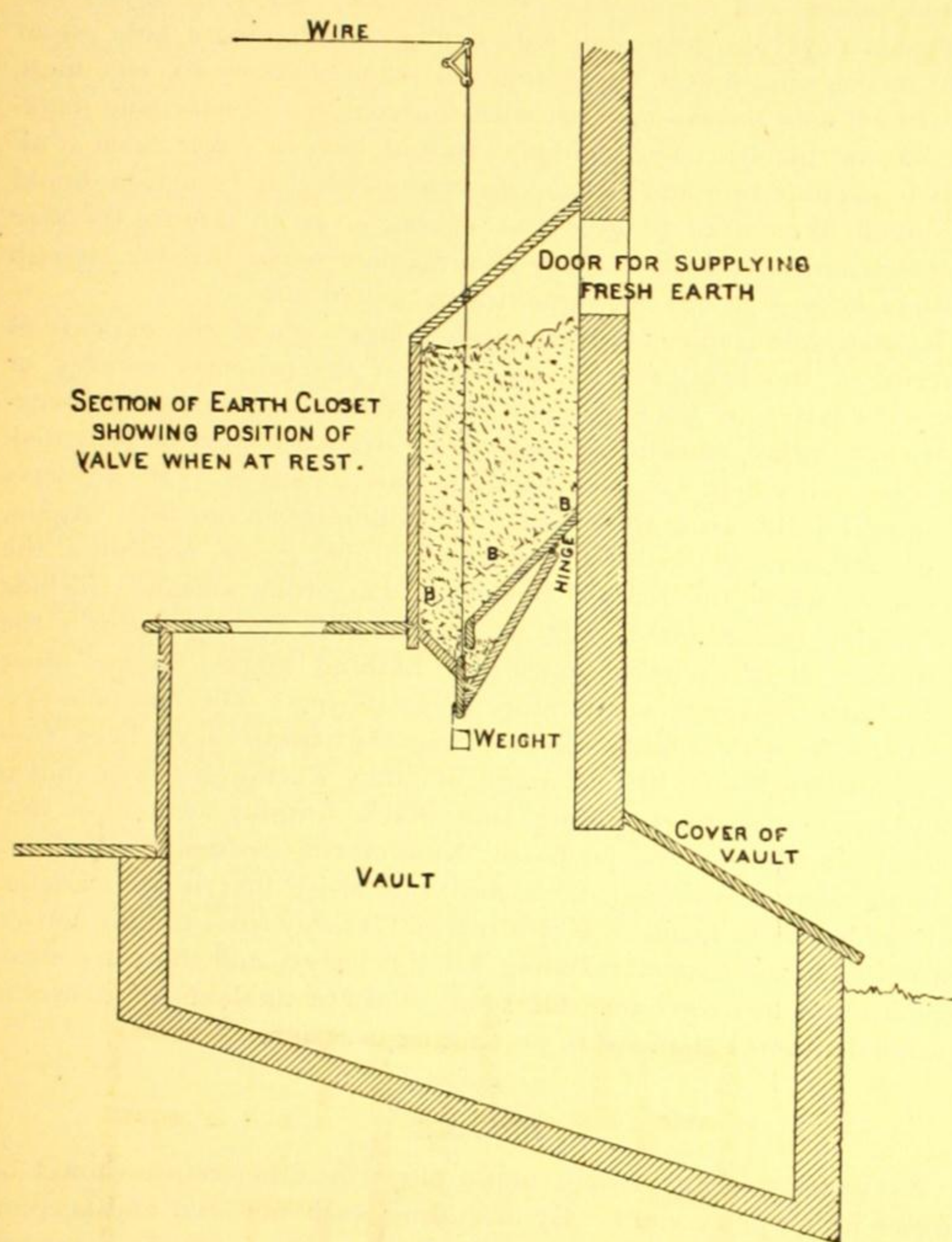


Fig. 3.

Figure 3 shows a somewhat elaborate design for an earth closet but it can also be made by an ordinary mechanic. The multiplication of such devices would effect a vast improvement.

The reservoir or hopper is filled from the outside. A lid of plain boards is hinged to the back of the hopper. When at rest the weight of the earth holds the lid back, the opening being closed by a slide. By pushing in a lever, pulling a cord, or other means, the inverted lid is thrown forward and the slide raised, shutting off the descent of earth, but throwing the portion already contained in it over the vault in a uniform sheet. On the relaxing of the impulse the weight draws the slide back and supplies the measurer with a fresh dose. By regulating the front edge of the measurer the sheet of earth may be directed as required. B B B is a sheet of wire netting fixed in the hopper, which serves to sift the earth and to prevent it from packing so firmly in the bottom as to impede the movement of the measurer. The jar communicated to the apparatus shakes down the earth, a matter of some importance. The vault may consist of tight plank boxes on wheels, so as to be easily rolled out. Otherwise a shallow pit lined with 8-inch brick, with sloping bottom of bricks on edge, also laid in cement, is necessary.

Figure 4 shows a simple form of earth closet devised by Mr. J. C. Bayles, which can be made by any one who has any skill at carpentry and at trifling cost. The inventor says:

The body is a plain pine box. Its sides are not over 14 inches high; its depth is 18 inches (measuring from front to back), and in length about 30 inches. It is divided into two compartments, one 18 x 18 inches and the other 18 x 12 inches. The larger of these compartments has no bottom; the smaller has a tight bottom. On top I

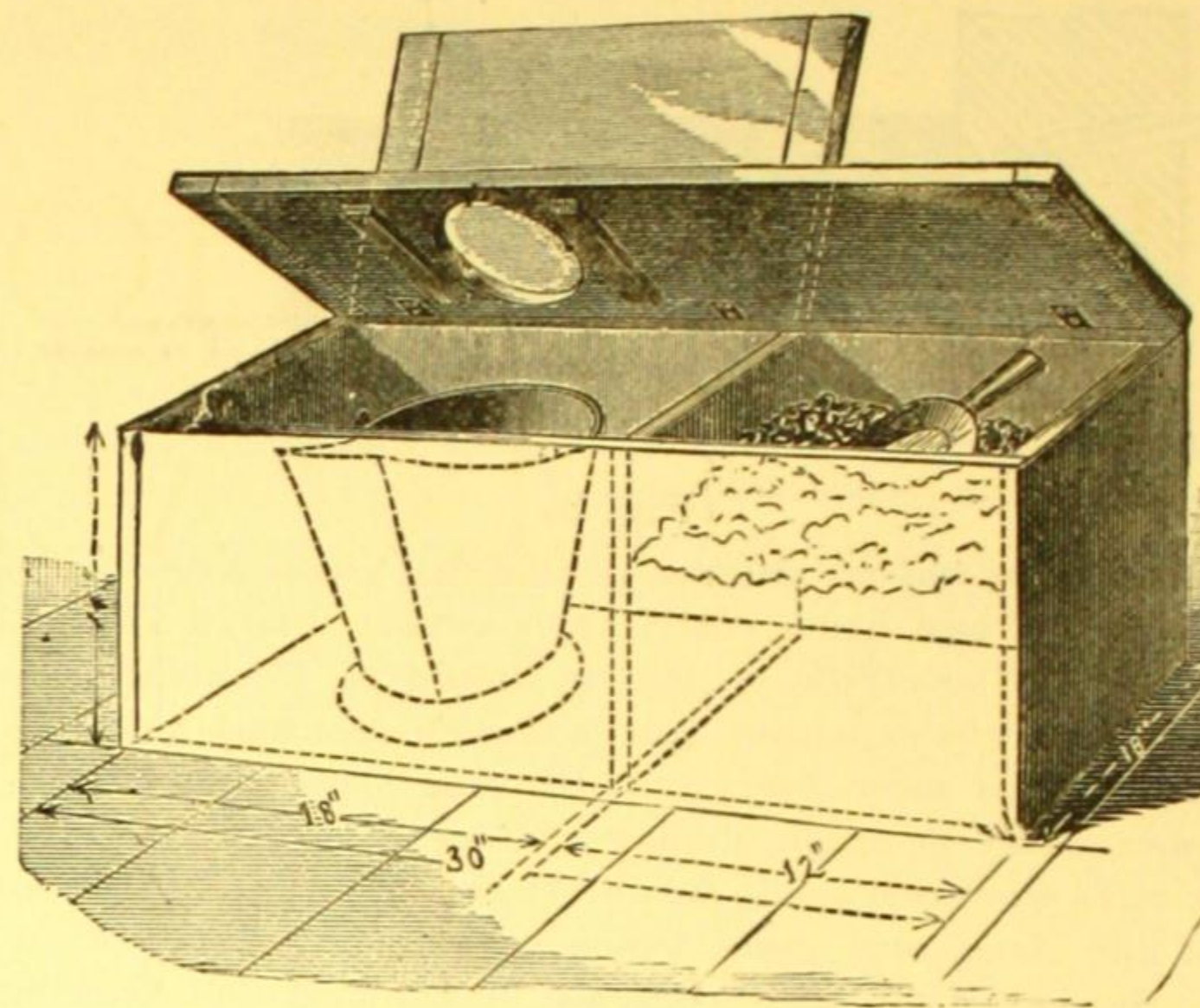


Fig. 4.

have two covers. The lower cover, hinged to the upper edge of the back, extends all the way across both compartments. In this is cut the seat, of usual pattern, over the centre of the larger compartment. The upper cover is hinged to the lower one, and may be raised independently. It is made the size of the larger compartment only, both covers having a little overhanging to facilitate lifting them. The material in, and work on, such a box will cost anywhere from two to three dollars, according to the amount of finish put on it by the carpenter. The receiving vessel is a galvanized iron coal hod as large as will stand in the larger compartment with the covers down. The smaller compartment is filled with dry earth, ashes, peat dust, or whatever else is used as deodorizer, and a little hand shovel or scoop is laid in. The closet is then ready for use, which should be preceded by throwing into the coal hod as much of the dry material as is needed to cover its bottom one inch deep. When used the upper cover is raised, exposing the seat. After use the lower cover is also raised, uncovering both compartments. A small quantity of the dry material is then taken in the scoop and sprinkled over the contents of the hod. A quart is usually more than sufficient. This operation is repeated whenever the closet is used, until the hod is full, when, of course, it must be emptied. Its contents will turn out as a solid mass, inoffensive to sight and smell. Even the most fastidious person, with strength enough to carry the full hod out of doors, would make no objection to emptying it. Occasionally, it is well to air and sun the hod after emptying. I have never known one to require other cleansing. It is better not to use an earth closet as an urinal, but so much of such use as is incidental to its employment as a stool in no respect interferes with its satisfactory workings. In my own house I have placed no restrictions whatever upon its use for any purpose for which any one with sense would consider it adapted. The best material for use in an earth closet is the fine siftings of anthracite coal ashes. Ashes from bituminous coal are not adapted to the purpose. Dry, loamy earth, or leaf mold will answer very well, but it is troublesome to dry and store it. It cannot be had dry enough out of doors, even in midsummer. Sand is useless.

Discreetly and decently used, an earth closet gives very little trouble. If ashes are thrown in after each use, it will not require any attention until the receiving vessel is full. After an absence of about three weeks, during the hottest part of the summer, I returned home to find, notwithstanding the fact that the earth closet had been locked up in a close room, not a trace of disagreeable odor could be detected. The object of leaving the larger compartment bottomless is to facilitate cleaning. More or less ashes will be spilled around the hod, and this should be swept out frequently. By raising one end of the box, the floor under it can be swept much cleaner than the bottom of a box could be without turning it over.

THE HABITATIONS OF MAN IN ALL AGES

By VIOLLET-LE-DUC

Translated by BENJ. BUCKNALL, Architect

CHAPTER XVI

THE IONIANS OF ASIA, THE CARIANS AND LYCIANS

THE countries inhabited by the people known as Ionians, on the western shores of Asia opposite the Peloponnesus, were rich and fertile, their mountain slopes at that time being covered with forests. Wood and stones suitable for building were in abundance. We find ourselves in a far different scene from that of the great alluvial plains of Assyria; we behold a country broken up by mountains and furrowed by water-courses, and whose deeply indented shores presented bays and gulfs peculiarly suited for the concealment of piratical vessels. The island of Rhodes, on the south, was the first of a series of isles which opposed a kind of dyke, cut by passes, to the expeditions of invaders from the west.

Most of these islands, commencing with the largest,—Rhodes,—were occupied by Ionian colonies. A geographical position so favorable to agriculture, commerce, and even piracy, with a fine climate, had afforded the Ionians an opportunity of rapidly developing their natural endowments; they were therefore becoming wealthy and powerful.

As Epergos had correctly presaged, the mingling of the two races—Aryan and Semitic—was rapidly producing an exceptionally energetic development of the arts, and where the Aryan branch was relatively vigorous, the arts, instead of resting stationary as in Egypt, and even in the lands of Assyria, were in a state of continual progress and transformation. Now these Ionians had preserved the timber-framed construction of Aryan traditions, and had adopted from the Tyrrhenian Semites the method of building with blocks of stone. In employing these two methods simultaneously, however, they did not mix them; in fact they only placed them, as it were, in juxtaposition. From this procedure there resulted a very singular and incongruous style of art, but whose consequences had a value the importance of which we shall soon be able to appreciate.

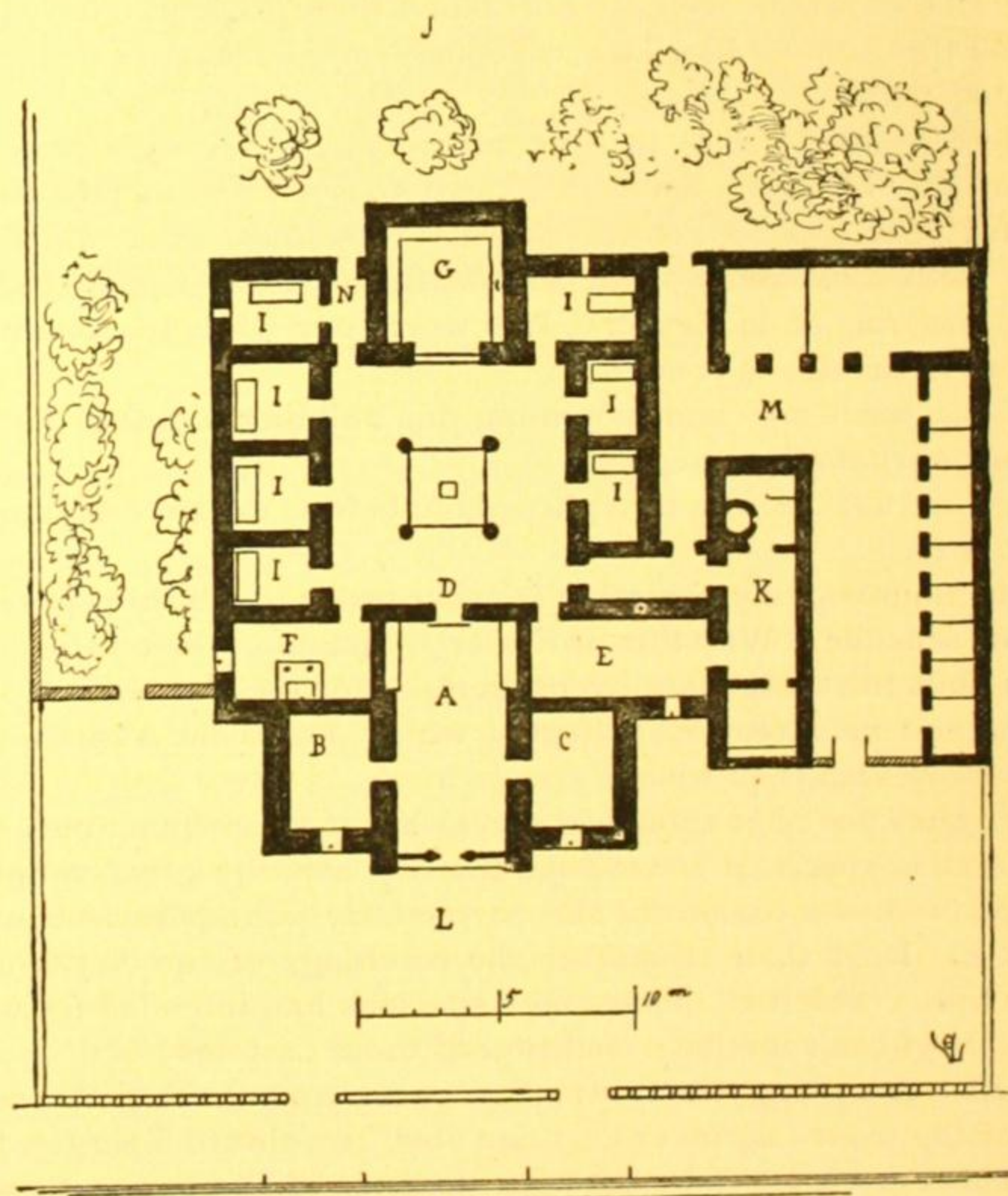
In the plans of their habitations, also, the Ionians exhibited the results of Aryan traditions combined with Semitic influences.

This is shown in figure 59. Here the dwelling is divided into two distinct parts; the one devoted to relations with the external world, and the other to that interior life which is concealed from view. At *a* is a kind of entrance-hall relatively large, opening immediately from without, and intended for the reception of persons calling on business.

This hall communicates right and left with two rooms *b, c*; one intended for the business of the proprietor,—for every Ionian devotes

himself to trade of some kind;—the other for the lodging of the employés—servants or slaves who have to do with people out-of-doors. The hall *a* communicates with the interior court only by a single door *d* which is not passed by strangers to the family, unless admitted by the master.

This door *d* opens into a court surrounded by porticos supported by four columns. At *e* is the room intended for provisions of every



PLAN OF IONIAN HOUSE.—FIG. 59

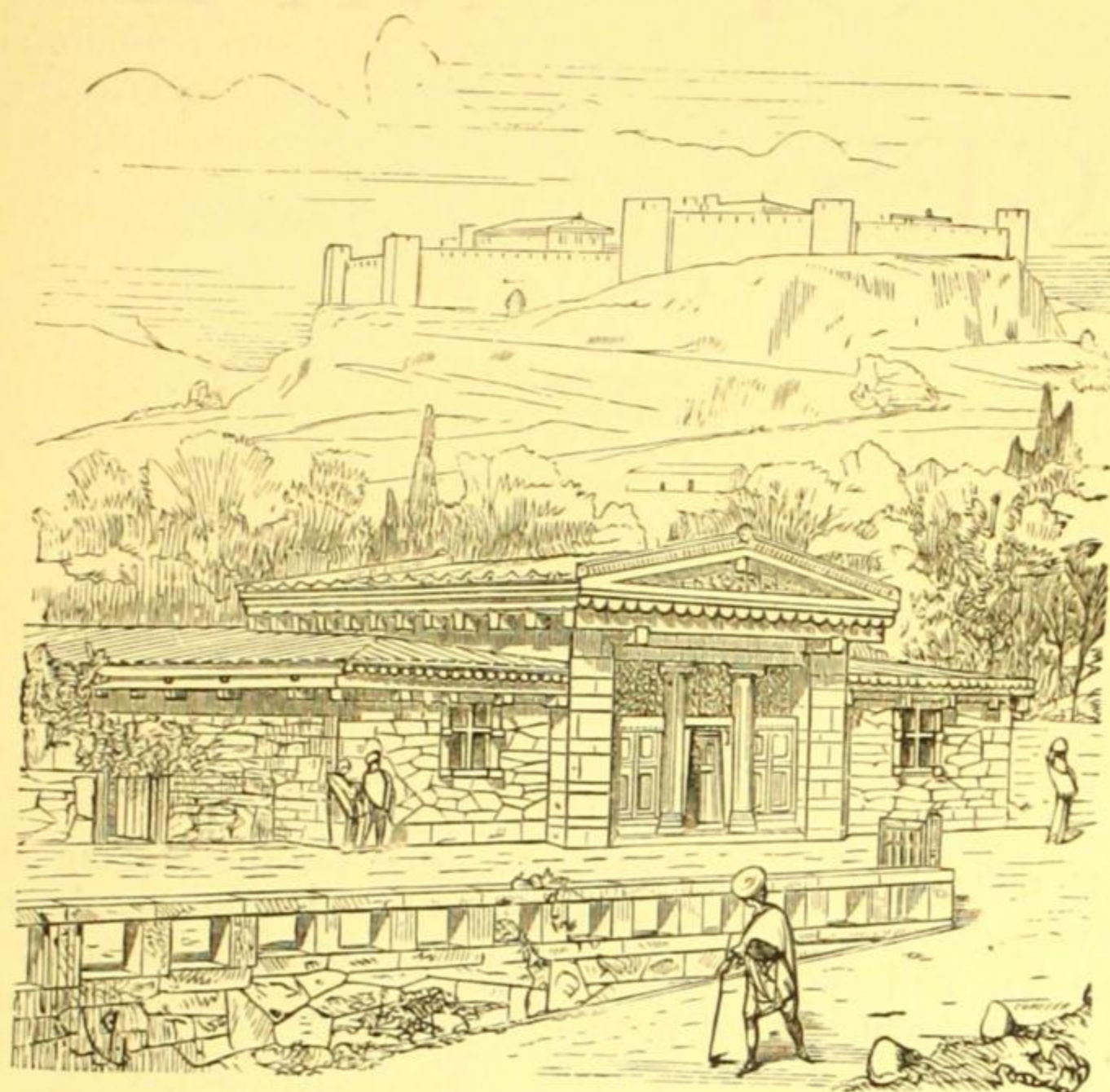
kind, and which is entered only from the portico; at *f* the room in which the archives are deposited, and where stands the altar of the gods. At *g* is the place where the family assemble, as in the Semitic habitation (figures 45, 46). It is in this hall, widely open to the portico, that the meals are taken; and here the women and children pass the day.

From the two sides of the portico at *i* open the bed-chambers

At *k* we have the kitchen with its offices, directly communicating with the portico and the court *m*.

This habitation is situated on the side of a hill, and in front is a platform *l* with a low enclosure. At *m* are the servants' quarters and cattle sheds, with a special court opening on the platform, and the gardens *j* to which the inhabitants of the house have immediate access by the passage *n*.

Figure 60 gives a view of the front of this habitation, whose walls are built of stone irregularly shaped or laid, but close-jointed, without mortar, and whose window-openings, doorways, roofs, porticos, and ceilings are of wood, and the roof-covering of tiles.



EXTERIOR VIEW OF IONIAN HOUSE.—FIG. 60

All the parts of the building made of wood are painted in lively colors, among which yellow, red and white predominate. In the sunshine these colors lose their crudeness, and harmonize in the most agreeable manner.

"Here," said Epergos to his companion, as they were passing in front of this dwelling, which belonged to a wealthy merchant, "is a beautiful residence, which in no way resembles what we saw on former occasions among the yellow race, on the Upper Indus, in Media, Assyria, or in Egypt. It is worth our while to examine this structure in detail; is it not?"

"If you want my candid opinion, this building seems to me not a little incongruous."

"Let us not be in a hurry to judge before we have examined it particularly."

"The houses of my Egyptian friends appear to me in every respect the most sensible. Why this profusion of detail on the outside? Are houses built for those who live in them, or for the passers by? In all this there is an attempt at display which makes me suppose these people more vain than wise."

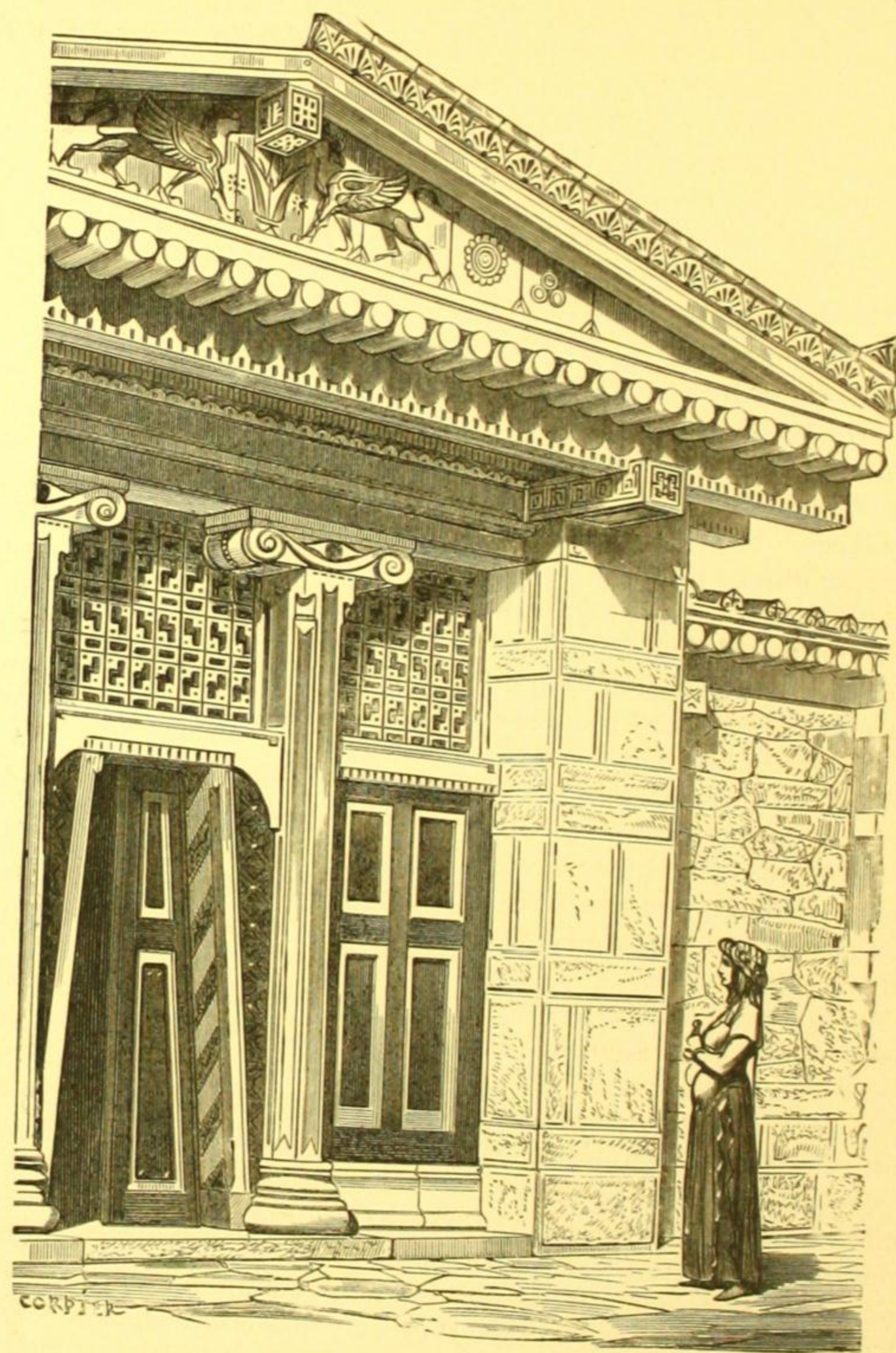
"We shall see: but thou wilt perceive that the entrance only of the habitation is specially decorated; the rest exhibits great simplicity. Perhaps there is a reason for the particularly rich appearance of this entrance. Dost thou remember the dwellings of the Aryas of the Upper Indus, which all possessed a spacious hall intended for assemblies? Might not this be a tradition of those customs?"

Thus discoursing, the companions were approaching the central point of the front (figure 61). "See now," continued Epergos, "how that timber-work is set in between the ends of the two stone walls; how considerable that roof projects beyond the front, so as to shelter the entrance well, and how ingeniously this projection is supported by beams which bear on the ends of the walls. And these two posts with their sculptured and painted caps, their lateral wooden partitions and upper trellis-work, do they not seem well contrived? I recognize here those round wooden joists which we formerly met with in the Aryas of the Indus and among the Medes. But everywhere else the timbers are carefully squared and covered with a thin coating

admirably colored. Then, again, see how well those ends of the walls are built, with low, wide stones interposed between pieces placed on end. These men seem to me to know what they are about, and to do nothing without good reason."

"We had, indeed, the opportunity while passing along their coasts, of seeing that they do not neglect their own interests, are proficient in piracy, and can drive sharp bargains when they are not engaged in plundering their neighbors. Oh, they are clever enough! It is not surprising that with the profits they make, and the plunder they get, they should build sumptuous dwellings."

At this moment the owner of the house was just returning home, accompanied by several servants. He was a young man; his face, framed in a short black beard carefully cleared around the mouth, had an expression at once genial and sensual. The nose, narrow and of good profile, followed the line of the forehead: and his eyes, slightly turned up at the outer extremities, were surmounted by delicate eyebrows regularly arched, as if they had been drawn with a pencil. His hair of ebony black, silky, abundant, and parted on his forehead, fell behind his shoulders. A white pointed cap, slightly curved back in front and embroidered all over with gold thread, left the ears visible. A tunic fitting tight round the waist, with short sleeves, quite covered with embroidered figures, left the neck bare; while over his broad shoulders was thrown a kind of scarf. His legs were



ENTRANCE OF IONIAN HOUSE.—FIG. 61

covered with leggings of fine white stuff plaited in little folds, and his feet enclosed in shoes of bright red, laced, and with pointed toes slightly turned up. As he passed, he gave a side-look at the companions, and said something in an undertone to one of his servants. The latter approached Epergos and Doxius, and asked them if they were foreigners, and whether they had any communication to make to the proprietor of the dwelling. Epergos having replied in the affirmative, the servants admitted them into the entrance hall. This hall was wainscoted throughout, and covered with a panelled ceiling richly painted. Penetrating through the lattice-work of the

entrance, a subdued and tranquil light diffused itself in the interior. Mats were spread around on a very low, wide bench; and the pavement, entirely composed of small polished stones of divers shades, reflected the vivid coloring of the wainscot.

Epergos and Doxius had not been in the hall many minutes, when the master of the house joined them. "What news do you bring?" said he. "We have seen the eastern countries, and the high lands peopled by savage tribes who have no intercourse with the other nations. We have traversed Media, which is impatient under the yoke of the Assyrians. To the north of Media, along the Caspian Sea, tribes are continually passing on their way westwards, to form settlements as far as the Euxine. These men are vigorous and poor, daring and intrepid; and they burn with the desire of occupying the fertile domains of the prosperous Ninevites. They are following the line of the Anti-Taurus mountains, and are descending into the plains to the west of that chain."

"Well! how does that concern me, I pray?"

"It does so, inasmuch as this stream, ever flowing westward along the same course, will ultimately reach the coasts which you inhabit."

"Have we not towns in strong positions and well fortified, to which we can retreat, and whence we shall be able to descend and crush them?"

"You have what is still better—superior weapons, war chariots, and the science of warfare; but you are wealthy and prosperous, and these barbarians covet possessions which they have not. As long as they inhabit their mountains, with no means of subsistence but the products of the chase, and have not come into contact with nations accustomed to the luxuries of a refined existence, they remain tranquil; but the moment they get a glimpse of the benefits which accompany civilization, they spread like torrents, overthrowing everything in their course, and fearing neither privations nor death. Leaving nothing behind them and having nothing to lose, they are seen rushing in numerous and half-starved hordes upon the fertile plains; eager to defend the possessions they have conquered, when they have once set foot upon a territory that pleases them, they never quit it again."

"Are they still far from us?"

"Certainly! And many years will elapse before they reach so far as your prosperous countries, for they have enough to occupy them for a long while."

"If that is the case, we need not be uneasy."

And having sent for wine and cakes, the master invited the guests to take some refreshments, and then said: "Are you not traders? are you not come to this country to buy and sell?"

"No," replied Epergos; "our object is to become acquainted with the nations; to make inquiries respecting their occupations and arts; that is why we stopped in front of your dwelling, which appeared more beautiful and better arranged than any other."

"It was I who had it built, my father having bequeathed me great wealth. He lived in a small wooden house,—a very old one, but which he was unwilling to quit. Now-a-days we have Tyrrhenian workmen, very skilful in working stone, and who hire their labor to people rich enough to employ them, we therefore make use, as you see, of stones to raise the walls, and so enclose the wooden buildings to which we are accustomed, in a massive stone structure, as a protection from heat and stormy weather. If you like to visit the other parts of the house, since you are curious about our arts, there is nothing to prevent you from seeing the apartments which I think proper to show to persons of discretion, and you shall be shown through them. But tell me, have you heard any news of the fleet of galleys which we sent into the western seas?"

"None; for we do not come from that quarter."

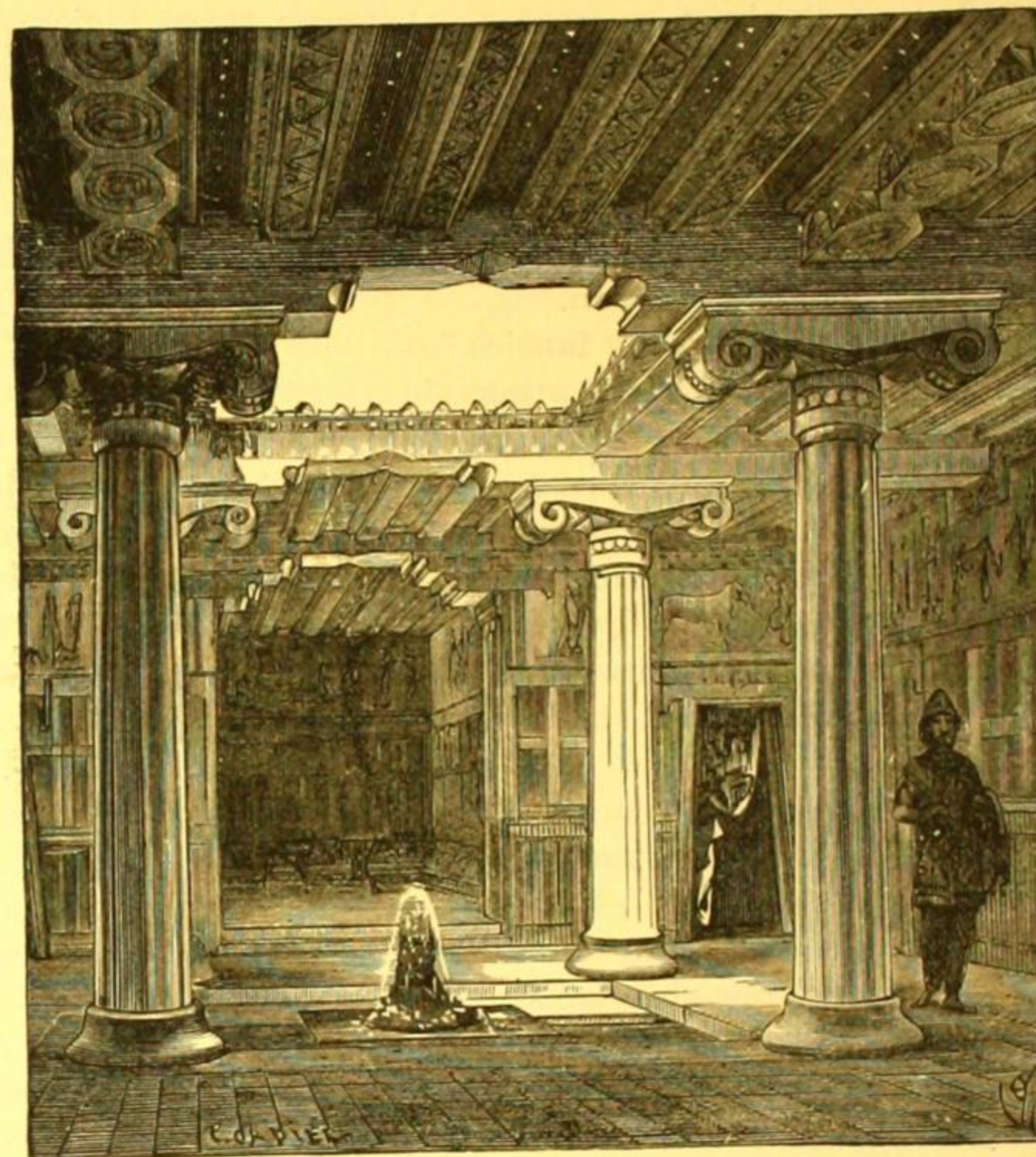
"Bad news has been brought to the country by some fishermen; but nothing certain."

The proprietor having bidden a slave to go and acquaint the women of the presence of strangers, Epergos and Doxius were admitted into the court surrounded by a portico (figure 62).

In the middle of the area left open to the sky was a small fountain, whose waters poured into a basin, and into channels which conveyed them by conduits into the garden. The portico, constructed entirely of wood, was painted, like the front, in vivid colors. The rain-water, discharged from the roofs, fell into the middle of the court. Opening into the court at the further end was the room where the family

assembled,—raised two steps above the pavement of the portico. Around this room were seats, very low and wide, covered with rich stuffs. It was on these seats that persons reclined to take their meals, which were served on small tables placed before each guest. Above these seats of wood inlaid with ivory and silver, was a wainscot, also covered with inlays very beautifully executed. This room was lighted only by the open part of the court: and this reflected light gave a brilliancy to the vivid colors of the ceiling, the walls and the wainscoting. Epergos asked the proprietor many questions, to which he replied apathetically, and without appearing much flattered by the admiration expressed by his guest.

"I see," he said at last, "that you take a lively interest in these matters of art; I will send for Eudexion, who will reply to all your questions better than I could; when you are weary of interrogating him you shall come and see the gardens." On this he beckoned to a slave, and told him to go immediately in search of the architect: then with a friendly gesture to the visitors, he went in the direction of the gardens.



INTERIOR OF IONIAN HOUSE.—FIG. 62

Left alone with Doxius, Epergos said: "Dost thou remember the habitations of old Vâmadêva (figure 18) which we visited many centuries ago?"

"Why this question?"

"Because I find a certain relationship between this building and those houses of the ancient Aryas."

"A merely fortuitous resemblance."

"By no means: there is nothing fortuitous in this world; everything has a cause. The house of the old Vâmadêva had, like this, its large anterior hall, its court with surrounding shelter, its place set apart for the altar of the gods and valuable treasures, and its bedrooms round the portico."

"We have seen halls and porticos everywhere—and sleeping rooms everywhere."

"Certainly; but what we saw in Egypt and in Assyria had no resemblance with what we see here. This timber framing, these wooden posts, the arrangement of these joists, these doors narrowed at the top,—even the general distribution of the apartments,—everything, in fact, though with greatly improved means of execution, reminds one of Vâmadêva's house, and not at all of the palaces of the Egyptian monarch and of the Assyrian king."

"Well?"

"Well! I should conclude from this similarity to the one, and want of resemblance to the others, that the Ionian peoples belong to a branch of the Aryas that has preserved, almost intact, the Aryan traditions."

"If, as thou maintainest, there are races of men, each possessing special aptitudes, how should these tribes, so far removed from the Upper Indus, have preserved those traditions more faithfully than those nearer to the plateaus of Central Asia?"

"The Medes and the Assyrians are certainly less distant from those plateaus than are the Ionians; and thou assertest that the Assyrian dwellings differ essentially from the habitations of those ancient Aryas."

"The Medes, and especially the Assyrians, long established in the territory which they occupy, may have come under influences from the peoples who previously inhabited those regions, and with whom they intermixed; these on the other hand journeyed very much further, but not having halted on their route, might have brought their ancient traditions as far as these shores where they have settled down."

"Perhaps at this day, among the numerous emigrants who continue travelling westwards, following the shores of the Caspian and Euxine, there are some destined to carry those early traditions still further away from their point of departure."

"I do not see the least resemblance between these Ionians, with their slightly coppery skin, black hair and eyes, and the fair-haired Aryas; so that the hallucination which leads thee to believe in different races of men, will bring thee here into contradiction with thy theory."

"Not so fast: I have already noticed in this country women with very white skin and fawn-colored hair; and purity of blood is better preserved in women than in men."

"Ah! that is another of thy fancies."

"Yes, the result of my observations."

"But what is the drift of all this?"

"It is that I find among these populations which are akin to the Aryan stock, when they have been merged in too powerful a current of another race, elements of progress which charm me and fill me with hope; whereas, if I visit an Egyptian or even an Assyrian dwelling, I may retain a profound impression of admiration, but nothing seems to remain to be attempted, nothing to be added, nothing to be modified."

"Which is nothing more nor less than saying, that things which are perfect charm thee less than those which might become so?"

"Exactly."

"See how ingeniously the timbers of this framing are arranged," resumed Epergos; "but observe, also, how these combinations stimulate one to seek new ones, still more ingenious."

"Is this work perfect, however? No; it has not the simple majesty of Egyptian art, nor the sturdy strength and indestructible aspect of the Assyrian buildings, but it *speaks*; one feels that here every workman must have contributed his share of intelligence, and has left the imprint of his labor. We do not behold here, as in Assyria, the effort of beings in vast numbers acting mechanically under the master's rod, and piling up materials without knowing what the result will be. Here each one must have worked with the consciousness of a motive for his labor, and in view of the final result. Dost thou not appreciate this view?"

"I cannot share an opinion which appears to me dangerous, however seductive. I deem wise not him who is continually seeking, but him who having found the good, is concerned only how to preserve it."

"But if thy opinion had been accepted ever since men have been upon the earth, the whole human race would be living scarcely sheltered under trees, and would be feeding on roots and reptiles; for just now thou wert reproaching me for having in the earliest ages taught a few savages the art of building themselves huts."

"Mischievous was already done; but the wise should know how to stop on an incline which is leading to the abyss of confusion. I like the Egyptians, because they were able to halt after having reached a wonderful degree of civilization."

"What is progress, if it is not the seeking for a good? What is wisdom, if it is not the keeping of this good, and preserving it from every attack? What thou callest progress, is a restless advance; my idea of progress . . . (but I do not like the word—it does not express my notion) my view is, then, that when the steps that lead to the summit have been ascended, it is advisable to stop at that summit; otherwise there must be a going down again!"

"Yes: better go down again to reach a summit farther off and still

higher, than halt; for to halt is to die, and though man is destined to repose in death, such is not the destiny of humanity."

At this point the discussion was broken off by the entrance of the architect Eudexion.

"We were admiring the residence thou hast built for that wealthy personage, whom the gods protect. He has been kind enough to send for thee to gratify our curiosity; for everything here is new to us," said Epergos. "Wilt thou please to enlighten us?"

"This habitation," answered Eudexion, "resembles many others, and I do not claim to have done anything more than conform to the customs of Ionia."

"That may be; but we have nowhere else observed this art of framing timber; whence did you derive it?"

"Formerly, as our elders relate, there being a great abundance of timber in the country, our fathers constructed dwellings entirely composed of trunks of trees. But our neighbors, the Tyrrhenians, built and still build their dwellings with large stones, which they skilfully joint and work. The employment of these solid and durable materials has been gradually adopted by us; nevertheless the custom of living in timber houses was too general among the Ionians to allow of its being abandoned. We have therefore amalgamated the two systems, and ceasing to treat timber except as material which had to be left in contact with the inhabitants, we have incased this structure with stone, of which the walls and the most solid parts are composed. That is why you see our walls covered on the inside with wooden panelling. Columns, linings, and window frames of wood, such as these, were all roughly executed a century or so ago; but now we have skilful workmen. First the unhewn posts were squared; then the angles were taken off, and in this way these many-sided columns came to be fashioned. The rude caps which were placed on the top of these posts, to relieve the bearing of the beams, were carved at the ends in volutes. The whole has been covered, as you see, with painting, which beautifies and preserves it. As regards the roofs and ceilings, we continue to make them of wood; though giving them a more and more elegant appearance, as the taste of each may suggest, and enriching them with painting and even gilding."

"To prevent these wooden columns from being affected at their lower extremity by the dampness of the soil, we place them on stone bases. In short, these new buildings are like those much older ones which you may still see in the country, and affect nothing more than to reproduce the older arrangements with more elegance and studied refinement in the execution of the details. We have the art of working tin, copper, silver and gold, and giving to these metals all the forms which the workmen choose to adopt: you will observe how the woodwork and furniture have been enriched with delicate ornamentation in metal. It is, moreover, not very long since we began to overlay the rough walls with plaster. We derived this art from the countries of the East, where they burn stone to make lime, which, mixed with sand, enables us to get the smooth surfaces so well adapted for painting on. We even apply a very light coating of this lime, ground up with the fine dust of hard stone or fine sand, upon our timberwork, to preserve it from the action of the sun, and as a surface for painting; but this requires great care."

"And what wood do you employ thus?"

"Cedar, cypress, and sycamore; these kinds of wood are beginning to become rarer, and already some wealthy persons have had columns cut in blocks of stone, exactly adhering to the form of those made of wood. The day will come when the cappings also will be cut in stone; there is nothing to prevent this; but they must be less projecting, to avoid their breaking under the superimposed weight, for stone has not the flexibility of wood. Would you like to inspect one of the bedchambers, while the family are in the garden?"

"With pleasure."

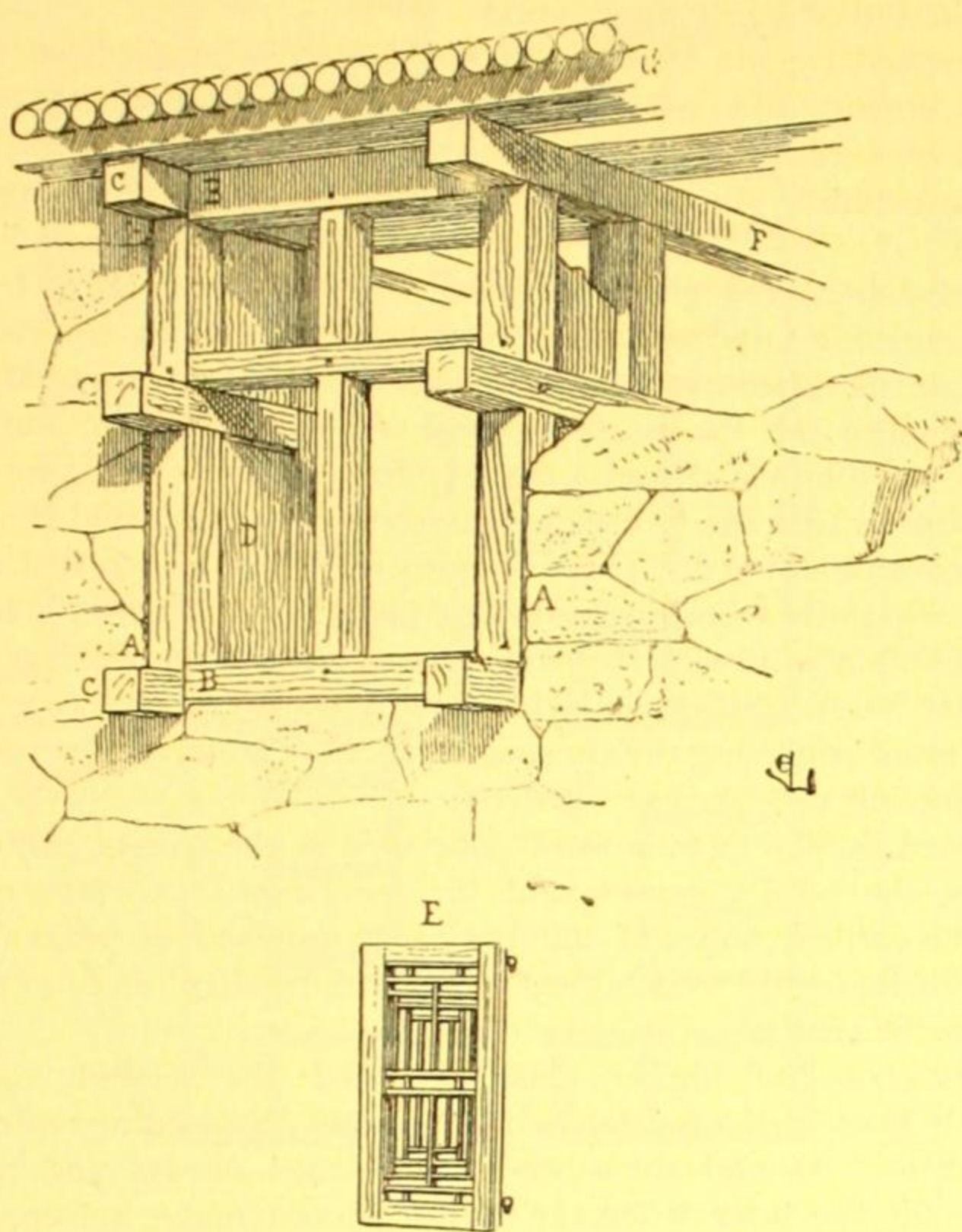
"You observe that these chambers, which are small, receive light only by the doorway opening under the portico. This doorway is closed by a wooden leaf and a curtain; the door may therefore be left open at night to admit fresh air. Each of these chambers has a ceiling of colored wood; the walls have their upper parts painted, and are wainscoted below with costly wood. A bedstead, likewise of wood inlaid with ivory, occupies the further end of the chamber. At the side is a small table and a stool. The floor is covered with mats very finely worked, and a lamp is placed on a bronze support."

"Contact with stone is manifestly avoided everywhere."

"Certainly; and this, as I was observing, results from the long-continued habit of living among dwellings made of wood. Besides, in this country, contact with stone is insalubrious, and occasions pains in the limbs.

"To show you how careful we are in this respect, observe those windows which light the two entrance-halls of the outer front. Examine (fig. 63) how these openings are constructed.

"The window forms a box-frame built into the opening, and consists of two uprights A, two cross-pieces B, and on either side three tie-pieces C, which constitute the thickness of the stone wall, and are framed into other uprights on the inside.



WINDOW OF IONIAN HOUSE.—FIG. 63

"The interspaces D are filled by wooden panels, as well as the soffit and the sill. A cross-frame divides the window into four parts, in each of which is hinged a latticed sash E. Thus the hand never comes in contact with the stone. These window-frames have the additional advantage of keeping up the irregular masonry which surrounds them. The pieces F form ceiling beams projecting outside and carrying the plate G, which receives the rafters of the roof—simple round poles upon which are nailed the planks covered with tiles that compose the roofing. These tiles are glazed by fire to make the rain water run off more readily, and to prevent the dust from remaining on them. The roofings thus formed presenting clear and brilliant colors, and shining in the sun like gold or silver, are pleasant to the sight, and prevent the heat from penetrating as it would if the tiles were unglazed."

"I see that every arrangement has been made to render these dwellings agreeable and healthy. Do they never build in this country with unburnt brick or clay as in Assyria and Egypt?"

"No, never; because we have violent rains that last some weeks, and the ground is often shaken by earthquakes.

"Our timber constructions surrounded by stone are proof against these shocks, and prevent the damp from penetrating into the interior.

"You will understand that these coffers of wood and beams support the walls, and prevent them from disuniting. Look how securely the portal is supported by this timber screen. The two ends of the walls cannot stir, strongly stayed as they are, and kept in place everywhere. Formerly walls of unburnt brick were built in our country as among the Medes, but they were soon injured by the damp, and fell to pieces at the least agitation of the ground."

"But if timber should fail, could you not employ stone, not only for your columns and points of support, but also for lintels and cornices?"

"Probably; hitherto we have not been obliged to do so; moreover, as I said before, we prefer to avoid contact with stone in our dwellings, and we shall always be obliged, in conformity with local usage, to line the interior surbases, at least with wood.

At this point in the conversation, the master of the house joined the three interlocutors, and asked them to go into the garden. Shaded by the glossy foliage of lemon-trees, and reclining on a carpet spread over a very light brown couch, was the mistress of the house, surrounded by three little boys. A female slave of the Semitic race was waving a large fan of palm-leaves over the head of her mistress; while another woman, seated at her feet, was singing to amuse the children, who were listening attentively.

A rivulet, clear as crystal, was rippling along a channel hollowed out of the trunk of a tree, and, separating into small irrigation trenches, was lost amid the grass and flowers. The mistress was attired in a long white robe, embroidered in brilliant colors, slit on both sides and falling in numerous delicate folds. A closely-fitting corsage enveloped the bust, reaching as far as the hip; the neck was bare, and was adorned with a wide, rich, gold collar, which fell crescent-wise over the breast. Her hair, of a dark fawn color, fell over her shoulders in long and luxuriant tresses, and a coiffure of transparent tissue, in which gold threads were interwoven, surrounded her head. Bracelets of gold encircled her bare arms. On seeing Eudexion and the visitors approach, she smiled courteously; then addressing the architect, she said to him in a tone of indifference: "Hast thou not visited the treasurer's house?"

"It is large and beautiful, adorned with stone columns, covered with finely-wrought sculpture, and many ornaments from various quarters; you see Median vases, Tyrrhenian bronzes, Egyptian statues, and Assyrian carpets, and light, transparent hangings placed over the area of the court."

"Is it not shameful to make such a display of luxury, when one is entrusted with the public money?"

"These articles are presents from the merchants in consideration of a remission of duties. It is a mere tasteless accumulation; and I prefer this house, where everything is in the place suited for it, to that one, filled though it is with rare and costly objects."

"Yes; because you built this yourself?" "No; but because it has been arranged by a mistress of refined taste, and who can appreciate things at their right value."

The lady smiled at this compliment and addressing the visitors said: "What do you think of Ionia,—you who come from such remote parts, and have visited so many countries?" "It seems to us," Epergos hastened to reply, "that it is the most beautiful country in the world, and inhabited by the most amiable and polished of nations."

"Thou flatterest me; but never mind, for flattery is sweet when it is addressed to the country one loves." "And which is the envy of so many enemies," replied the master; "for while we have to struggle with the Pelasgi, these strangers announce an invasion of barbarians from the northeastern mountains." "Indeed," responded his wife "Oh!" said Epergos, "you need not be anxious; the Ionians will not have to fight these barbarians until your children themselves shall have left the earth."

The lady became pensive. A murmur of voices was heard without, and a slave came and whispered some words in the ear of his master, who immediately directed his steps towards the entrance of the house. "What is the matter, then?" said the beautiful Ionian addressing her women. "Some people on business," replied the singer. Evidently disquieted, the mistress of the house arose. Her husband, pale and tottering, was re-entering the garden. To the questioning looks of his wife his only reply was: "The priests of Poseidon . . . the fleet does not return . . . victims are wanted to appease the god."

"Ah! and what victims?"

"Ten children of noble birth."

"And . . . they are asking for thine? . . ."

"For one!"

"Why not for all three!" said the mother, now rousing herself like a lioness, and with an instinctive movement enveloping her children in her long robe.

Overwhelmed with sorrow, his eyes fixed on the ground, and his

arms falling forwards, the master seemed incapable of a suggestion or a reply. "And . . . thou hast told these priests," continued his wife, "that thy child was here,—that thou wouldst give him up to them,—is it not so? thou hast said that? . . . But answer then! . . . which of the three didst thou point out? . . . Say! . . . Must I not decorate him for sacrifice? Which? Which?"

"I could say nothing—I could not answer . . . the priests are waiting."

"Well! choose then!" and with a hasty movement she pushed forward her children, who fell at their father's feet, uttering cries of terror and grief. But immediately throwing herself on these three little creatures, taking them up in her bare arms, and pressing them to her bosom in a stifling embrace, she added: "Go and tell the priests of Poseidon that they may come and take their victims,—they shall have four for the one they ask."

The master seemed to look upon the scene as if he were a stranger; his apathy and the vague expression of his features contrasted with the violent gestures and the infuriated looks of the mistress. . . . Epergos and Doxius, at some distance off, were inquiring of the slave the cause of the trouble that had so suddenly befallen this family, so tranquil a few moments before. "If the gods will have it so!" said Doxius. Epergos shrugged his shoulders and clenched his fists. Outside the murmur was increasing. "Come!" said the master, as if waking up from a heavy slumber, "we must have done with it!" And going towards his wife with his eyes closed, he took at hazard the arm of one of his children. She let the poor little creature go, and seeming calmed all at once, followed her husband. Arrived at the garden-gate, she placed herself before him, and then, shrieking, seized the child once more. "No!" said she, "not Doricmes; take one of the two others!" . . .

"The gods have decided it."

"Not Doricmes; it shall not be Doricmes!"

"Silence, woman; the gods have decided it."

"Well! take him then; and woe be to thee!"

And while the father was entering the passage which conducted to the court, the mother, with disheveled hair and furious mien, returned to her two children who had remained in the hands of the women, snatched them hastily away, and regained the house.

Next day this beautiful dwelling was a heap of cinders. Maddened by grief, and accusing the gods, their priests, and her husband, the wretched mother, after having suffocated with her own hand the two children that remained to her, laid them in their little beds, heaped around them their playthings, their clothes, and all that belonged to them, and set fire to this pyre of souvenirs. . . .

On its smoking ruins the master was received by a fury with the reiterated exclamation: "Doricmes will have had a splendid funeral!"



Asiatic Ionian

CHAPTER XVII

THE HELLENES

THE surge of Aryan emigration was rolling ever westwards, and numerous tribes belonging to this race had established themselves on the plateaus of Thessaly, Epirus, and Thrace.

Energetic, hardy, and intrepid, they took possession of the countries already occupied by the Pelasgi, became mingled with the latter,

and occupied, under the name of Hellenes, the countries situated between Thessaly and Peloponnesus, part of the islands of the Archipelago, and even some districts of Asia Minor.

Divided into four great branches, the Hellenes comprised the Achæans, the Æolians, the Dorians, and the European Ionians.

Arts, commerce, manufactures, and agriculture soon attained a most extraordinary development among these active and warlike peoples, when they had settled in those regions—so favorable to the increase of wealth of all kinds—which had been previously occupied by the Pelasgi. Among the cities which rose on the Hellenic soil, Athens acquired a marked preponderance from the importance of its marine, its commerce, and the singular aptitude of its inhabitants for works of skill of every description.

Destroyed by the Persians, it speedily rose again from its ruins more beautiful and glorious than before. Around its Acropolis covered by sacred buildings, the city extended far and wide, with its temples, its public places and edifices, and its houses intermingled with verdure.

No city displayed greater activity; for any one coming from Asia it seemed as if in entering Athens he was coming into an ants' nest. Possessing, at the epoch of its greatest power, the three ports of Munychia, Phalerum and the Piræus, it covered a district whose circumference measured two hundred stadia (twenty-four miles). But it was around the Acropolis that the houses were crowded together and the population always in activity. There wagons were passing to and fro filled with merchandise from the ports or conveying it thither. The streets and public places in which people passed their lives presented a busy and noisy scene. Strangers, who came to buy or to sell, were continually entering or leaving the shops and places of manufacture, and slaves were carrying messages or burdens.

Women as well as men were to be seen in the streets, going to the markets, the public games, and the meetings of corporate bodies. From the earliest hours of the day large numbers of peasants might be seen bringing in vegetables, fruit, and poultry, and crying their wares in the streets.

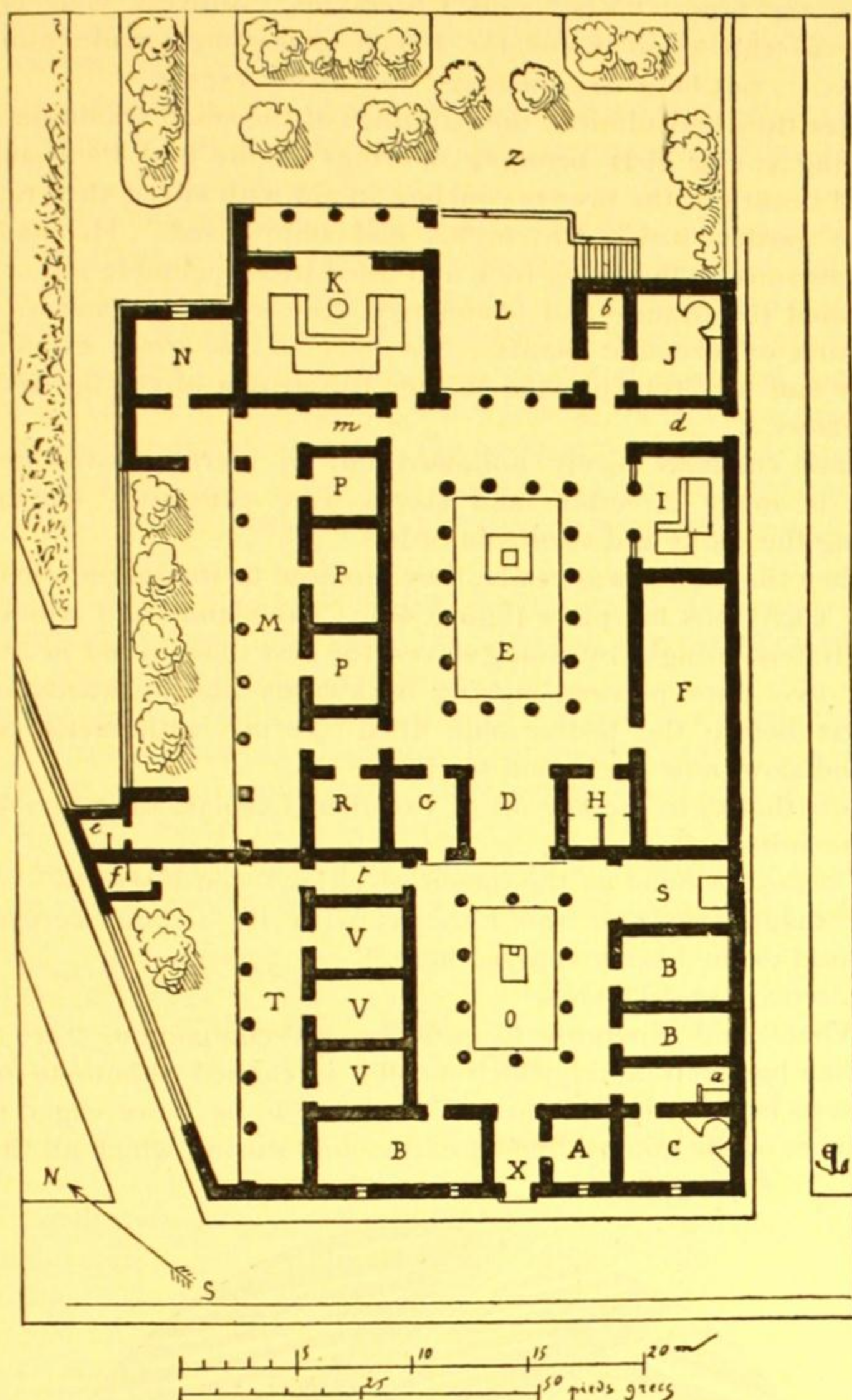
Houses of the higher class occupied the second zone; they generally possessed a garden and sometimes outbuildings of considerable extent. Around them were to be seen clients and parasites, waiting for the hour when the master should make his appearance; and while away the time in discussing the news of the day, repeating the rumors, true or false, that were current in the city; getting the slaves to talk, and laughing among themselves at the strangers that happened to be passing, or addressing them with a view to make fun of their accent, garb or dress.

The house of Chremylus, recently built in that second zone, was a subject of remark for all the idlers. Chremylus, who had lately become wealthy by means of commerce, and of certain transactions of a more or less creditable character in the colonies, was an object of envy and criticism to most people, and of admiration for some who did justice to his intelligence and energy. He enjoyed a certain degree of influence in the public assemblies—thanks to his liberality; while he took care to secure the good graces of the archons and to enrich the temples.

We have (figure 64) the ground-plan of the residence of this Athenian citizen. The entrance *x* opens on the public road. The site is bounded on either side by narrow streets. This entrance *x* opens on the court *o*, which is surrounded by porticos. At *a* is the porter's lodge, and at *b* the rooms for the slaves, with kitchen at *c* and latrines at *a*. From this first court, in the centre of which is a small fountain with a basin which receives the rain water, the passage *d* leads into the inner court *e*, which is larger and is likewise surrounded by porticos. At *g* is the reception-room, at *h* the strong room for valuables, and at *s* the private altar. At *f* is a large store-room containing provisions and wine; and at *i* the small dining-room (*triclinium*); the cooking-room for the family being at *j* with latrines at *b*. The large *triclinium* is at *k*. The passage *m* admits to the *gynæceum*, containing the bedrooms *p* along the portico *m*, a common room for the women, with its small enclosed garden, and closets at *e*. The quarters for visitors are entered by the passage *l*, and consist of bedrooms *v*, a portico *r*, a small garden and closets *f*. At *d* is an opening into the lane for the servants, when required. The gardens extend in the direction *z*.

This house is situated on the slopes of the hill which to the south-west looks toward the Acropolis; thus it is sheltered from the violent winds which sometimes blow from this quarter.

From the large dining-hall and from the terrace L, which adjoins



PLAN OF ATHENIAN HOUSE.—FIG. 64

it, there is a charming prospect; for, above the trees of the garden is seen the city overlooked by the Acropolis, and towards the left the hill of the Areopagus. From this terrace L there is a descent to the garden by about twelve steps. The position was chosen with a view to protection against the sun's heat and the troublesome winds. From the portico of the gynæceum are seen the hills extending towards the north, covered with houses surrounded by olive-trees; and in the background Mount Pentelicus, whose bare and rugged flanks present the changing colors of the opal.

In the dwelling of Chremylus the various departments were arranged at the proprietor's discretion, and the architect only conformed to his instructions. Thus the front part of the house is assigned to the external relations of the owner. In this court O assemble the agents or factors who come to give an account of the commissions they have executed, or to receive orders. If the master wishes to speak to one of them, he takes him into his reception-room; his bedchamber being at R, he can easily repair to that reception-room or to the gynæceum reserved for the women and younger children.

If he entertain friends, they have their separate apartments, which are shut off, not being in communication with the first court except through the passage I. All that part of the habitation which is beyond the wide entrance-hall D is consecrated to domestic life; and only the intimate friends of the family are admitted into the second court; for example, if they are invited to a banquet,—which is held in the great hall K.

The master usually takes his meals with his wife and one or two members of his family who live in the house, in the smaller room I,

the couches of which will hold six persons; whereas fifteen guests can be accommodated on the couches of the great hall K.

Chremylus has spared nothing to render his house one of the most sumptuous in the city. The columns of Pentelican marble support architraves of wood, surmounted by friezes and cornices overlaid with stucco and ornamented with delicate painting. Everywhere the walls are coated with fine smooth plaster, adorned with paintings; and the ceilings are of timber artistically wrought and colored.

Epergos, who on several occasions had sojourned for a considerable time in Hellas (for he liked its people more than any other he had visited), had not a little contributed to the progress of the arts and of manufacturing industry among the Athenians; while Doxius had remained nearly the whole time in Assyria and Egypt. He had witnessed the fall of Nineveh, the war of the Persians with the Assyrians, and the termination of this powerful empire which was subjugated by Cyrus. When Doxius had happened to meet his companion in Hellas, he had not been sparing of his criticisms on all he saw done among its active and striving populations, which were constantly changing their government, and inclined to free themselves from their traditions. He had predicted the ruin of the Hellenes, whom he regarded as unruly children, always citing Egypt and Asia as the sources of all wisdom; though Egypt was visibly declining and the Median empire was crumbling to pieces. So during one of the last visits which Doxius paid to Athens, after its destruction by the army of Xerxes, he was endeavoring to induce Epergos to quit for ever these devastated shores, but Epergos, full of confidence in the genius of his friends the Athenians, set to work again with them to restore the burned city, as he had formerly aided the Aryan to restore his hut thrown down by the tempest. Besides, Epergos liked discussion, and in no other country had he had so many opportunities for it as at Athens.

When the Hellenes began to occupy a large part of Greece, after having subjugated the Pelasgi, they brought with them notions of arts of a very rude character, borrowed from Asia. The Pelasgi, on their part, had made but little progress since the time when they built those massive structures of which we have seen a specimen. (See figures 56, 57, and 58). But the various relations which were soon established by the Hellenes, the Ionians, and the Lycians of the coasts of Asia, gave to the first the notions of art in which they were deficient. They began therefore to build habitations like those of their Asiatic neighbors; while preserving something of Pelasgic customs. Wood suitable for building was however by no means abundant in Greek lands, while there was a profusion of calcareous stone of rare beauty. They began therefore to substitute columns and capitals of stone or marble for those of wood; and were then led to give these capitals a much smaller development than the Ionians gave them, lest they should break under their burden. Their general form was however retained,—that of a capital in wood terminated by volutes; and these capitals retained the name "Ionic." For a long time, however, they contented themselves with this modification induced by the change of the material.

We cannot say whether it was Epergos who first pointed out to the Dorians,—a branch of the Hellenes, as stated above,—the want of relation between the form of this Ionic capital and the material thenceforth employed—namely, calcareous stone. Certain it is, however, that these Dorians, induced by considerations of this nature, abandoned the traditional form of the wooden capitals to adopt a new one springing from the use of stone. There must have been long discussions on this question among the architects of Hellas, though they may not have been preserved: but reason triumphed; the Ionic capital, derived from that of wood, was abandoned, and that which was adopted took the name of "Doric."

This sturdy capital, which projected considerably beyond the shaft of the column in its original form, gradually received a finer profile; and, at the time when Chremylus had his house built, the Doric capital already presented the most delicate outline.

Chremylus had an esteem for Epergos, and had often consulted him while his house was being built: so when it was finished, and he had begun to live in it, he resolved to assemble some of his friends at a banquet within its walls; for the Athenians highly prize the pleasures of the triclinium, when shared with intelligent persons whose conversation is worth hearing.

Chremylus had the art of enlivening his guests; having selected them with care, and set them talking on a subject adapted to excite their enthusiasm, he would, as a man of intelligence, be silent himself, and leave them to the discussion. If the conversation languished, or a loss of temper was impending, he would politely revive it or give a pleasant turn to acrid debate. Any one who was a guest of Chremylus considered himself fortunate, for they were chosen from the most refined society of Athens. And this was not the least of those occasions of jealousy of which the envious made a handle against the wealthy parvenu.

For this inauguration banquet the house had been decorated with care, and the gardens filled with flowers. The guests arrived in the afternoon, elegantly apparelled, and met beneath the first portico. There were ten of them; for Chremylus was of opinion that for the party to be a pleasant one this number should not be exceeded. They were no strangers to each other; and among them were two philosophers of high repute in Athens, a dramatic author, two archons, a celebrated painter, the architect, Epergos and Doxius. It was not the custom at that time for women to be present at banquets. Without keeping his



INTERIOR OF ATHENIAN HOUSE—FIG. 65

guests waiting, Chremylus, when he knew that they were assembled, came to receive them under the first portico, and introduced them into the second court, separated from the first by curtains woven in lively colors. This second court, also surrounded by porticos supported by Doric columns of white marble, more spacious than the first, afforded a view of the gardens and the city above them, through the colonnade at the further end. (See the plan, figure 64). Towards the extremity of the open part of the court was a marble fountain with its basin, diffusing an agreeable freshness (figure 65). The columns, finely fluted two-thirds of the way from the top, were colored red on the lower part, which was less smooth; while the marble of the upper part was slightly tinted with a very pale yellow, enriched with black and white ornamentation under the ovolo of the capital. The architrave, composed of pieces of cedar coupled together, was covered with a plaster coating as thin as an egg shell, and also colored yellow. The frieze was composed of triglyphs over each column—triglyphs which were only the ends of the beams supporting the joists of the ceiling of the porticos; and between them fillings in of thick planks of cedar covered with a delicately painted plaster coating. Next came the projecting cornice, likewise of wood, carrying the gutter made of colored terra cotta, which was pierced with several openings to let the rain water through, and which was surmounted by carved heads of animals. The triglyphs, painted in light blue, contrasted with the tints of the decorations near them, which were in red, black, and white, on a yellow ground.

The brilliancy of the sunlight and the azure of the sky wonderfully harmonized this light and transparent coloring, set off by the red and dark yellow background of the portico walls.

The guests did not fail to congratulate Chremylus and the architect; for they knew that the master of the house had a great esteem for him. "Yes," said Chremylus, "address your compliments to this good Eicos, for I have sometimes made him very angry . . . but he is so expensive! that is my excuse."

After they had admired the paintings of the small triclinium—representing young girls bringing offerings to the god Pan—and the refined beauty of the bronze couches, inlaid with silver, they repaired to the garden which Chremylus had improvised. He had had trenches sunk in the living rock and filled with vegetable soil. There flourished the orange and lemon tree, rose-trees and laurels, and a profusion of aromatic plants. Not only so; at great expense the master had had transplanted thither full-grown olives, fig-trees and plane-trees.

Small channels nicely hollowed out in marble distributed the water in every direction, and slaves were constantly engaged in keeping the walks and shrubs in order.

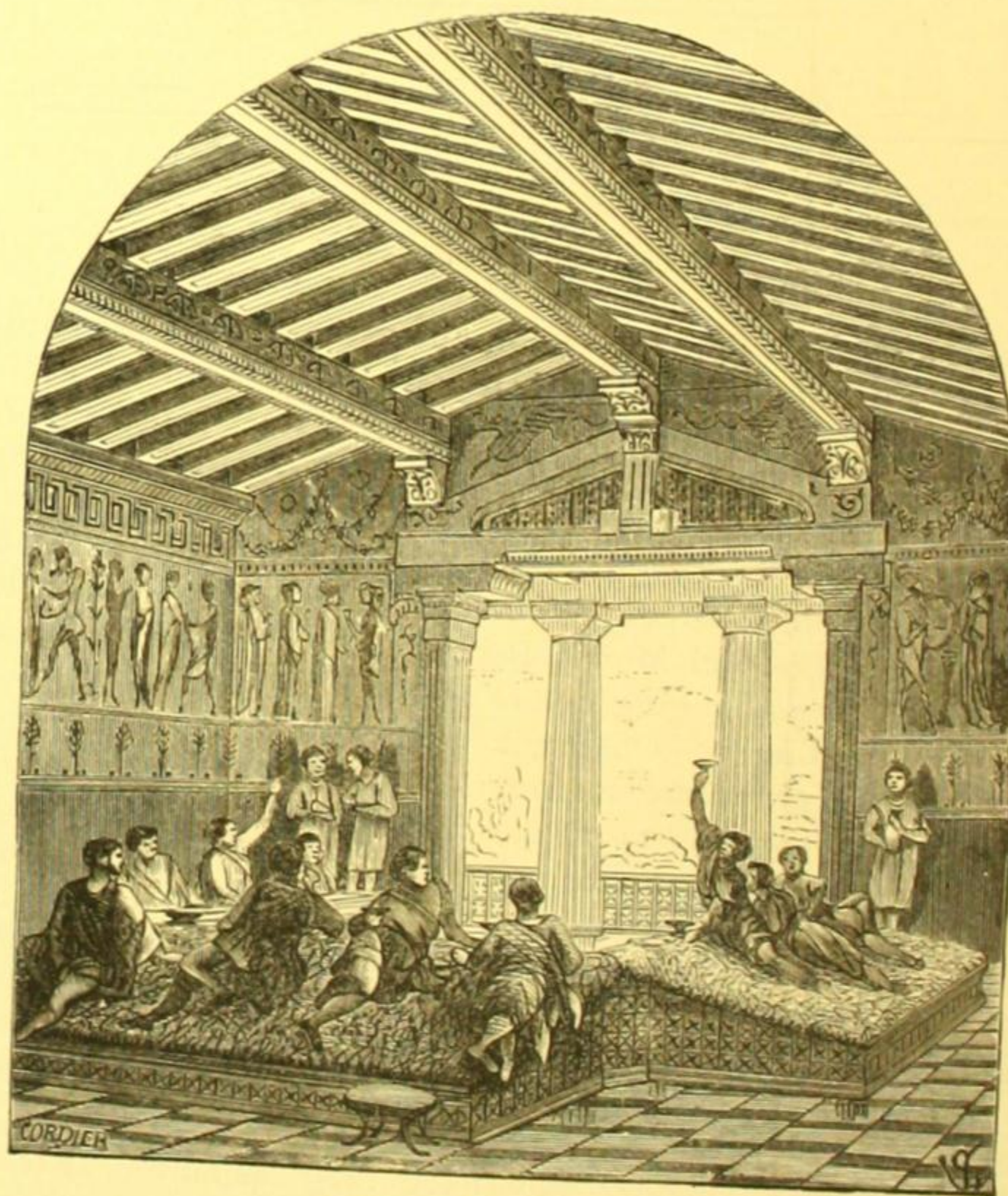
When the supper was ready, they repaired to the larger triclinium, where each took his place (figure 66). The viands and wines were immediately brought by young slaves, the best to be found in Athens: whilst two flute players, moving backwards and forwards in the gardens before the festive hall, filled the air with melodies now soft and slow, now lively and spirited.

Soon, thanks to the flagons of excellent Lesbian, the conversation became animated.

"I regard Athens as the queen of cities," said Epergos. "What is the magnificence of the Persians with its tedious ceremonial, compared to the liberty enjoyed here?"

"Licence," said Doxius.

"What," said Epergos, to provoke his companion, "are those Egyptian banquets amid which a coffin is carried about—to induce the guests (say the inhabitants of Memphis) to be more eager in the enjoyment of the good things of earth—and during which all the talk



THE LARGE TRICLINIUM.—FIG. 66

is of bags of wheat and flocks of geese, compared with these social gatherings, in which one can scarcely say which is to be preferred, the good cheer or the conversation? Boy! give me some more of that partridge stewed in the lees of old wine—'tis a dish fit for the gods!"

"By Bacchus," said Doxius, "take care of thy wits, Epergos."

"Nonsense, Doxius! my ideas are as clear as this air which allows us to see from this spot the sentinels on the ramparts of the Acropolis."

"But," said he, addressing the architect, "tell us, Eicos, since thou wert in the humor for doing everything in the very best manner, why didst not thou make the entablatures of the porticos under which we were just walking, of marble?"

"Why!" replied Eicos, "Chremylus considered that even in building columns in marble I was spending too much money—in fact, ruining him."

"Yet, in your temples," continued Epergos, "among all the Dorians, you put entablatures of stone upon columns of the same material; and these entablatures do not differ sensibly in appearance from those which thou hast made here of wood. Is it logically consistent to give similar forms to architectural members made of different materials? Among the Medes and in Ionia, I observed that the materials employed dictated the form adopted in the architecture. Understand me; I am not finding fault with thy porticos, which are admirable; but I should be glad to hear what thou hast to say on the subject."

"Thou knowest more about the matter than I do, Epergos; but thou wishest to make me talk; the question is a complicated one, however, and I am afraid I should tire you."

"By no means," said the guests, "there is always something good to be got from a discussion between clever people; go on therefore."

"Let me have a tablet, then, Chremylus; for I cannot explain myself without the help of a drawing."

One of the slaves having brought one of those boards painted white, on which merchants reckon up their accounts; and a piece of

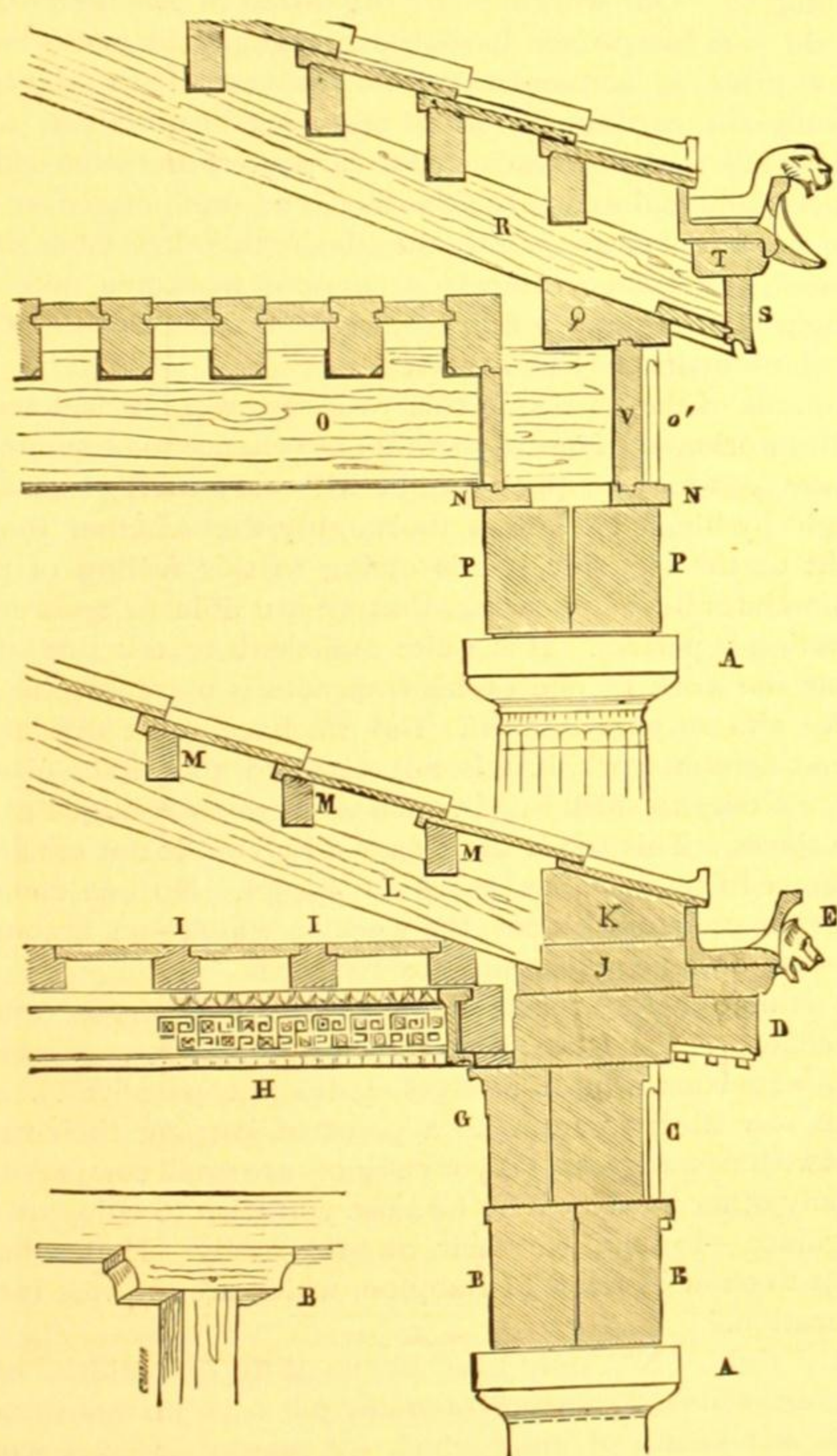
ture. Epergos, who has seen so much of the world, is more fully informed respecting this fact than I am. Some assert that the buildings of the Dorians in early times were originally constructed of wood, and that the forms of the order adopted by them are only a tradition of those early structures. For myself, I do not believe anything of the kind; for what I have seen on the coasts of Asia, where they still continued to build almost entirely in wood a short time ago, does not resemble the style in which we formerly built here. I maintain, on the contrary, that the necessity under which the Dorians lay of employing stone in the countries where they settled—countries which are not rich in timber—dictated the forms of certain important parts of the order originated by them. Thus, for example, it is evident that the form A of the Doric capital could not be given to a capital in wood. If a cap of wood is to be placed on a post to support a beam, and to relieve it, its section would be as I have drawn at B; and in fact those who have visited Lycia and Caria may have seen wooden capitals of this form, and imitations of them in stone, preserving that form. To decorate the extremities of the capital, they have sculptured volutes upon them; and it is to them we must look for the origin of the Ionic capital. But it is very evident that the Doric capital, with its round columns and its square abacus, has no relation to the form that would be given to a piece of wood.

"That in early times they should often have made architraves of wood, such as we still make in our private buildings, is perfectly natural. Nevertheless, you will observe that the intercolumniations of the Doric order, in our oldest monuments, are very narrow; and that the reason of their being so was that too great a bearing should not be given to lintels or architraves of stone. If these architraves had been made of wood, the columns need not have been brought so close together, nor so great a projection given to the echini of the capitals; and we see distinctly that the further we go back to antiquity, the greater is the projection of these Doric capitals beyond the shaft of the column, in order as far as possible to relieve the architraves, which were then cut for the most part from stone of no great tenacity; whereas, as soon as they employed harder stones, such as marble, they enlarged the intercolumniations, and diminished the projection of the echinus of the capital. Moreover, if we employ neither stone nor marble for architraves, but wood, we make the intercolumniations wider, as you have seen here in the courts.

"Next let us pass to the frieze. Some have, in like manner, asserted that the triglyphs which usually decorate the frieze in the Doric order represent the ends of the wooden joists which originally rested on the architrave: no conclusion is more unwarranted. In the first place, in our most ancient Doric edifices there are triglyphs in the frieze under the pediments, as there are in the lateral friezes. Now if the joists had their bearings upon the lateral architraves, they could not at the same time bear upon the architraves in front; and therefore their ends would not be visible there. It will be said that we have here an imitation—a tradition; I believe it is nothing of the kind. I appeal again to our most ancient buildings. In them we often observe that the triglyphs are stone blocks supporting the cornice, perpendicularly above each column, over the middle of the intercolumniation and the angles; while the metopes—that is to say, the spaces left between these triglyphs—remain void.

"The cornice, on the other hand, is evidently the consequence of the projection of the roof timbers; consequently its form must have been partly suggested by the predominance of wood in the construction. But it must be said that this original form was especially appropriated to the employment of stone, and that for a very considerable time. But—and it is in this that the Athenians show the versatility of their genius—without belying the forms which the material ought to dictate, a Doric entablature may be composed as well with timber as with stone, a few details excepted; and these two drawings will prove it.

"Let us first take the structure in stone: on the capital A architraves B are laid,—in two parts; for if one of the stones is imperfect, there is a chance that the other may not be so. These architraves bear from one column to another, the joints being perpendicular to the centres of these columns. But then, as I was saying, the intercolumniation must be narrow enough to prevent these stone architraves from having too long a bearing. Therefore, if we employ



THE DORIC ORDER.—FIG. 67

black stone, Eicos drew in a few minutes the two diagrams (figure 67); then, having given the board to the slave to hold, so that every one could see it, he spoke thus: "Those who have reflected on the architecture adopted by the Dorians, perhaps know from what a variety of sources they have derived the elements of their architec-

this material, we do not allow more than two diameters (taken half-way down the column) between them, whereas if we adopt a wooden entablature these intercolumniations may be much wider. Next, the architraves being in place, we put over each column and in the middle of each intercolumniation, a block of stone, to which the name of triglyph is given, because it is usual to cut three vertical grooves on the exterior face of these blocks, to express their function as supports. For you will observe that when we desire to give an appearance of rigidity to a stile or vertical support—the columns, for example—we repeat the vertical line by flutings, lines, or grooves; this is a matter relating to art. On these triglyphs which thus form so many little piers on the architrave, the cornice *D* is placed, whose projection and profile remove the gutters *E* from the faces of the work beneath.

"This done, we may fill-in or leave void the spaces between the triglyphs; and put at the back a course *G*, whose projection receives the ceiling of wood *H*, composed of small beams which are covered with paintings or terra cotta,—beams which carry the joists *I*, between which are placed panels of glazed terra cotta, or of wood. The cornice receives the courses of stone *J K*, on which rest the rafters *L* of the roofing. Upon these rafters are notched the small purlins *M*, which serve to carry the tiles, and hinder them from slipping. You observe that this structure is very simple, that each part serves a purpose, and that while nothing is deficient, there is not a single member which could be suppressed as useless. It is evident, therefore, that everything here has been combined in rational conformity with the nature of the material employed, namely, stone.

"Is it desired to construct with wood, for economy, or because we want wide intercolumniations and a slighter structure? On the capital *A*, of stone or marble, we put the two girders *P* of wood, which form the architrave, then the two listel plates *N*; over each column we put the beam *O*, whose end *Q* forms a triglyph or support for the cornice. Upon these triglyphs we place the plate *Q*, receiving the rafters *R*, which, overhanging, form a projection, and receive at their extremity a board *S*, forming a front of the eaves-drip, an upper plate *T*, to receive the gutters of terra cotta, and the upper part of the drip. Between the triglyphs—which, in this case, only show over the columns and not between them—may be inserted the planks *V*, composing the frieze. It is in this manner that the entablature of the portico in the great court of this house has been made. (See figure 65.) The timbers, being all in the free air, and with spaces invariably left between them, cannot ferment or decay. Here, as in the stone structure, there is not a useless piece. The wooden girders are relieved in their bearing, and serve no other purpose than to stay the columns. As these timbers are carefully painted, protected from the wet, and ventilated, they may last for centuries.

"You see, therefore, that the form given to the entablature of the Doric order, can be adapted, with some unimportant variations, to a structure in stone as well as to one in wood; in neither case involving the necessity of falsifying the form or the structure. I will not dissemble the circumstance that some architects combine the two methods, especially in Magna Græcia, where I have been able to ascertain the fact for myself; that is, they do not hesitate to lay friezes and courses of stone upon architraves of wood; but this is reprehensible, and is considered bad architecture. Wood, which is elastic, light, and compressible, crosswise of the grain, cannot be suitable for bearing stone which is compact, inelastic and heavy.

"I say again: it is scarcely admissible that a wooden structure suggested the stone structure in the composition of the Doric order; indeed I should rather suppose the converse; especially since the farther we go back into antiquity the more the entablatures of the Doric order deviate from the style of a structure in wood, to conform to that dictated by the use of stone. Still it must be acknowledged that our architects have been able skilfully to adapt the form to the structure in both cases."

"By Athene!" said Chremylus, "Eicos shows us that he understands his art! fill his cup, he must be thirsty; I do not regret having got him to put wooden entablatures on the columns of my porticos, since he demonstrates so ably that they are in place there. But,—the rogue! he did not tell me all this when we were talking about putting them up; indeed he assured me that it was a shame to put these painted timbers on columns of marble!"

"It would evidently have been better to complete them with marble," replied Eicos.

"Yes, certainly; but could you protect me against the informers who were beginning to croak like frogs after rain, when they saw these marble columns carted here? And what would they have said if, after the columns, the ox-teams had brought the entablatures of marble!"

"Allow me to ask thee one more question," said Epergos. "I saw among the Medes, and formerly in Assyria, as also among the Tyrrhenians and even the Etruscans, vaultings made of brick, unburnt or burnt, and likewise of stone; and here I have often recommended this kind of construction, which has the advantage of protecting buildings from fire, and preserving the interior effectually from heat and cold. Now both the Hellenes and the Dorians of Sicily and of Magna Græcia have often seen vaultings among the neighboring peoples; why do they decline to adopt them?"

"There are two principal reasons why they do not," replied Eicos; "the first, that the Greeks do not like to adopt the methods of barbarians; or, if they do adopt them, it is with very considerable modifications. The second is that Greek artisans make a point of doing honor to their labor, and that vaultings require a coarse kind of toil which is not to their taste. Whether they are built of brick or of stone, recourse must be had to a great combination of appliances, and a multitude of workmen, thick walls must be built, the vaults must be turned, and the haunches filled in. Now thou must observe that we do not use lime or mortar in our masonry, as is the custom in Media and in Egypt, but only to make plastering; and vaults cannot be built without mortar. We might certainly compel slaves to perform this work, which requires more sweat than intelligence, but we are averse to doing so. Our workmen are organized in jealous corporations, who do not like to see barbarians engaged in works which they take a pride in accomplishing themselves. Thus slaves are employed only for carting, for work requiring brute force, or for bringing materials to the grounds. Our carpenters and stone-cutters, our sculpturers and painters, are free men, endowed moreover with an excessive amount of *amour-propre*: they desire that their labor should be appreciated, and I have often seen common workmen take their friends along a building newly finished, to show them the stones they had cut, or the timbers they had framed.

"The capitals of the portico in this residence were turned and cut by four skilful workmen; if one of them should chance to be summoned into the house, you may be quite sure he will cast a loving look at the parts wrought by him. He knows thoroughly well whether they are on the right or the left side. It is owing to this feeling of pride, which is sometimes beyond bearing, that we are able to secure work whose execution is perfect. It is quite sufficient to tell one of our artisans that the work of one of his comrades is more careful than his, to make him surpass himself. But we have great difficulty in getting even tolerable work, if it is not destined to attract observation; every one tries to shirk it. In such cases we are obliged to have recourse to slaves. This too is the reason why you do not see among us enormous edifices such as those of Egypt. No one could be found to cut the crowning stones, the work in which—on account of the height—can only be appreciated by the birds."

"There is matter for reflection here," said Epergos, after a moment's silence. . . . "I see how the matter stands . . . and this explains antagonisms whose motives I did not perceive . . . You love the arts so well that you make a point of keeping their various expressions within easy grasp. If your edifices are small compared with those of many other nations, it is because you wish to enjoy all their parts at a glance,—to embrace their *ensemble* easily. Hellas has no such palaces to show as those of Babylon, which are too vast for one day's exploration."

"You are right. Not only have we no taste for edifices of too vast a size, and which, consisting of many parts in juxtaposition, do not possess that stamp of unity which we require in every work of art; but thou wilt observe that the Greeks, in contradistinction to other nations, avoid a multiplicity of architectural features in their buildings. Whether it be a temple, a public building, or a private house, moderation is the supreme law; and it is rather by the judicious arrangement of the structure and the study of the proportions that these edifices seek to please, than by the profusion of the

ornaments and the accumulation of those striking details which gratify barbarians. It must not be forgotten that we are a free people, jealous and sensitive to excess; inclined to criticism, and sparing of expense. Citizens, therefore, who are so fortunate as to possess large property, must be careful not to make a public display of it, and not offend the democratic sentiments of the nation by a show of luxury. Athens has many citizens, like our host, who might make a display of their riches; but what purpose would that serve except to excite envy and malevolent suspicions? A stranger passing through the streets of Athens might suppose that all its inhabitants lived in dwellings nearly equal in style. To mention only one example, the house of Clito, which is next to this, presents to the public road an entrance greatly resembling that of Chremylus. Yet Clito is a poor fellow who lives on chick peas. The dwellings of the Athenians are distinguished from each other only by the luxury or poverty of the interiors, into which intimate friends alone are admitted. Besides, we have not the resources either in gold or labor, which the kings of Egypt and Persia can command; we have not armies of slaves or a plebs subservient to our orders; it would be impossible for us to equal or to surpass in extent or riches the public monuments of those countries. It is, therefore, in beauty and excellence of form that the Greeks have attained that superiority which is conceded to them in works of art.

"But what dost thou say about the use of numbers, of which the Egyptians are so fond?"

"In that department the Egyptians have been our teachers; and historical traditions agree in affirming that we have derived from them the methods in use among us for a long time past."

"And so you make use of these methods in the design of your buildings?"

"Certainly, they are prescribed in our schools. The Doric order, for example, which plays so important a part in most of our structures, is subjected to rules determined by certain numerical relations. Not only, however, should I weary you by going into details on the subject, but these are mysteries which our corporations do not allow us to reveal to the uninitiated."

"Thou art very coy with thy mysteries, Eicos," said one of the philosophers; "everybody knows them or may know them by measuring a building; it is easy enough, then, to discover these numerical relations."

"It is not so easy as thou thinkest," replied Eicos; "for it is necessary first to know at what points these relations are determined. Thus, for example, thou art aware that a shaft of a column is wider at its base than under the echinus of the capital. Well, then! if the height of the column is to be a certain multiple of its diameter, is it at the foot, the middle, at the upper end, or at the third or fourth part of the shaft that thou wilt take this diameter or modulus?—tell me! Thou canst not answer. . . . If, moreover, I add that in certain cases the modulus will be taken at the base, and in others at the middle or at a third of the height of the shaft, how couldst thou discover the method adopted by the architect of such a building? At any rate, what tedious experiments must be undertaken to solve the questions! Thou hast no little difficulty in learning the character of a child, who in his simplicity does not hide from thee his thoughts, who is like an open scroll before thee, who obeys all his instincts, and who is always near thee. Thou believest him to be gentle and affectionate; but some day thou discoverest that he is cruel, and that his supposed gentleness is hypocrisy. Thou thoughtest him irritable, yet on a certain occasion he surprised thee by his patience. . . . And yet thou wouldst presume to find out measure in hand, how a building has been designed, which is perfectly silent, which neither feels nor manifests any sentiment, but which, in every part of its plan, contains the calculations, the thoughts and sentiments, of a man whom perhaps thou hast never seen!"

"Bravo! Eicos!" said Chremylus; "crush this philosopher who presumes to discover the mysteries of thy art! A crown for the victorious Eicos!"

"Stop a moment! I have not yet answered our architect, who, like his brethren, pretends to make his art the sanctuary of the most formidable mysteries—the centre of the most exalted intellectual emanations. What dost thou say, Eicos, to this Thessalian apple?"

"It is beautiful, assuredly, with its carmine skin of that brilliant

tint which glows in the cheeks of our country girls when they quicken their steps to be early in the market."

"Good! Thou wilt admit that this fruit is wonderfully adapted to satisfy the taste, the smell, the sight, and the touch; that it is well proportioned as a whole and in its parts? Now what produced this luxurious pulp so fairly enveloped?"

"An apple-tree, probably."

"Very good; but dost thou think that the apple-tree knowingly calculated the relation of the diameter of this apple, the tension of its soft and shining skin, the number and arrangement of its pips?"

"Wouldst thou, then, conclude by comparing me to an apple-tree?"

"Why not? You architects erect buildings which charm us because you have been planted, cultivated, and grafted to that end; as a plum-tree to produce plums, a doctor to prepare drugs, and an armorer to make arms. All of you are only intermediate agents of a superior intelligence; and if thy productions are better than those of any of thy brethren, it is that thou hast been planted, cultivated, and grafted. But if the apple tree were to presume to be vain of the apples it produced, we should laugh in its branches."

"An admirable conclusion!" said Epergos smiling; "so Eicos and all of us who think, act, and produce, are only unconscious organisms."

"How dost thou know," continued the philosopher, "that vegetables are unconscious? Thou seest, or thinkest thou seest, as Distasis said, that they do not move,—thou dost not hear their voice, what does that prove? At most only the imperfection of thy understanding. The Soul of the World resides in all things; it is equal in value everywhere, only it manifests itself indifferent ways; the living being itself is only a fragile envelope with which it is pleased to clothe itself in order to attain an end."

"And what is that end?" objected Distasis.

"Well! it is Life—the perpetuity of life; that is something, I fancy! That portion of the Soul of the World which is assigned to each being, returns when we are dead to the common reservoir, to be anew employed, as needed and according to its quality; for we may have made that portion worse or better than it was when it was confided to us. . . . When I say, *we*, I mean the apple tree as well as man, the dog, and the rat."

"Eicos is an excellent architect; he acknowledges that from his birth to this day he has been engaged in acquiring the talent which charmed us. But who will assure us that the modicum of the world's soul with which our friend Eicos is endowed, did not begin by occupying the body of a bee, which by superior industry distinguished itself among its kind, and made cells more regular than were those of its companions? Does a bee know what a hexagon is? And why does it always make hexagonal cells?"

"Eicos talks to us now of mysteries in which architects are initiated, of the laws of numbers, and of geometric figures. It is my opinion that those laws were made to fit the facts; as if the bee were now to amuse itself by describing the properties of the hexagon, and how it is composed of six equilateral triangles joined at the apexes. I discern the Soul of the World in the work of the bee, as I discern it in every work of art and in every product of nature. Distasis believes himself alone to be the intelligence that evokes a world which does not really exist; for myself, I see that intelligence everywhere, perpetuating life within matter which exists, but which would be inert without it. And to return to our starting-point, I will put a question to my friend Eicos, if he will allow me."

"By all means."

"Did man invent numbers, or did numbers exist before man? Did man invent the circle, or did the circle exist before man?"

"Numbers," replied Eicos, "exist as geometry exists; all that man has done is to take cognizance of the former and to apply the other to his requirements, arts, and industrial occupations."

"Good: then if numbers and geometry existed, the deductions from numerical and geometrical relations existed also; for the number twelve was divisible by two, by three, and by four without man's being wanted to demonstrate the fact; therefore all the laws of harmony in numbers existed; and what your architects regard as mysteries, are only borrowings from a common treasury by those fractions of the Soul of the World which occupy your architects' bodies."

"These are subtleties about which I do not concern myself," returned Eicos. "What I can say is, that the modicum of the Soul of the World* which has fallen to my share has sometimes great trouble in getting out of difficulties, when by the aid of the means afforded us I have to satisfy the caprices of my clients, and my own conceptions of what should be done. I do not think that the apple tree or even the bees can have these anxieties. I do not, however, the less thank thee for having assigned as my origin the body of one of those deft little workers of Hymettus; for it was not a very pleasant idea that I began life in the trunk of an apple tree. But by Bacchus! I am dying of thirst: give me something to drink!"

Thus passing from one subject to another, the conversation, now serious, now humorous, was prolonged till sunset. Then the guests went into the garden to breathe the cool and fragrant evening air. At night, each of them preceded by a slave carrying a lantern, returned to his abode.

"A choice set of maniacs!" said Doxius to his companion, when they were alone in the street.

"Yes," replied Epergos—"beings with a mania for ideas, a mania for discussion, a mania for investigation, a mania for criticism and for the examination of everything. It is a noble frenzy, by all the gods; thy Persians do not turn up as many ideas in a whole year, through all the city of Babylon, as have been brought under discussion this evening at our friend Chremylus's."

"Assuredly; and they would have the good sense not to suffer it."

"So thou thinkest."

"Certainly! is there a single community of men that could make head against this torrent of extravagances, this liberty of saying anything, and discussing everything, unless the magistrates of their state did their best to repress such intellectual licence?"

"Nonsense, Doxius! this people, with its small territory, and its city equal at most to one of the quarters of Babylon, will live longer in the memory of men than all thy Persians and Egyptians put together."

"Yes, it may be so,—to pervert their minds, and turn them away from wisdom. What are these philosophers, so highly esteemed in Athens, who have no regard for the gods, or for hallowed traditions, and who are continually calling in question eternal truths and time-honored beliefs? They are spirits of darkness, destroyers . . ."

"Come," interrupted Epergos, "none of this antiquated nonsense for me! Thou hast been harping on this string for some thousands of years, yet the world of humanity, whose extinction thou art continually predicting, lives on, develops, and advances."

"It does advance, certainly—over a heap of ruins."

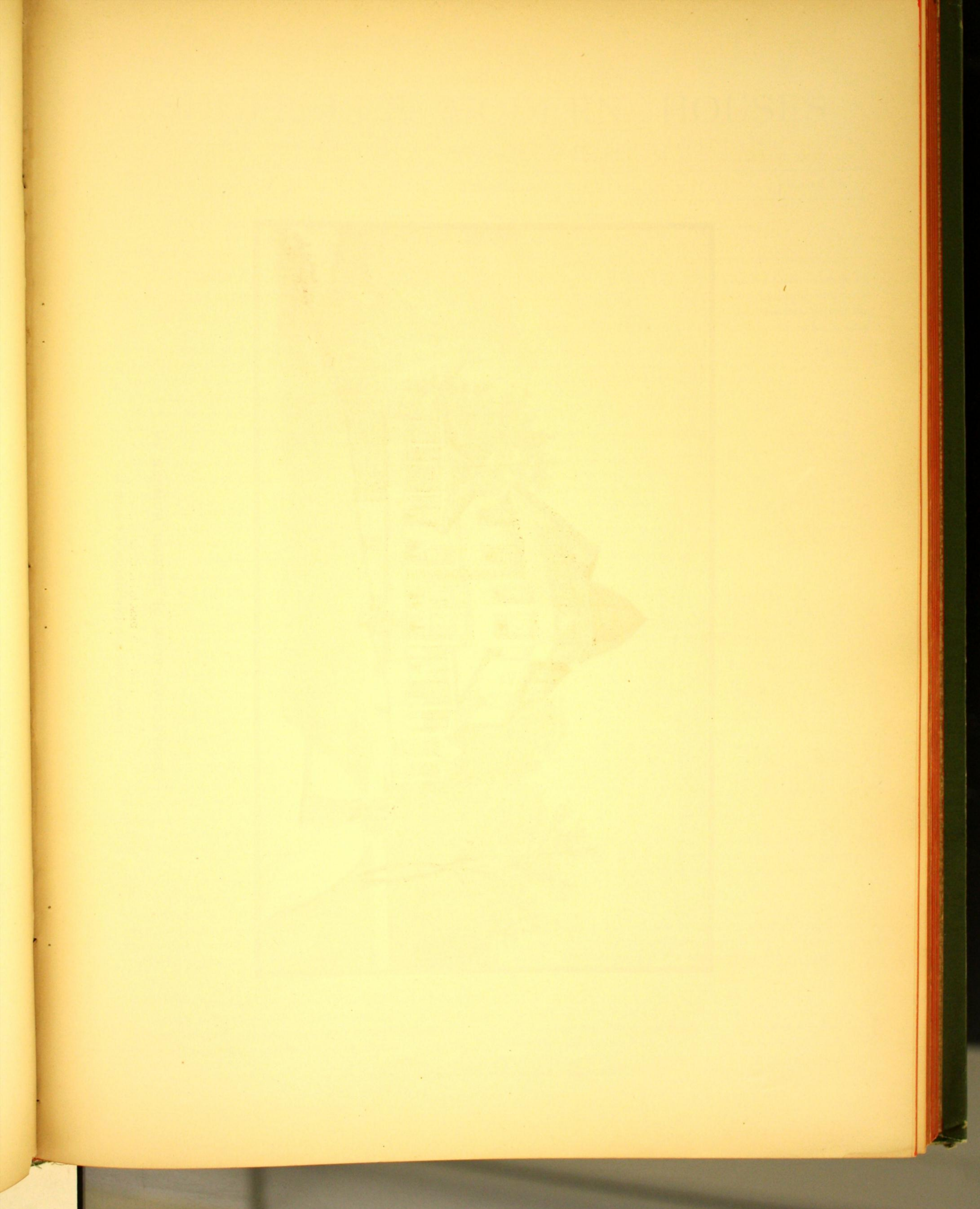
"But my good Doxius, does not the growing forest live on the deposits accumulated at the foot of young trees, and are they not vigorous in proportion to the age and thickness of those deposits?"

"That decay gives thee satisfaction, then?"

"No; but I turn my gaze to the vigorous shoots that issue from amidst it."

(TO BE CONTINUED.)







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SHOPPELL'S MODERN HOUSES

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MISCELLANEOUS NOTES

THE Co-operative Building Plan Association is *not* a Building Association; it neither loans nor asks the loan or deposit of money; it has no stock for sale. It is, as its name indicates, a Building *Plan* Association—an architectural business so organized that it supplies full architectural service at very reasonable rates to all who choose to patronize it. Our method of working is helpful from the start: We invite the intending builder to examine our publications (which are sold at very low prices, considering their cost and value), which contain views and plans of a large number of approved designs. From among these designs the intending builder generally finds *just what is wanted*, or what will suit him with some alterations; if not, they assist him to formulate his instructions for a special design.

When the intending builder decides what he wants, if it is a regular plan as described in the books, we supply him the working plans, specifications, etc., at a very low price—about *one-quarter* the usual charge by other architects; if he wants an alteration the charge is increased according to the additional work involved; if he wants a special design the charges are about the same as the schedule adopted by the American Institute of Architects.

Six years ago this business was an experiment. To-day it enjoys a larger patronage than any other architectural office in the world. No less than eight thousand houses have been built from its plans. The reason is that it supplies a necessity on the most accommodating terms.

WHILE this Quarterly contains more reading matter than most Architectural publications and is, therefore, interesting to the general reader, its first purpose is, as every reader sees, to secure clients for our Architectural services; and the greatest value that a reader can get from it is to become one of these clients or customers. As a very large business—so large that it will require all our energies to attend it—seems to be assured for the spring and summer of this year, we have concluded to announce that the next number will not be issued till July 1st.

THE costs given in this publication are the *actual* costs of structures, just such as will be secured by buying the materials and having the labor performed by days' work. If the owner prefers to contract the work, he must expect to pay the contractor a certain per centage for his time, labor and profit. Ten per cent. is regarded as low, fifteen per cent. as fair, and twenty per cent. as high.

THE "Reference List" printed on the inside cover pages of this number is no ordinary list; it represents people of character, means and influence, who have practically tested the advantages we offer, by building from our plans and specifications.

THE cost of structures given in this book are based on prices for materials and labor as given below. By comparing with prices which prevail in his own neighborhood, the intending builder can judge whether our estimates would run over or under, in his locality.

Excavation, per cubic yard, - - - - -	\$0.25
Rubble stone work laid up complete, all materials furnished by contractor, per perch of 25 cubic feet, - - - - -	4.25
Stone wall, double faced above grade, 25c per foot, or per perch, - - - - -	6.25
Brickwork laid in the wall, per M, - - - - -	15.00 to 16.00
Plastering, per yard, - - - - -	.30 to .35
Spruce timber, per M feet, - - - - -	20.00
Hemlock timber, per M feet, - - - - -	14.00
Hemlock sheathing boards, per M feet, - - - - -	15.00
Pine shingles, per M, - - - - -	4.50 to 5.00
Pine flooring, merchantable, per M feet, - - - - -	26.00
Clear pine clapboards, per M feet, - - - - -	25.00 to 30.00
Novelty siding, per M feet, - - - - -	30.00 to 35.00
Rosin sized building paper, per lb., - - - - -	.03
Clear pine trim, reeded or moulded $\frac{7}{8}$ x 5 in., per lineal foot, - - - - -	.03
Mouldings per sq. inch of section, per 100 lineal feet, - - - - -	.65
Turned pine corner blocks, each, - - - - -	.04
Moulded base, 8 in. high, $\frac{7}{8}$ in. thick, per lineal foot, - - - - -	.05
Glazed window sash, 2 ft. 7 in. x 5 ft. 6 in. x $1\frac{1}{2}$ in., two lights, per pair, - - - - -	2.00
Doors, four panels, moulded both sides, 2 ft. 8 in. x 7 ft. x $1\frac{1}{2}$ in., each, - - - - -	2.60
Blinds will average all around, per window, - - - - -	1.50
Tinning, per square of 100 square feet, - - - - -	6.00
Painting, including materials and labor, per square yard, each coat, - - - - -	.06
Carpenters' labor, per day, - - - - -	2.50 to 3.00
Masons' and plasterers', per day, - - - - -	3.00 to 3.50

THOSE who build from our working plans, specifications, &c., are entitled to the fullest and freest consultation or correspondence before commencing and during the progress of the work.

SHOPPELL'S Modern Houses, Nos. 1, 2, 3, 4 and 5 (Price, \$1 each) contain views, plans and descriptions of nearly 300 of our best designs. We advise their purchase by every intending builder.

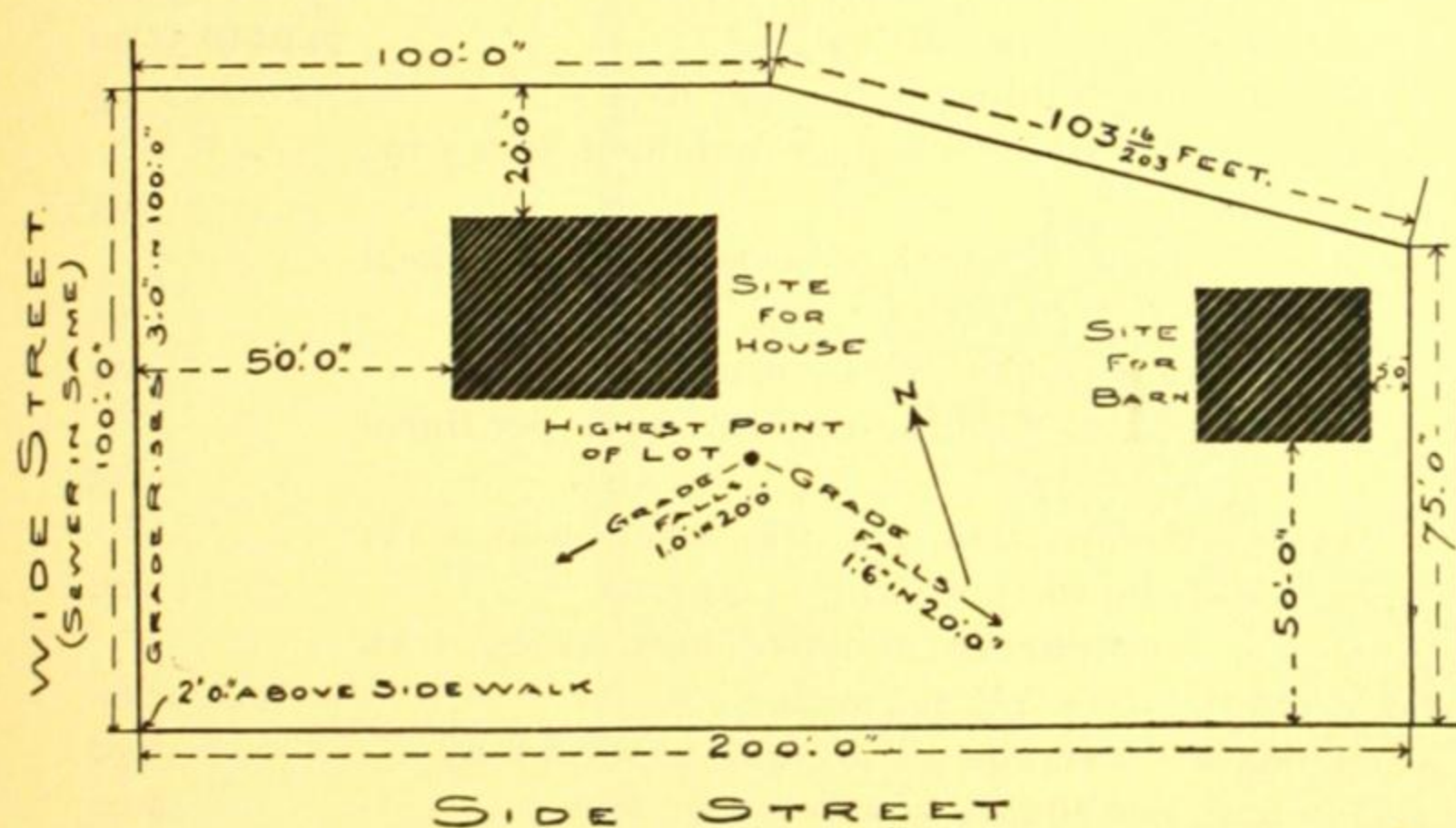
FIRST-CLASS firms only are admitted to this publication as advertisers. We respectfully ask our readers to read and note their announcements.

ABOUT SPECIAL DESIGNS

IF none of our designs, or alterations of them, suit the intending builder, we are glad to make special designs to meet their requirements, or work out and put in proper shape any rough drawings of their own.

Before ordering special designs, however, it is well to examine "Shoppell's Modern Houses," Nos. 1, 2, 3, 4 and 5, which contain views and plans of nearly three hundred modern houses. It may be that the design wanted, or nearly what is wanted, has been already worked out and that the client may avail himself of the price list for regular plans.

In ordering designs for special and original work the client should give us the following particulars: State the sum to be expended; give prices of material and labor prevailing in the neighborhood; is the construction to be of wood, brick or stone, and what material is preferred for foundation; what the building is to be used for; number of floors wanted, number of rooms on each floor, intended use of each room; height of stories in the clear; whether interior is to be finished in hard wood; what is required as to heating, hot and cold water, gas, bath, and water-closets; what is the water supply; can the drain be connected with a street sewer, or is a cess-pool required, and make a rough drawing, showing size, shape and grade of ground, direction of best view, like this, for example:



We have a printed blank embodying these questions which we send to those intending to order special plans. Send for one of these blanks if we do not send you one upon first correspondence.

Upon receipt of these particulars, we study the design and make preliminary sketches of the floor plans and elevations. These we send to the client for alterations, corrections and suggestions. When they are returned to us, we make the alterations suggested, so far as our judgment recommends, and send the sketches again to the client for his final approval, if necessary. Finally, when the sketches show just what is wanted, we make FULL WORKING PLANS, giving detail drawings for all exterior and interior work, and write up the SPECIFICATIONS. If requested, we prepare, also, a complete BILL OF QUANTITIES of all materials required for the building.

The following is our schedule of prices for new and original work. It supersedes all schedules issued prior to January 1, 1887.

Full Working Plans, including Detail Drawings and Specifications, for a building to cost \$2,000 or under, \$50.

Complete Bill of Quantities for the same, \$15.

Full Working Plans, with Detail Drawings and Specifications, for a building to cost over \$2,000, two and one-half per cent. of the cost of the work.

Complete Bill of Quantities for the same, one per cent. of the cost of the work.

Visits of inspection within twenty miles of New York, \$10. At a greater distance, as per agreement.

Consultation fee, \$10. This does not apply to simple inquiries as to change of prices, practicability of modifications, or any questions requiring but little time and consideration to answer. It does apply to interviews of considerable length, where the merits and practicability of new plans are fully discussed, and to correspondence that covers the same ground.

ABOUT ALTERATIONS

For altering plans we charge extra, but we cannot set a price for the same as we cannot tell how much work is involved until we know what the alterations are. Upon receiving a description of the alterations required, which should always be accompanied with a diagram, no matter how roughly drawn, we will make a price according to the amount of work involved.

It is much better for our clients and customers to order Working Plans, &c., of designs that suit them, or that nearly suit them, *without* alteration, if possible.

Small internal changes, such as shifting partitions to make rooms larger or smaller, adding closets, building fire-places in place of flues, &c., can be clearly indicated to the workmen by the owner himself, when the large Working Plans are spread out before them. Therefore, if the alterations are unimportant, the Working Plans and Specifications as per price list are quite sufficient. Only where the desired changes alter the external dimensions, and consequently the appearance of the elevations, is it really necessary to have us make the changes.

Be very sure that the alterations contemplated are really desirable. It may be when the Working Plans, Specifications, &c., are thoroughly studied that some or all of the alterations contemplated will not be considered for the best.

Again, be sure that the alterations contemplated are not already made and represented by some of the designs or modifications in our books. Thoroughly examine "Shoppell's Modern Houses," Nos. 1, 2, 3, 4 and 5.

In any case, the cost of alterations is not increased by first purchasing the regular plans as per list. In fact, the cost is apt to be less, as the client can then indicate very plainly, by pencil drawings on the scaled plans and by notes on the specifications exactly what changes are desired.

True economy for our clients is to avail themselves of the low prices charged for our regular plans. While work on Special Designs and Alterations necessarily brings greater fees and would seem to be an apparent advantage to this office, we believe that our true interests are identified with the most economical service we can render to our clients and customers.

WORKING PLANS, DETAILS, SPECIFICATIONS, &c.

See the opposite page for information about Alterations and Special Designs.

WITH those of little or no experience in architectural matters, there may be a feeling of disappointment that the full Working Plans, Specifications, &c., of each design are not given in this book. To such we would say that *really serviceable* Working Plans, full Specifications, &c., cannot be reduced to book and paper page size without losing much of their value. If so published they must be abridged somewhere, and the very parts left out may be those that would be of the greatest service. In our Working Plans the details are shown full size, and every item of information and instruction that may be needed is carefully given. It would require a work of more than one thousand pages of this size to give all the drawings, &c., of the designs in this book.

It is important, also, that the owner should be in direct correspondence with this office to have everything explained that he does not understand, and for advice during the progress of the work, if needed.

The observations below, also, are addressed to novices in these matters. Those who have once employed Working Plans, Specifications, &c., in building, need not be told how useful, indeed how indispensable they are; how they simplify everything and make the owner the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; *how they actually save money*, it being a well known fact that their use saves at least ten per cent. of the cost of construction.

It is self-evident that a contractor will figure lower when the request for an estimate is accompanied by full Drawings and Specifications; without them there are uncertainties which compel him to guard against loss by placing his figures high.

The Plans, Specifications, &c., we offer are unusually full, and we may add unusually reliable, as they have been proved by actual building. By the practical co-operation effected by our books we are enabled to supply them at *one-quarter* the rates usually charged by other architects.

WHAT WE SEND FOR EACH DESIGN.

WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale $\frac{1}{4}$ inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, &c., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, &c.

SUPPLEMENT SHEET, containing drawings and descriptions of three approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

ADVISORY LETTER about making contracts, arrangement of payments, protection against liens, &c.

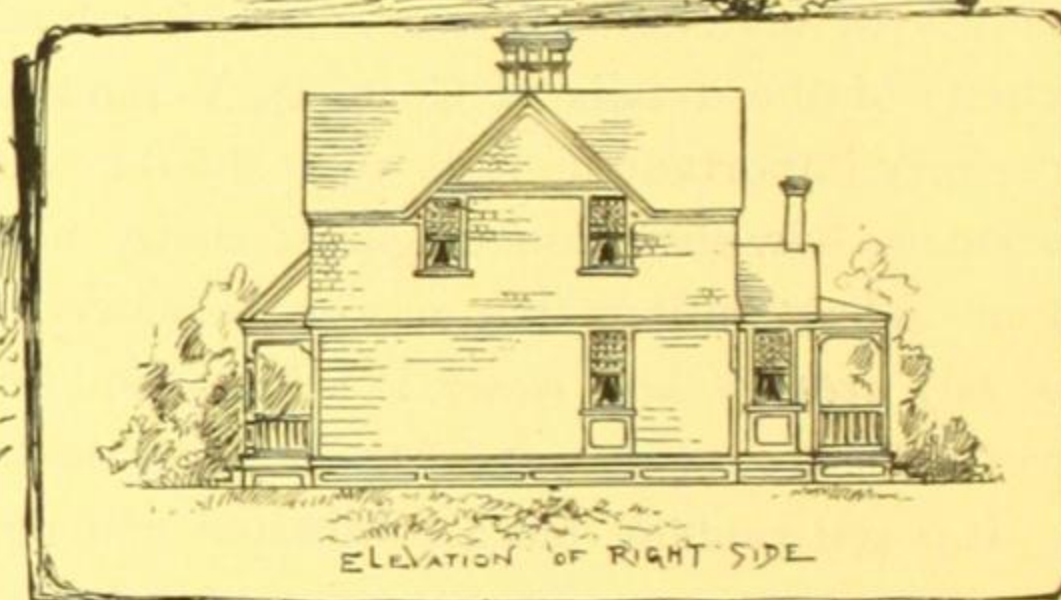
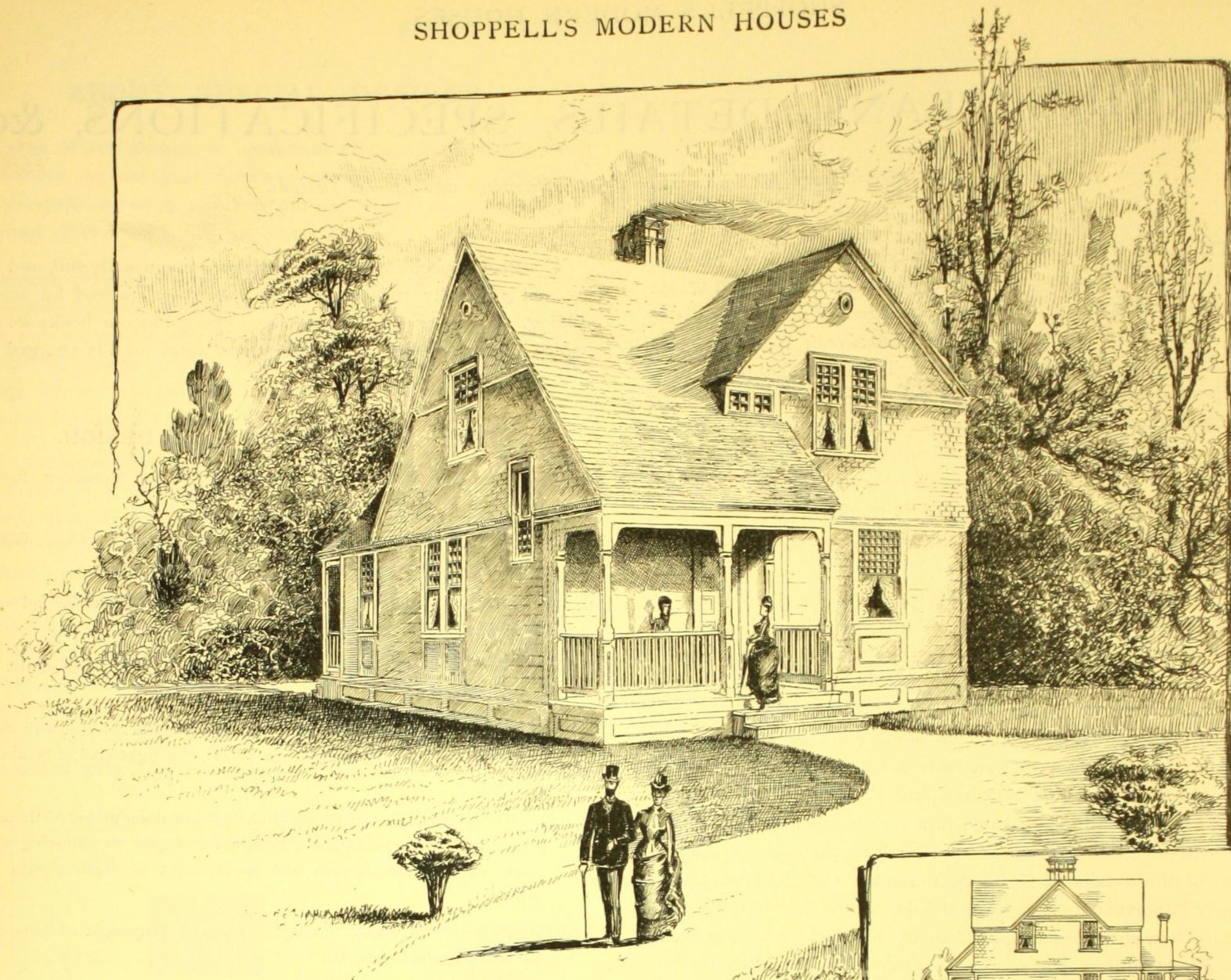
BLANK CONTRACTS, ready for use.

The reliability and thoroughness of our work is attested by hundreds who have built from our Drawings and Specifications. Please see "References by Permission," on the inside cover pages of this book.

PRICE LIST OF PLANS, SPECIFICATIONS, ETC.

UPON receipt of price annexed we will send by mail or express, charges prepaid, the Working Plans, Specifications, Detail Drawings, Bill of Quantities, Color Sheet, Supplement Sheet, Advisory Letter and Building Contracts for any of the designs mentioned below. Remit to The Co-operative Building Plan Association, 191 Broadway (P. O. Box 2702), New York City, N. Y. If preferred, we will send C. O. D.

No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.	No.	Price for Working Plans, &c.
423.	\$20.00	436.	\$35.00	449.	\$40.00	463.	\$90.00
424.	20.00	437.	35.00	450.	35.00	464.	90.00
424a.	18.00	438.	35.00	451.	40.00	465.	100.00
425.	20.00	439.	40.00	452.	35.00	466.	150.00
426.	20.00	440.	35.00	453.	40.00	467.	125.00
427.	20.00	441.	50.00	454.	45.00	468.	140.00
428.	22.00	442.	35.00	455.	50.00	469.	75.00
429.	20.00	443. For Corner House,	35.00	456.	40.00	470.	115.00
430.	20.00	443. " Inside "	35.00	457.	45.00	471.	250.00
431.	30.00	444.	35.00	458.	60.00	472.	20.00
432.	25.00	445.	40.00	459.	65.00	473.	15.00
433.	30.00	446.	45.00	460.	60.00	474.	20.00
434.	25.00	447.	35.00	461.	65.00	475.	30.00
435.	30.00	448.	50.00	462.	65.00	476.	35.00



DESIGN No. 423. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 423

SIZE OF STRUCTURE: Front, 28 ft. Side, 32 ft., 8 in., not including verandas.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,200, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

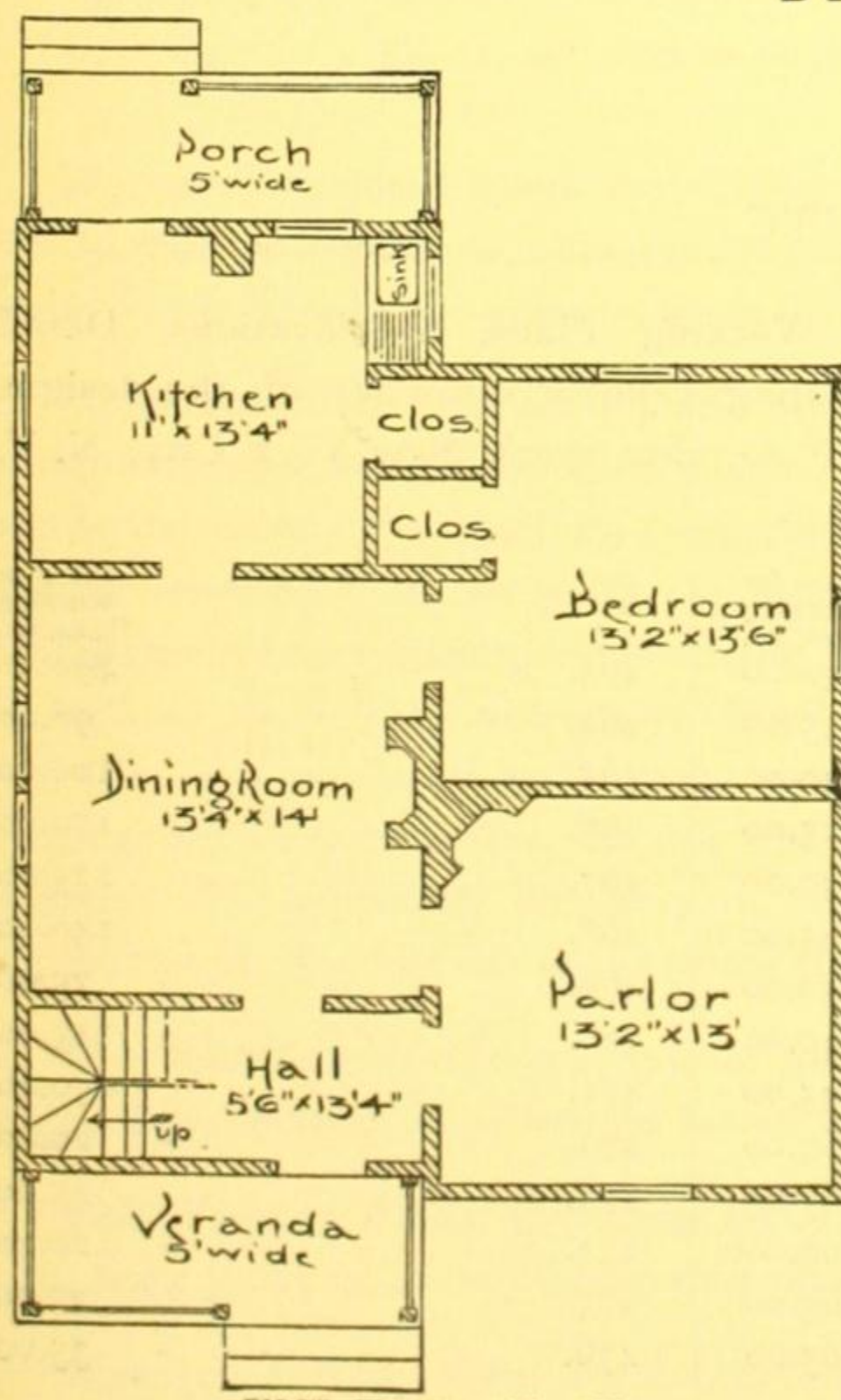
NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

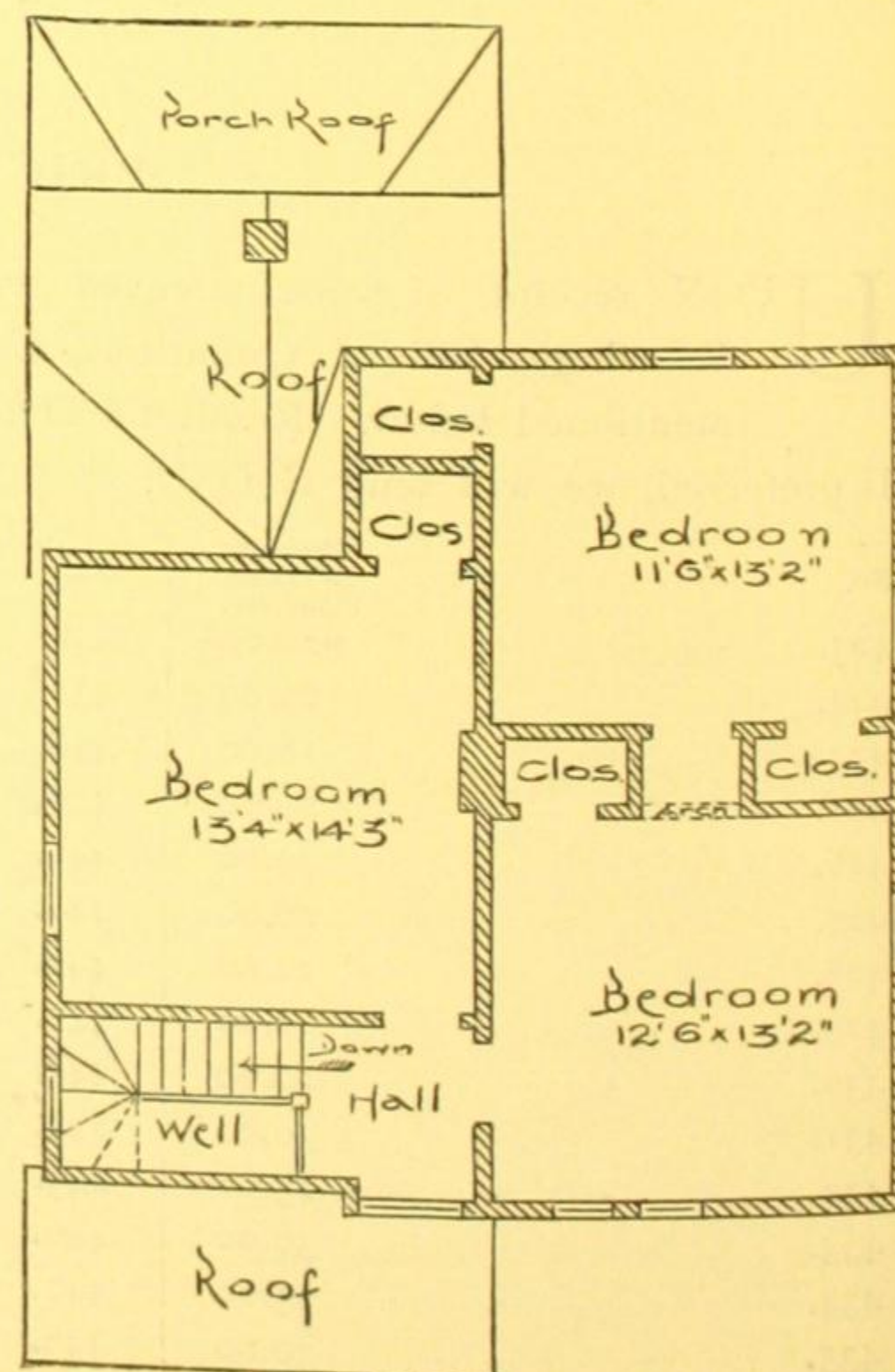
SPECIAL FEATURES.—Open fire-places in the parlor and in the dining-room.

The bedroom on ground floor can be connected with the parlor and used as a library or a sitting-room, if not required as a bedroom.

No cellar. The addition of a cellar, with stone walls, would cost about \$175.



FIRST FLOOR. NO. 423



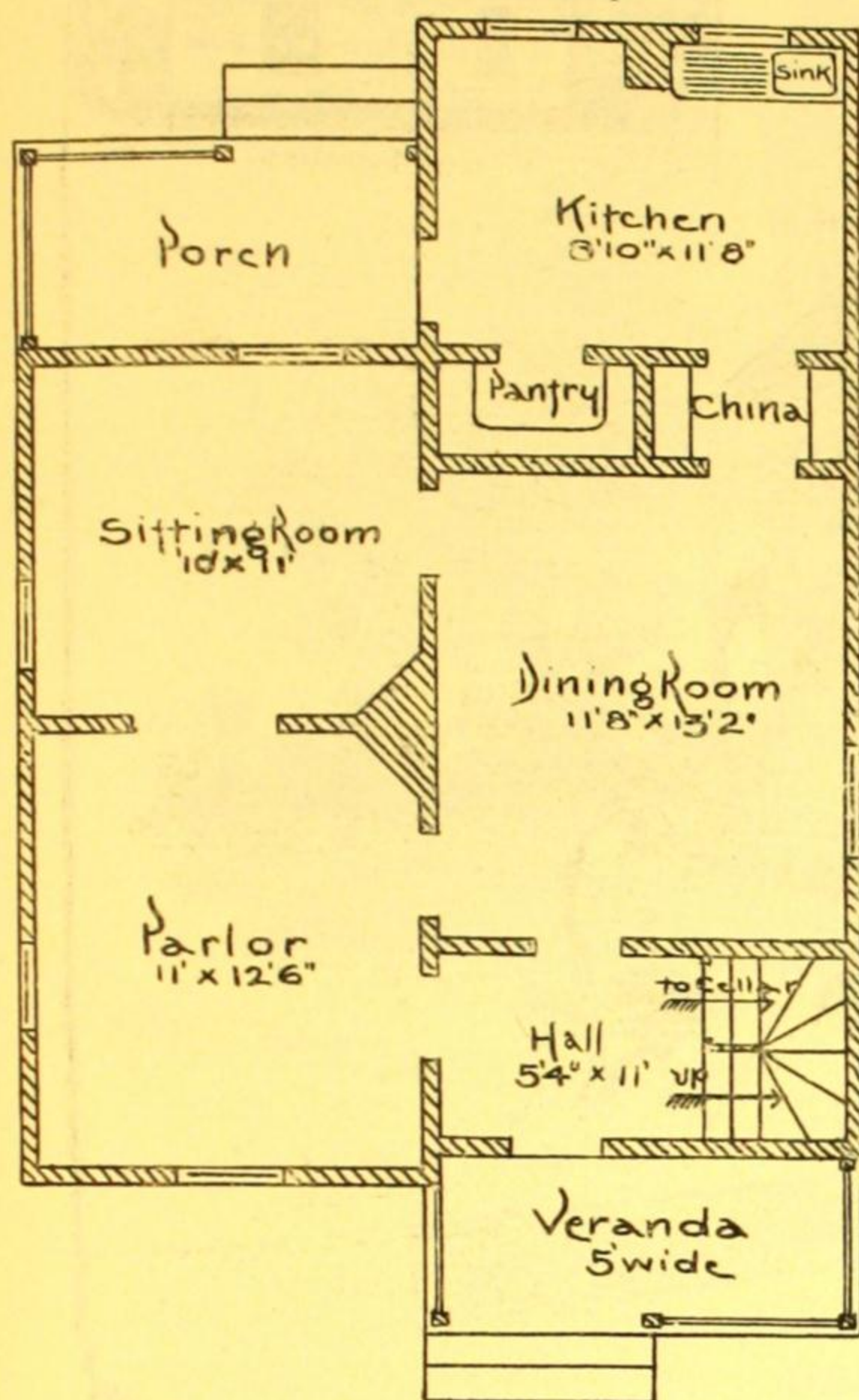
SECOND FLOOR. NO. 423

DESCRIPTION OF DESIGN NUMBER 424

THE EXTERIOR APPEARANCE IS SIMILAR TO THAT OF THE PRECEDING DESIGN, NUMBER 423

SIZE OF STRUCTURE. Front, 24 ft., 2 in. Side, not including front porch, 33 ft.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 424

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 7 ft., 6 in.

MATERIALS: Foundation, brick walls; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,300, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other locali-

ties and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

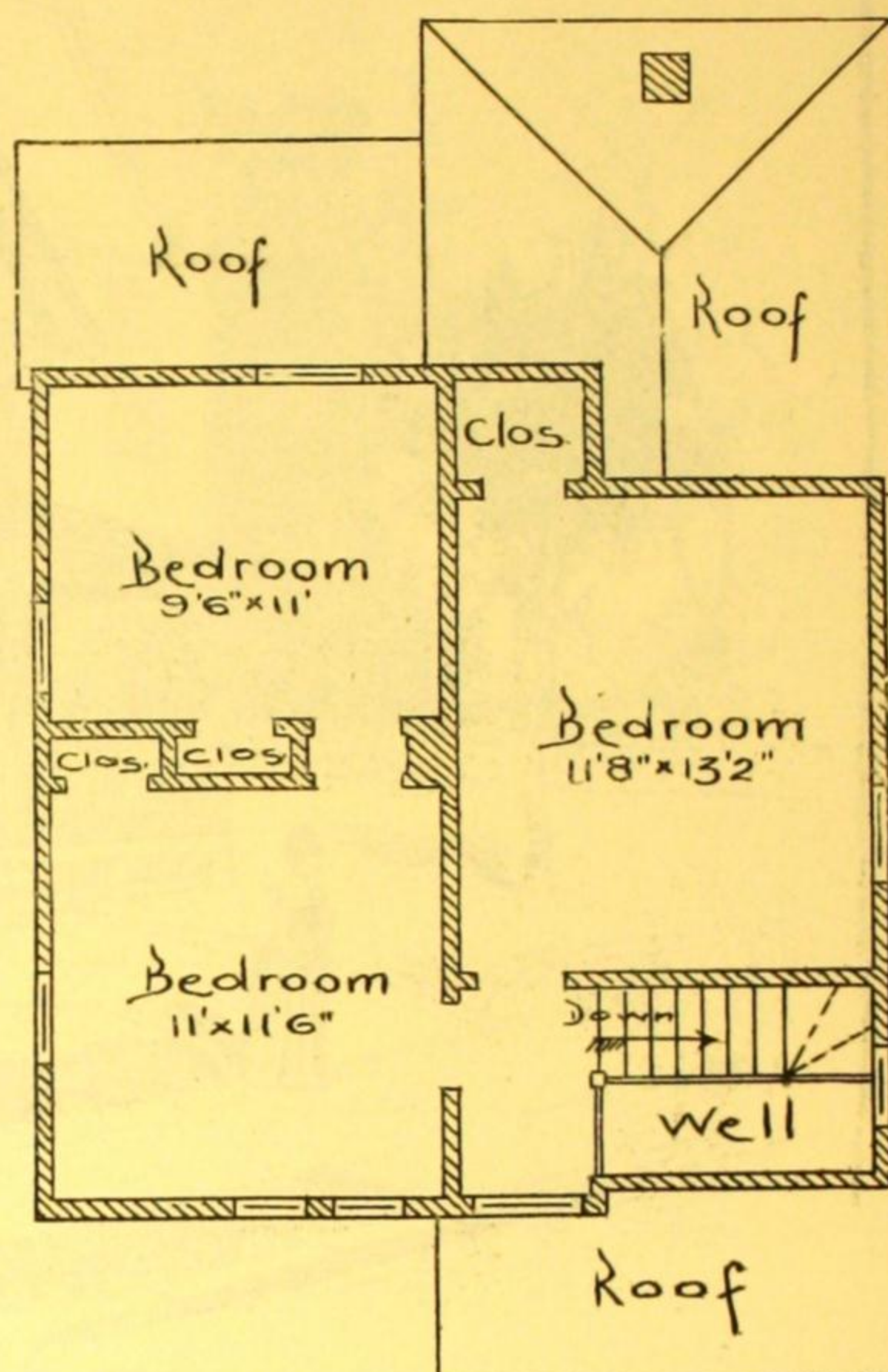
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Good design for a small family who have but a limited sum of money to invest.

The sitting-room can be used as a bedroom.

The attic is available for storage purposes.

Cellar under the whole house.



SECOND FLOOR. NO. 424

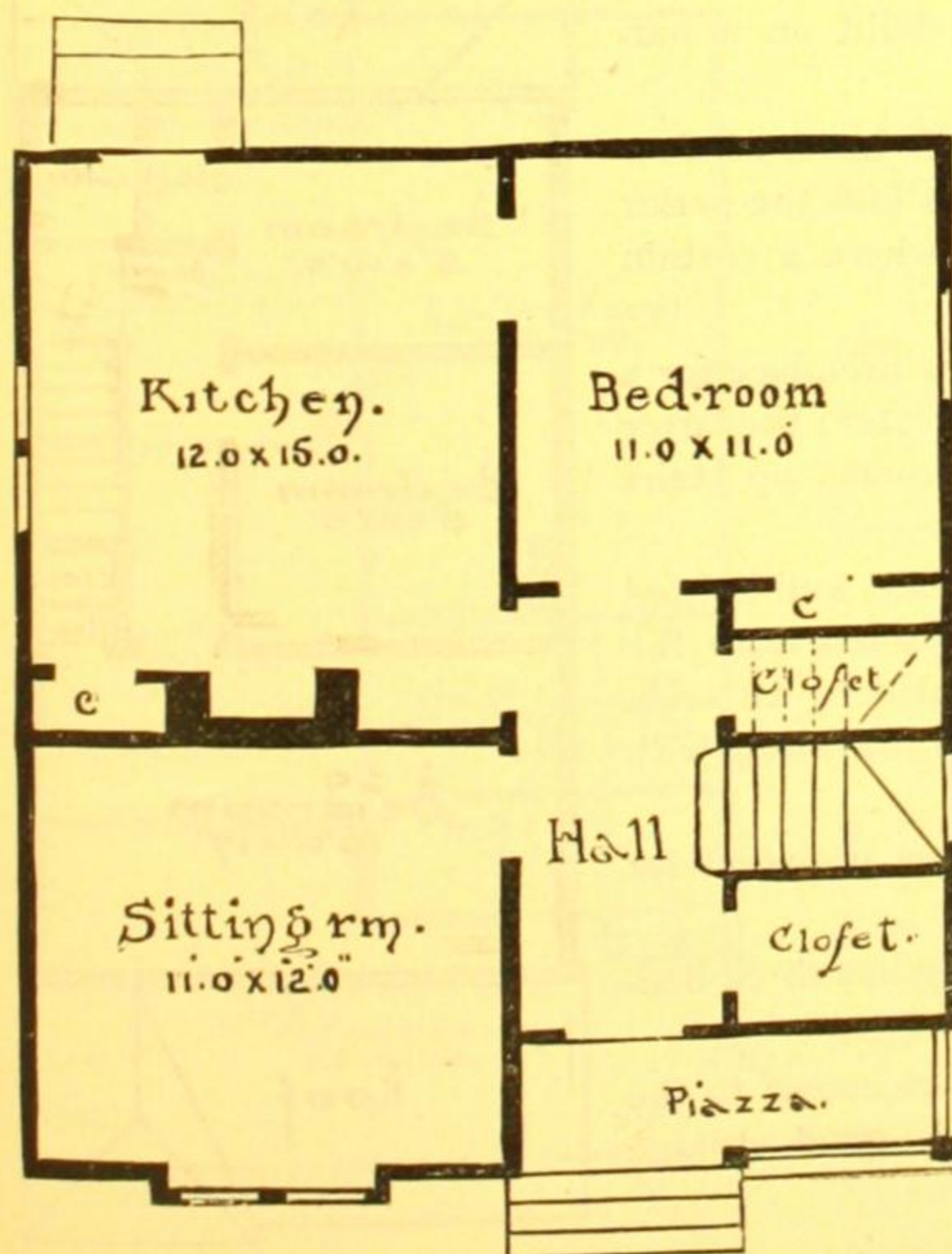
DESCRIPTION OF DESIGN NUMBER 424 (a)

THE EXTERIOR APPEARANCE IS MUCH LIKE THAT OF DESIGN NUMBER 423 ON THE OPPOSITE PAGE

SIZE OF STRUCTURE: Front, 24 ft., 6 in. Side, 27 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 8 ft., 6 in.; Second Story, 8 ft.



FIRST FLOOR. NO. 424(a)

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$900, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and

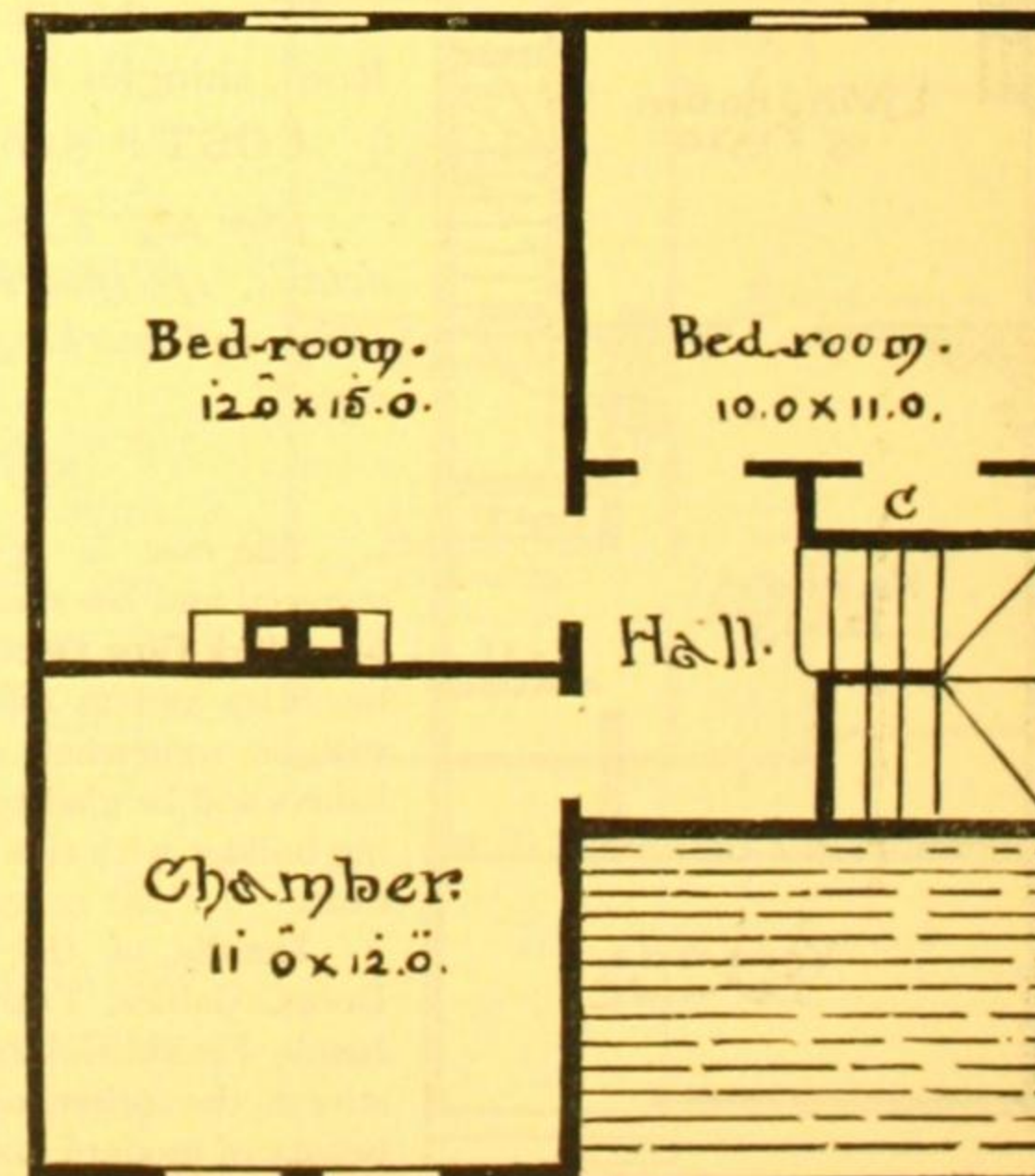
at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

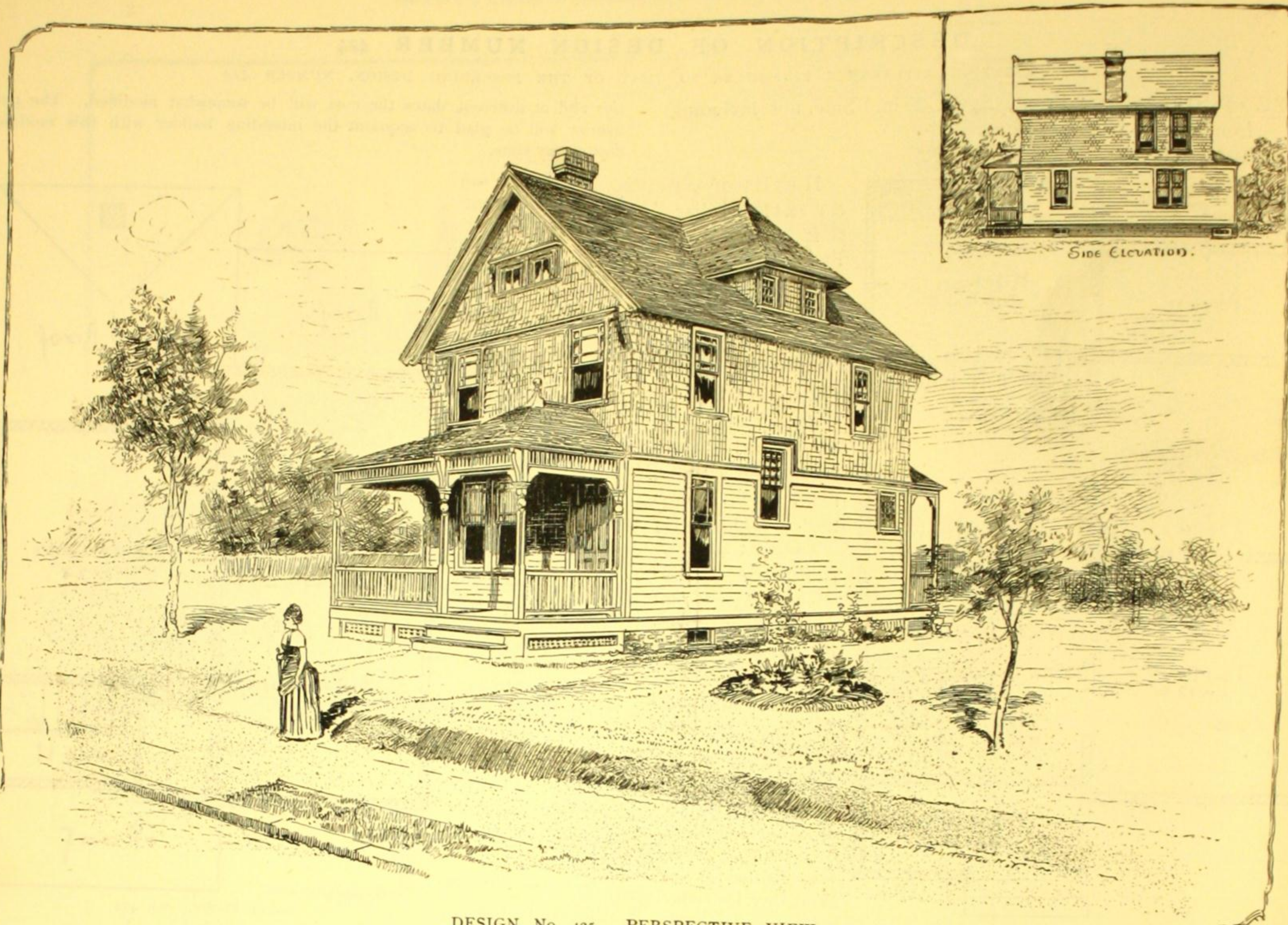
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The bedroom on the ground floor can be used as a kitchen and the kitchen as a dining-room, if preferred.

A cellar, with stone or brick walls, can be built under the whole house at an additional cost of about \$200.



SECOND FLOOR. NO. 424(a)



DESIGN No. 425. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 425

SIZE OF STRUCTURE: Front, 18 ft. Side, 34 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, brick wall; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,050, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Draw-

ings, and careful directions for their execution are given in our Specifications. This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES: A low-cost cottage that can be built on a narrow lot.

The entrance hall has a window and a seat, and opens into the parlor by a wide opening, where a curtain may be hung.

The parlor has a fire-place for a grate or a fire-place heater; the latter would heat two bedrooms up stairs as well as the parlor.

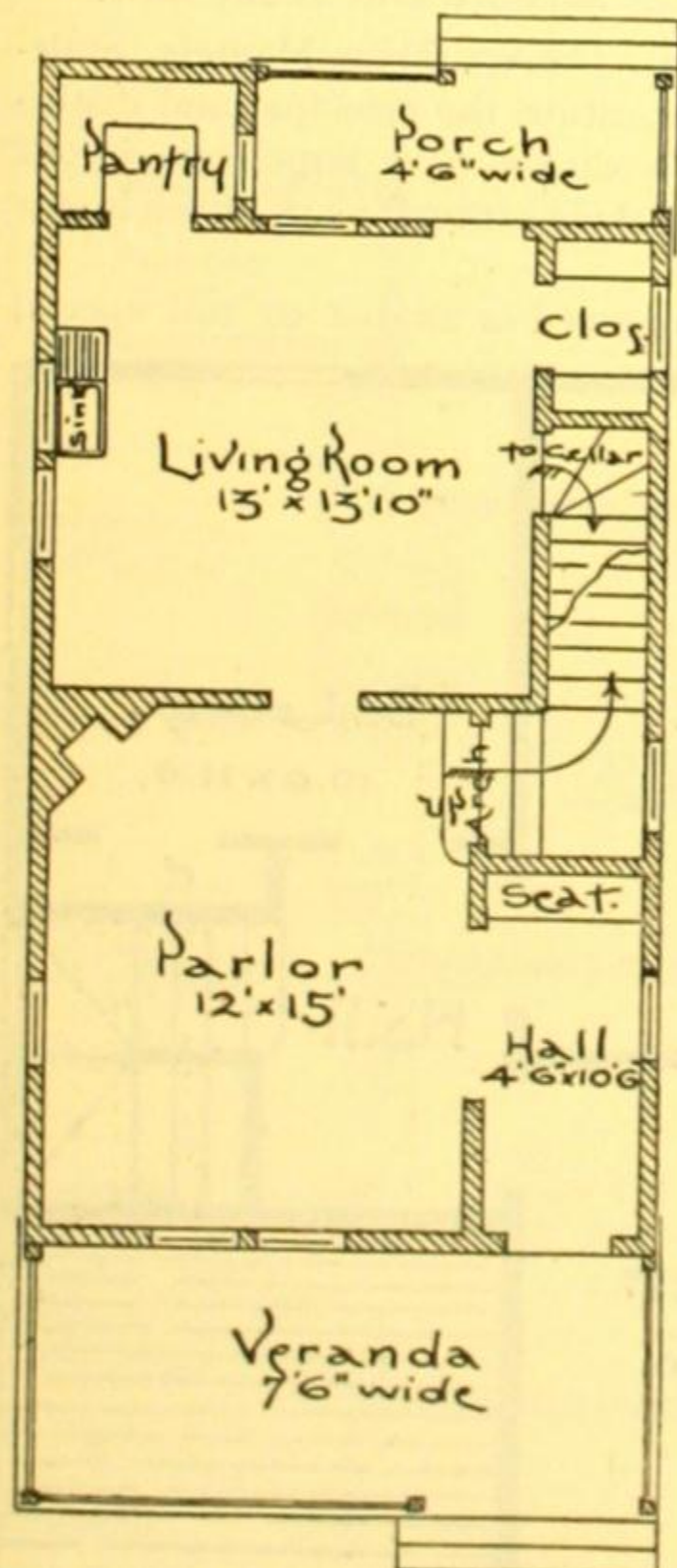
The stairway is wide, well lighted and of easy rise; it starts from the parlor, partly concealed by an arch, where a curtain can be hung with good effect.

Good pantries are provided for the living-room.

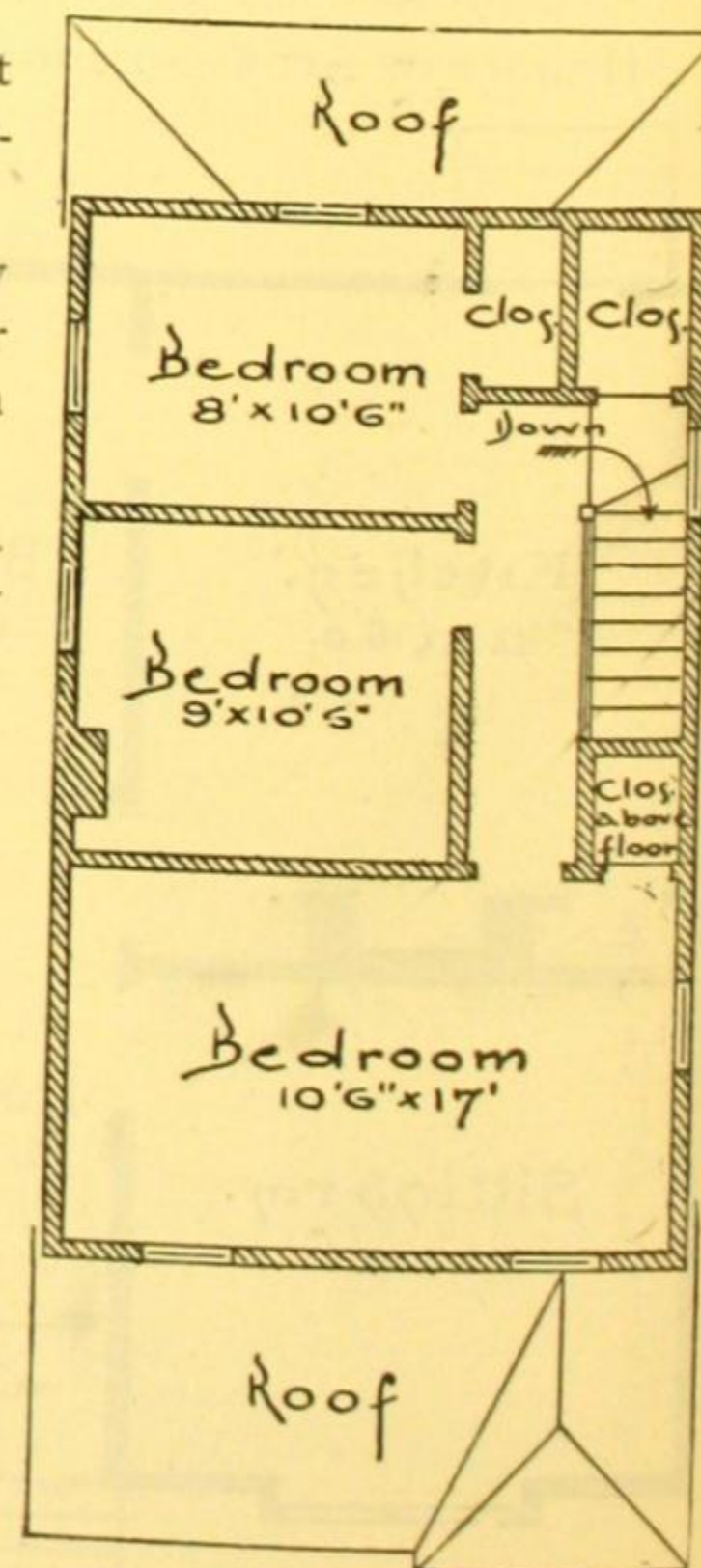
The second story has three bedrooms with closets.

A scuttle provides access to the attic, where there is good storage room.

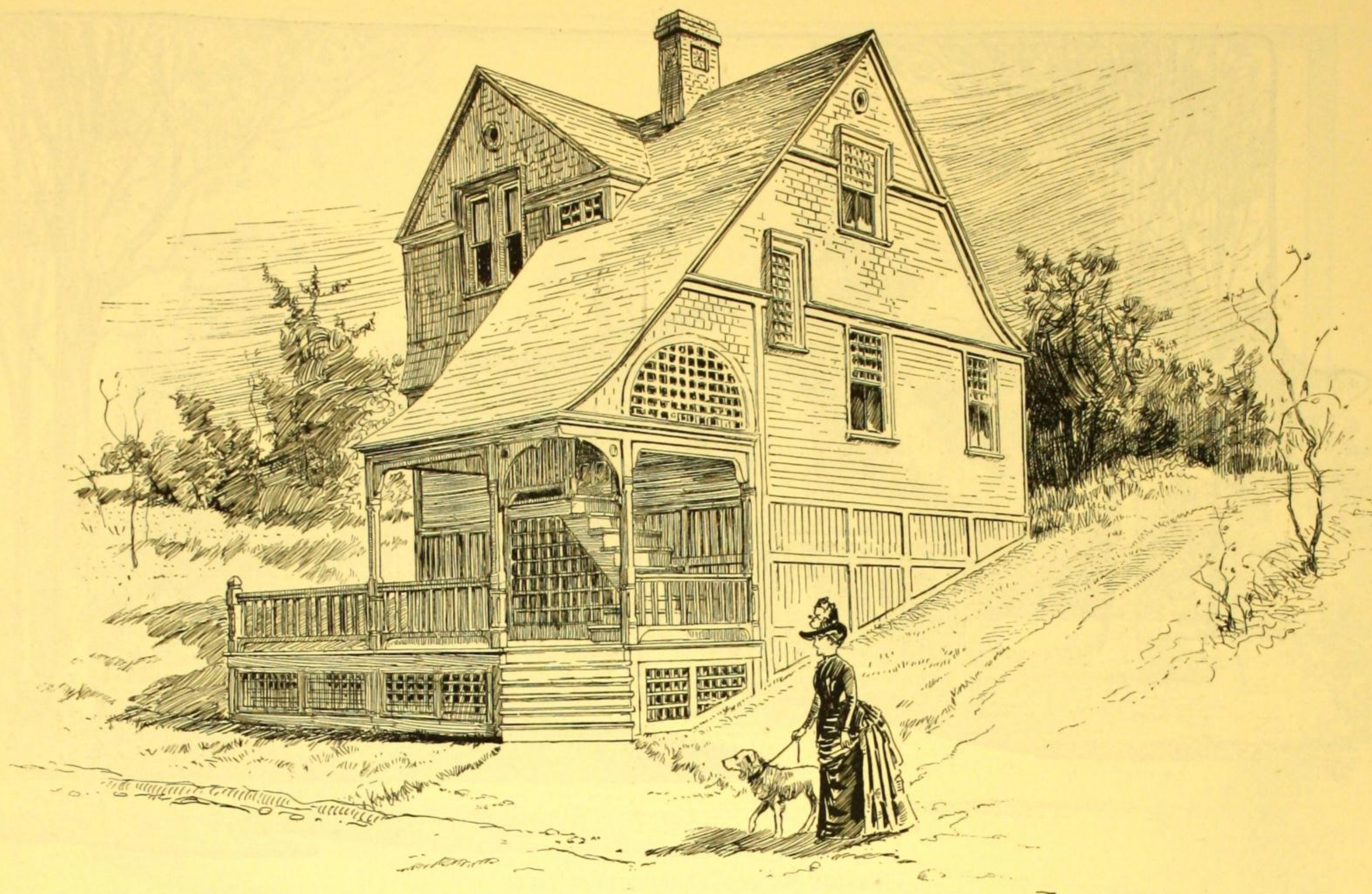
Cellar under the parlor.



FIRST FLOOR. NO. 425



SECOND FLOOR. NO. 425



DESIGN No. 426. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 426

SIZE OF STRUCTURE: Front, 25 ft. Side, not including front veranda, 28 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, wood posts; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,200, complete.

[See page 3 for information about details, specifications, bill of quantities, and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

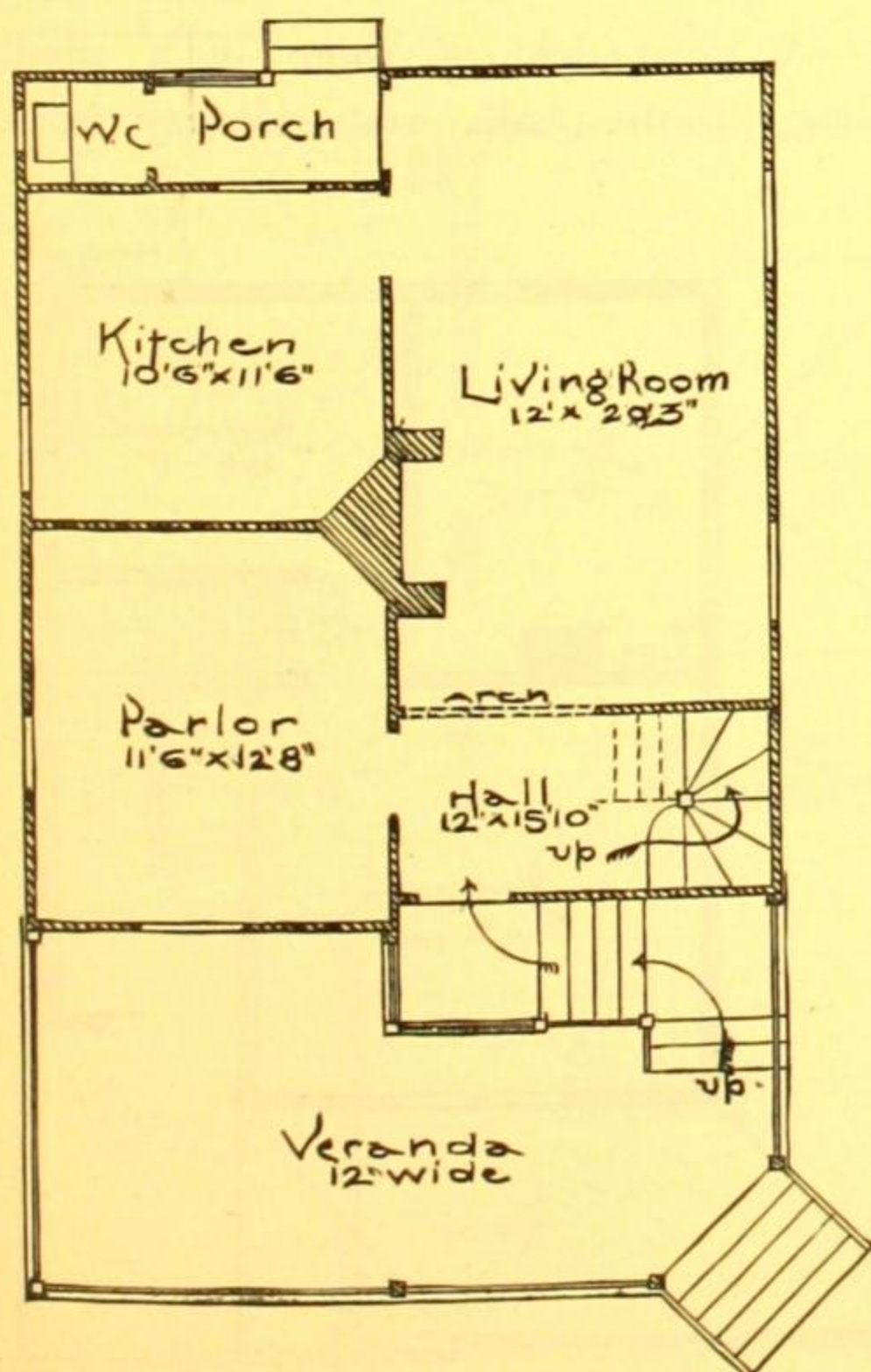
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

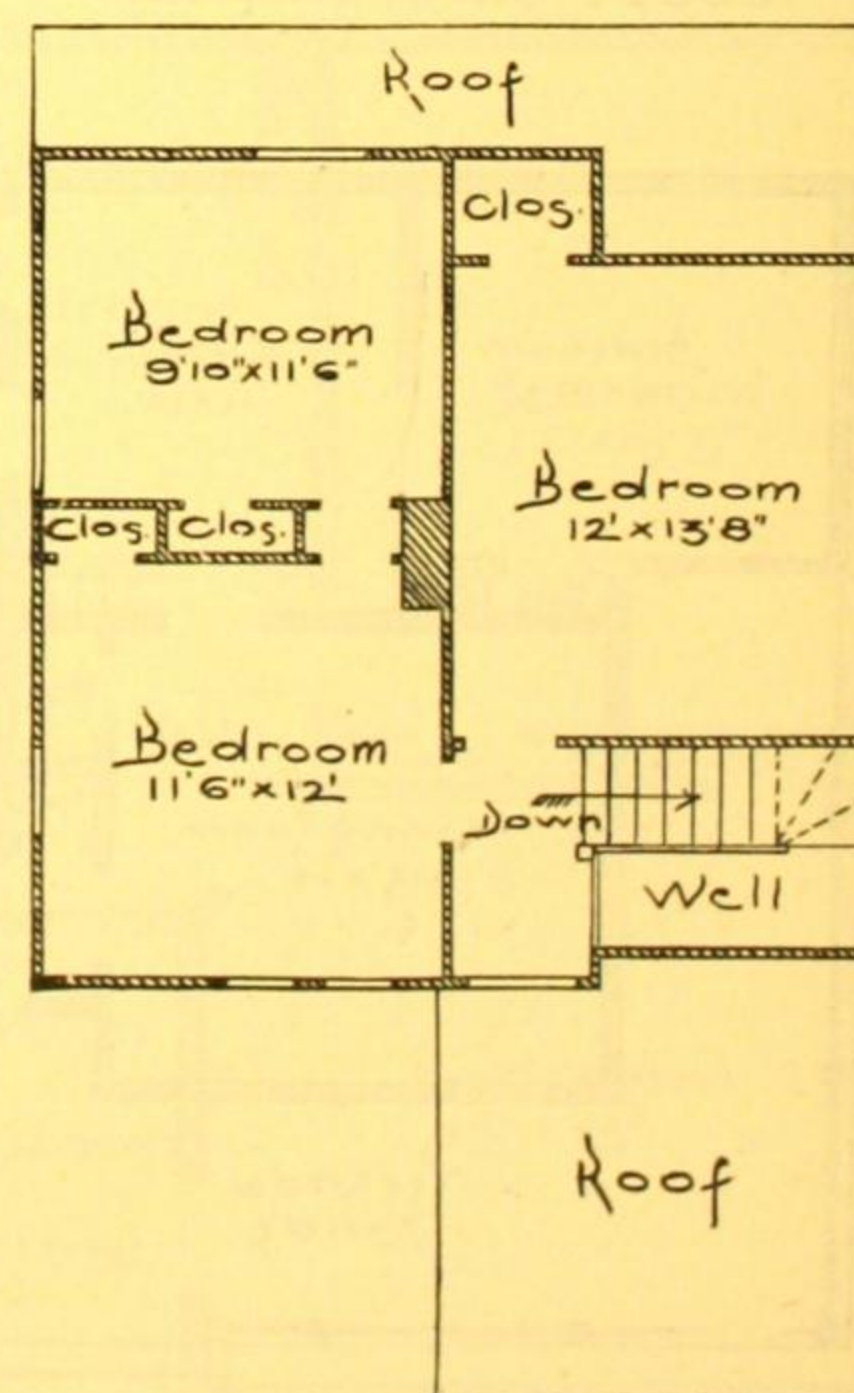
SPECIAL FEATURES.—A wide veranda, part of which is covered by the long roof of the main house; from the veranda steps go up to the entrance platform.

No cellar, but it is an easy matter to provide one under the front portion of the house, building a stairway down to it under the main stairway.

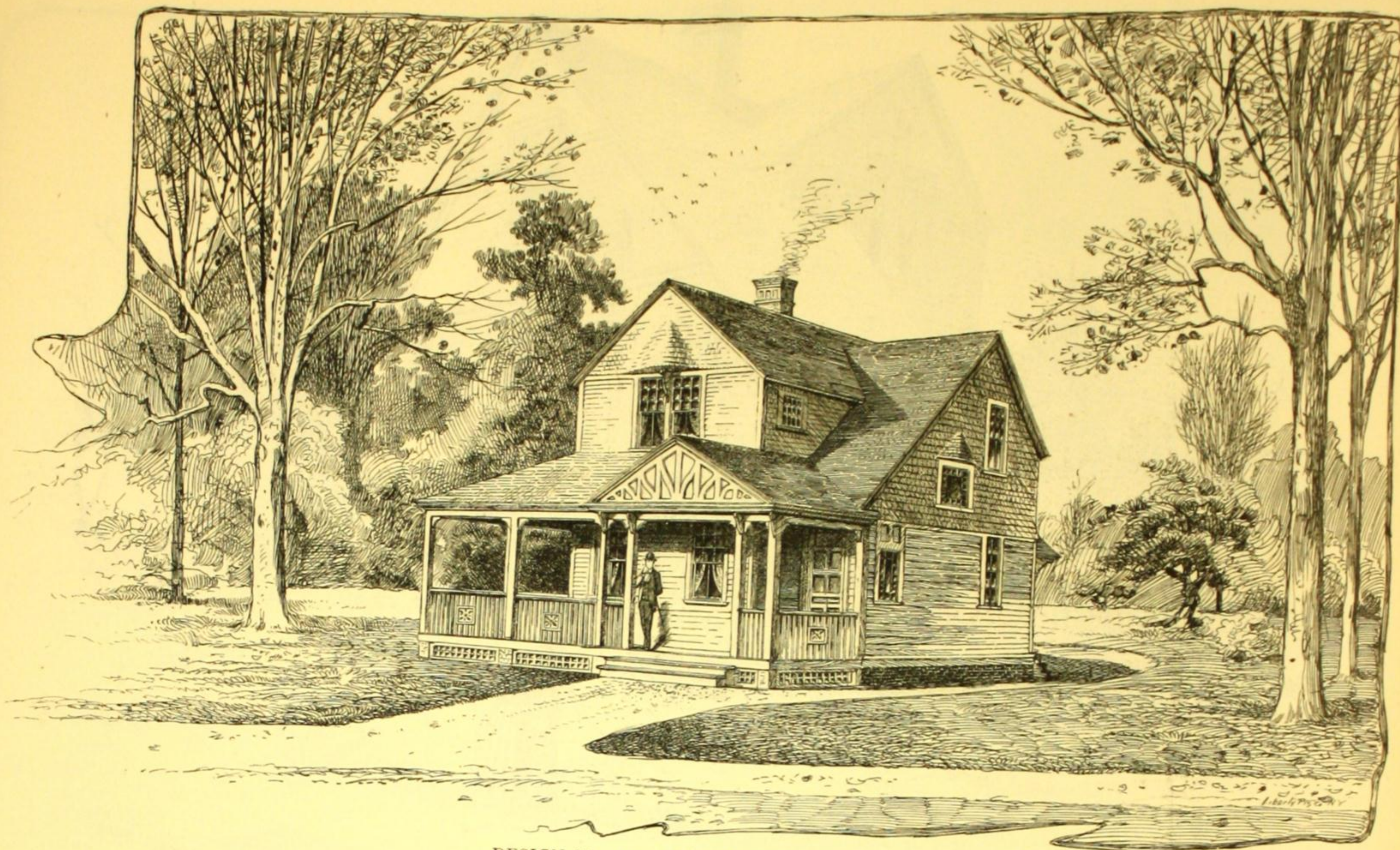
An open fire-place in the living room. The living room can be divided into a dining-room and a sitting-room, if preferred.



FIRST FLOOR. NO. 426



SECOND FLOOR. NO. 426



DESIGN No. 427. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 427

SIZE OF STRUCTURE: Front, including veranda, 28 ft. Side, 33 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$1,150, complete.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

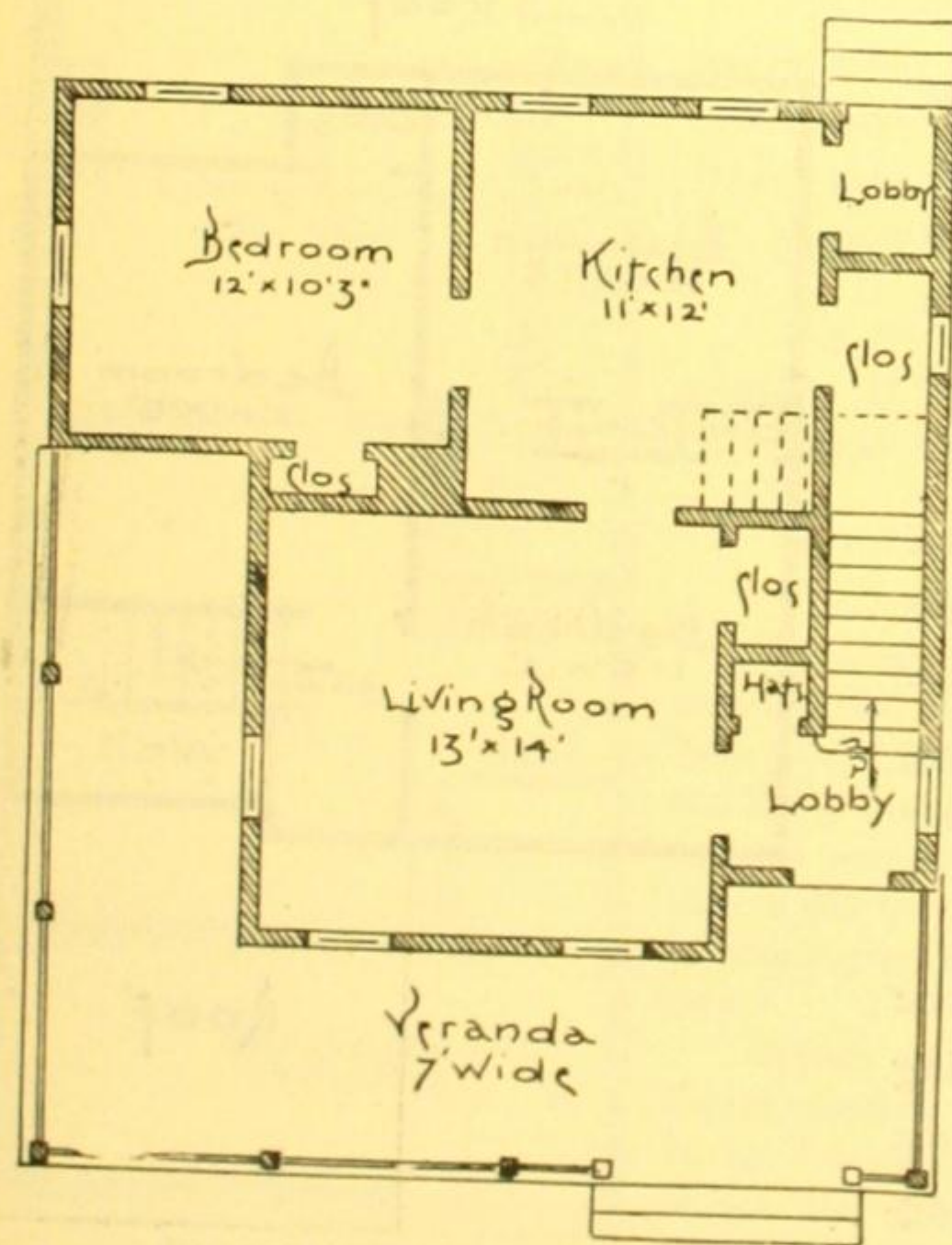
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A great deal of room in a small house, secured by disposing of the halls and stairway in a small space. Still the latter are conveniently located.

The central chimney provides a flue for each room of the first story and for two rooms of the second story.

No cellar. One can be built under the whole house, with access to it under the main stairway, for \$150.

Will make a good sea-side or Southern cottage.

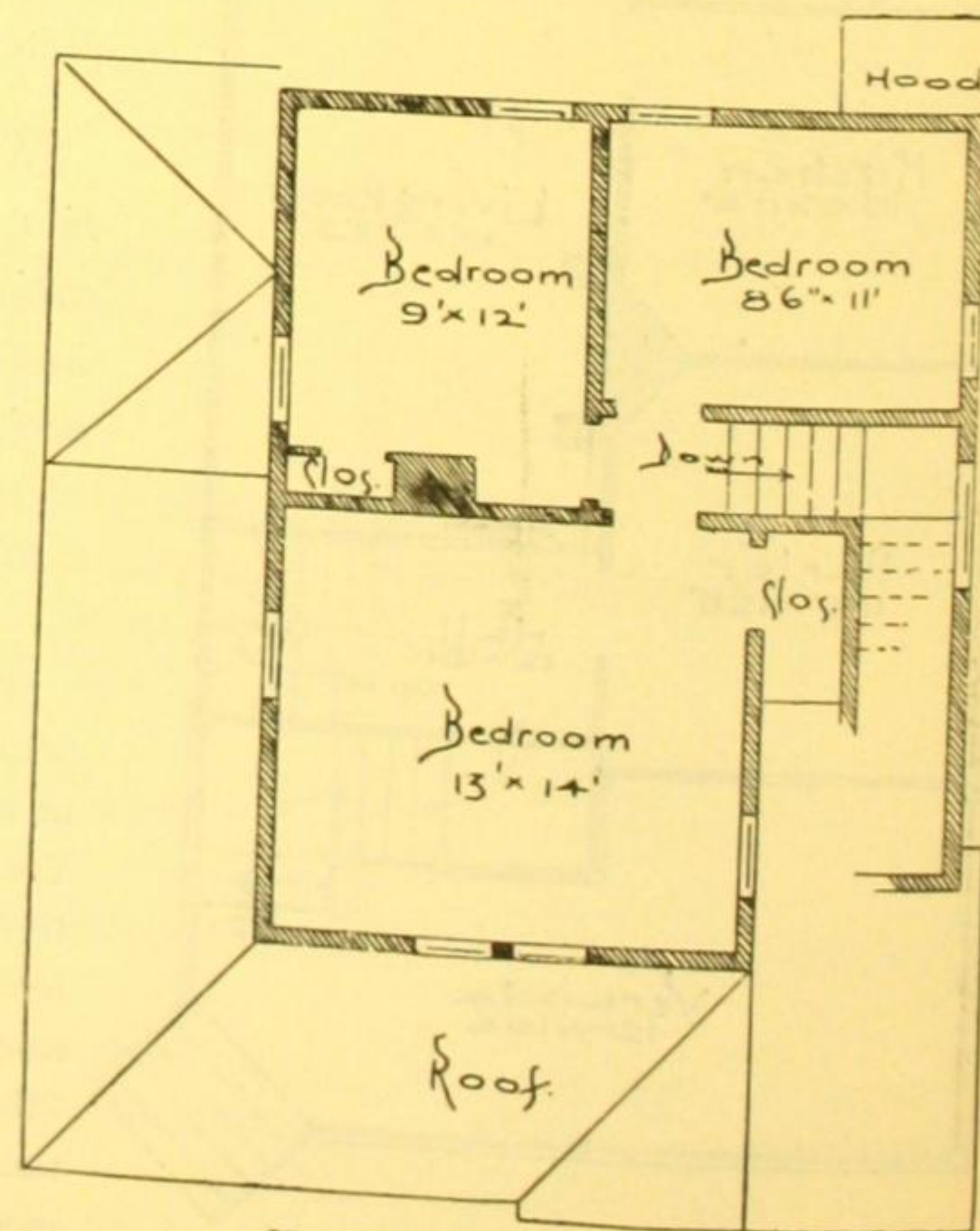


FIRST FLOOR. NO. 427

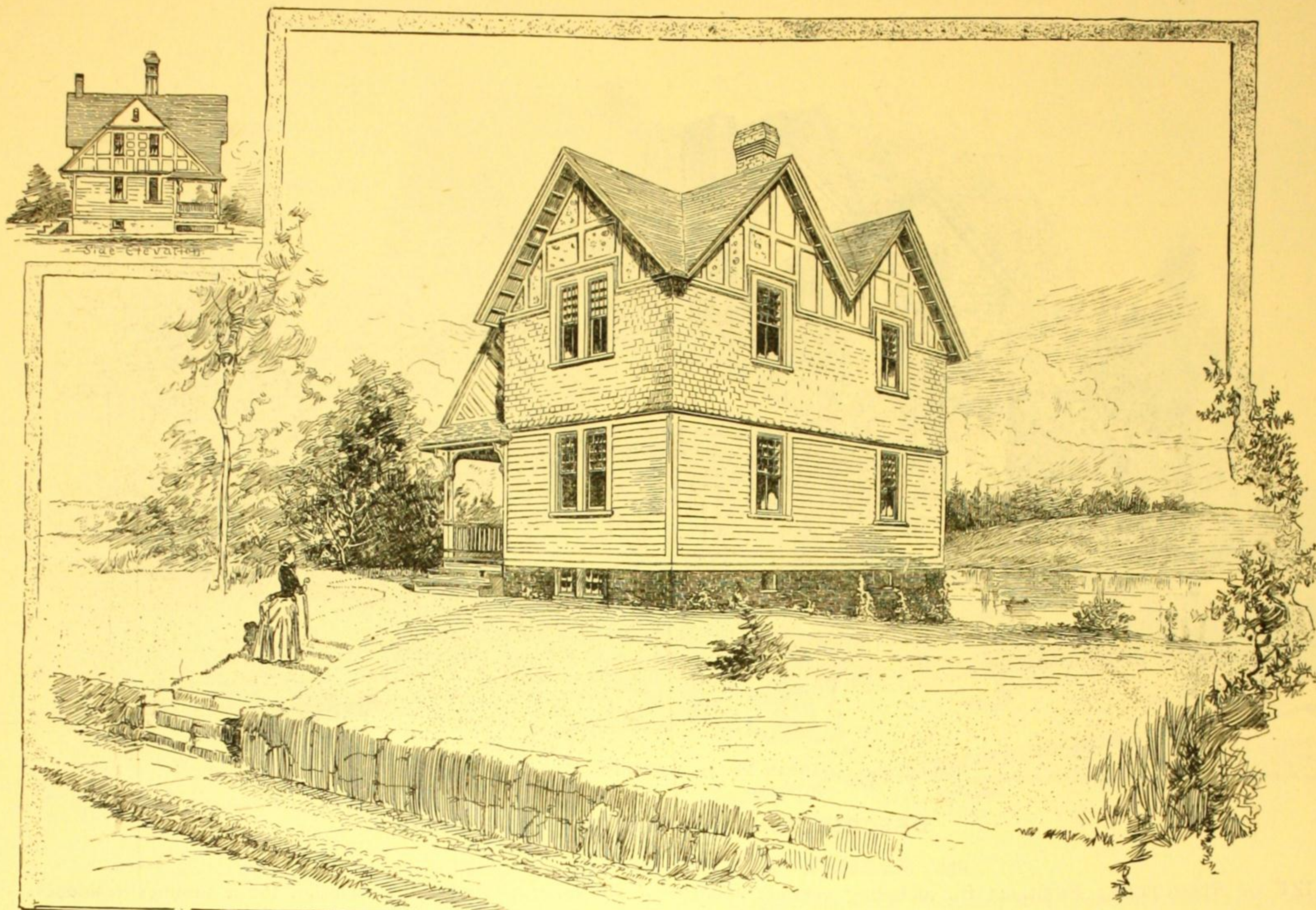
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



SECOND FLOOR. NO. 42



DESIGN No. 428. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 428

SIZE OF STRUCTURE: Front, 24 ft. Side, 31 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick walls; First Story, clapboards; Second Story, panels and shingles; Roof, shingles.

COST: \$1,400, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Compact plan for a low-cost house.

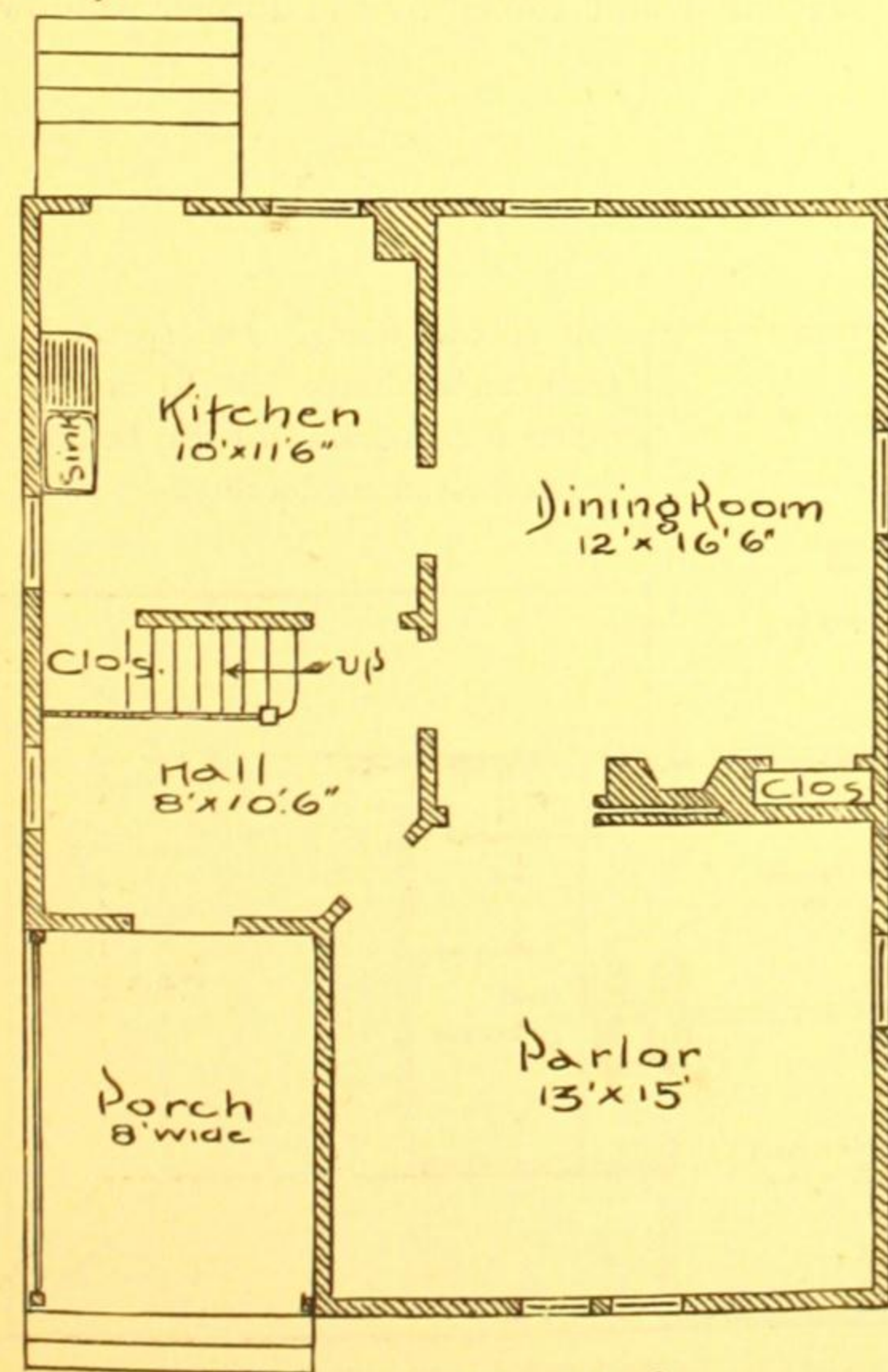
All rooms are of good size.

Sliding door between the parlor and the dining-room.

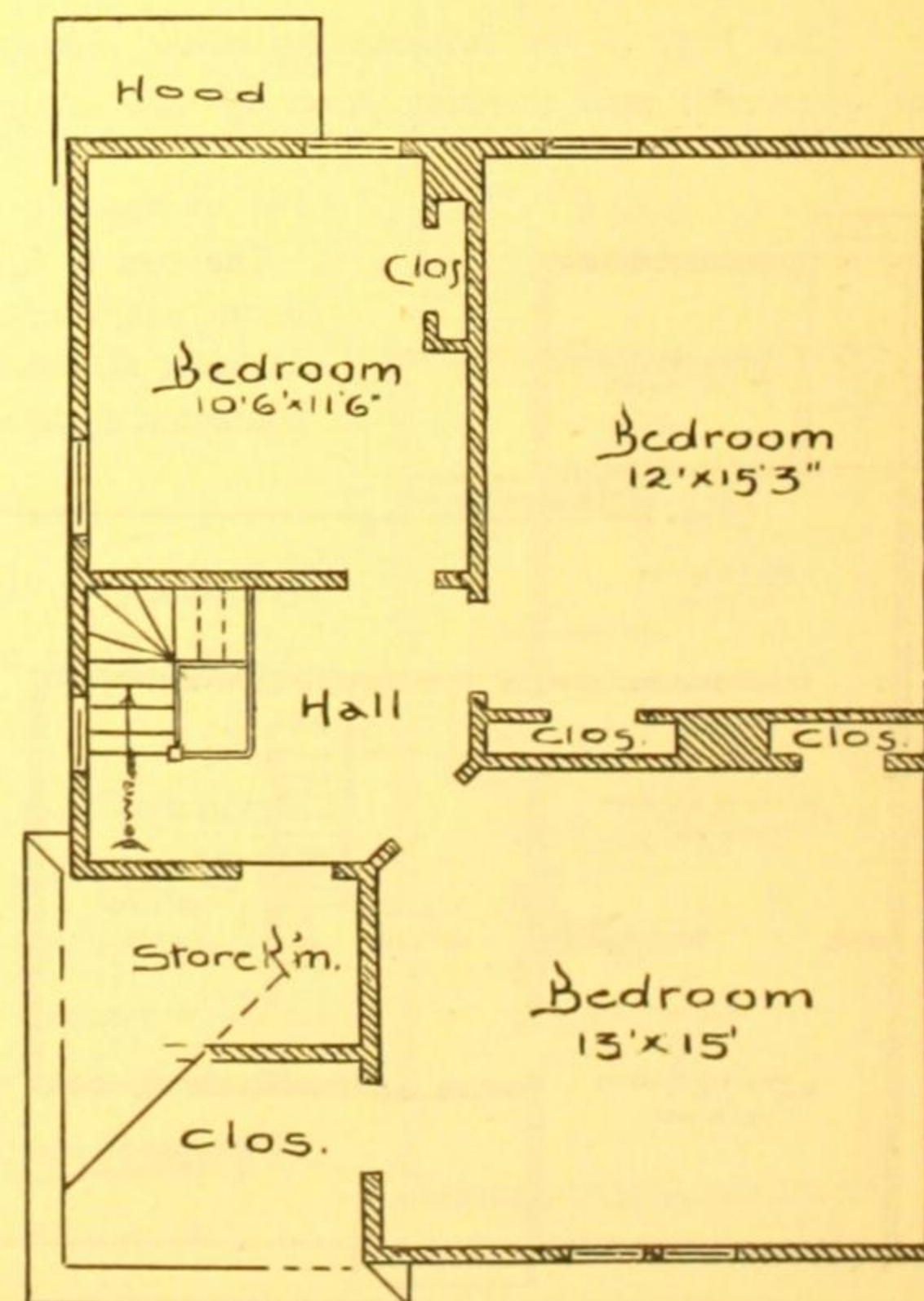
Each bedroom has connection with a chimney.

Attic is unfinished, but can be utilized for storage.

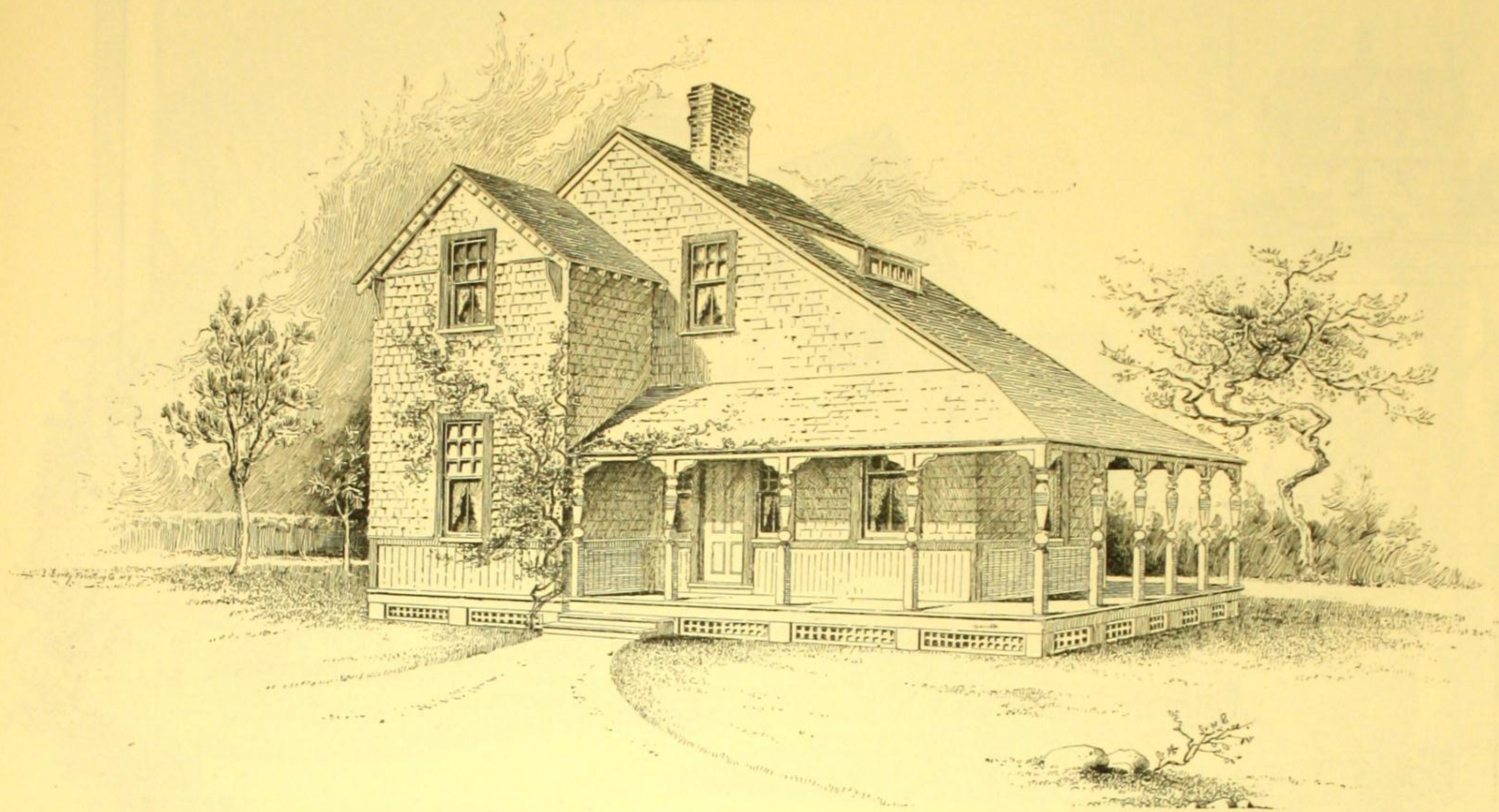
Cellar under the kitchen; entered by a hatchway outside.



FIRST FLOOR. NO. 428



SECOND FLOOR. NO. 428



DESIGN No. 429. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 429

SIZE OF STRUCTURE: Front, 41 ft., including veranda. Side, 40 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, siding and shingles; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,250, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Design for a summer residence. The hall has an open fire-place and is used as a sitting-room. Fire-places in the living-room and in the dining-room.

The hall is open to the roof and has a gallery to which the stairway leads; from the gallery the bedrooms are entered. The hall is lighted in part, ventilated and cooled by the dormer window in the roof.

No cellar nor attic.

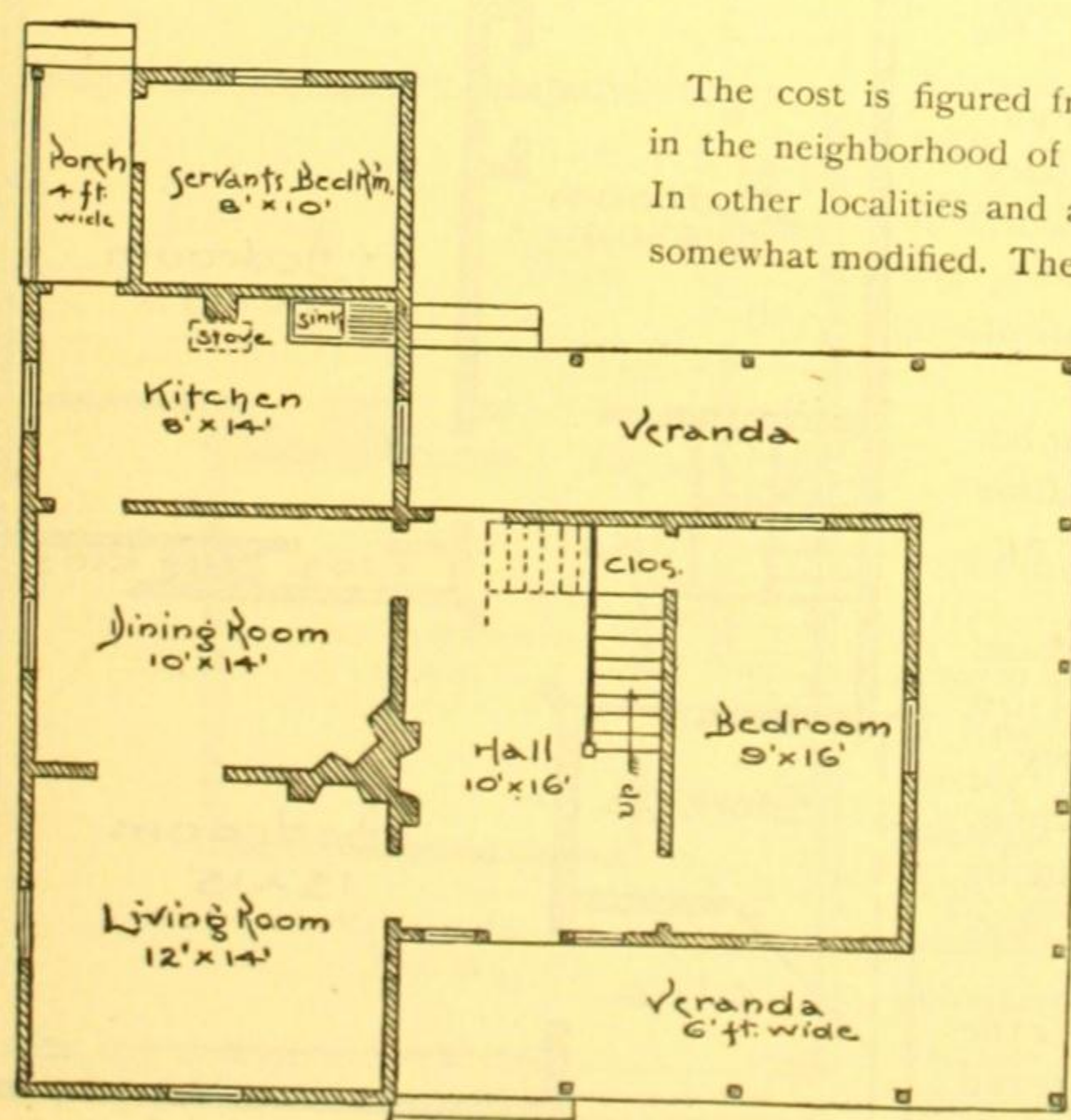
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

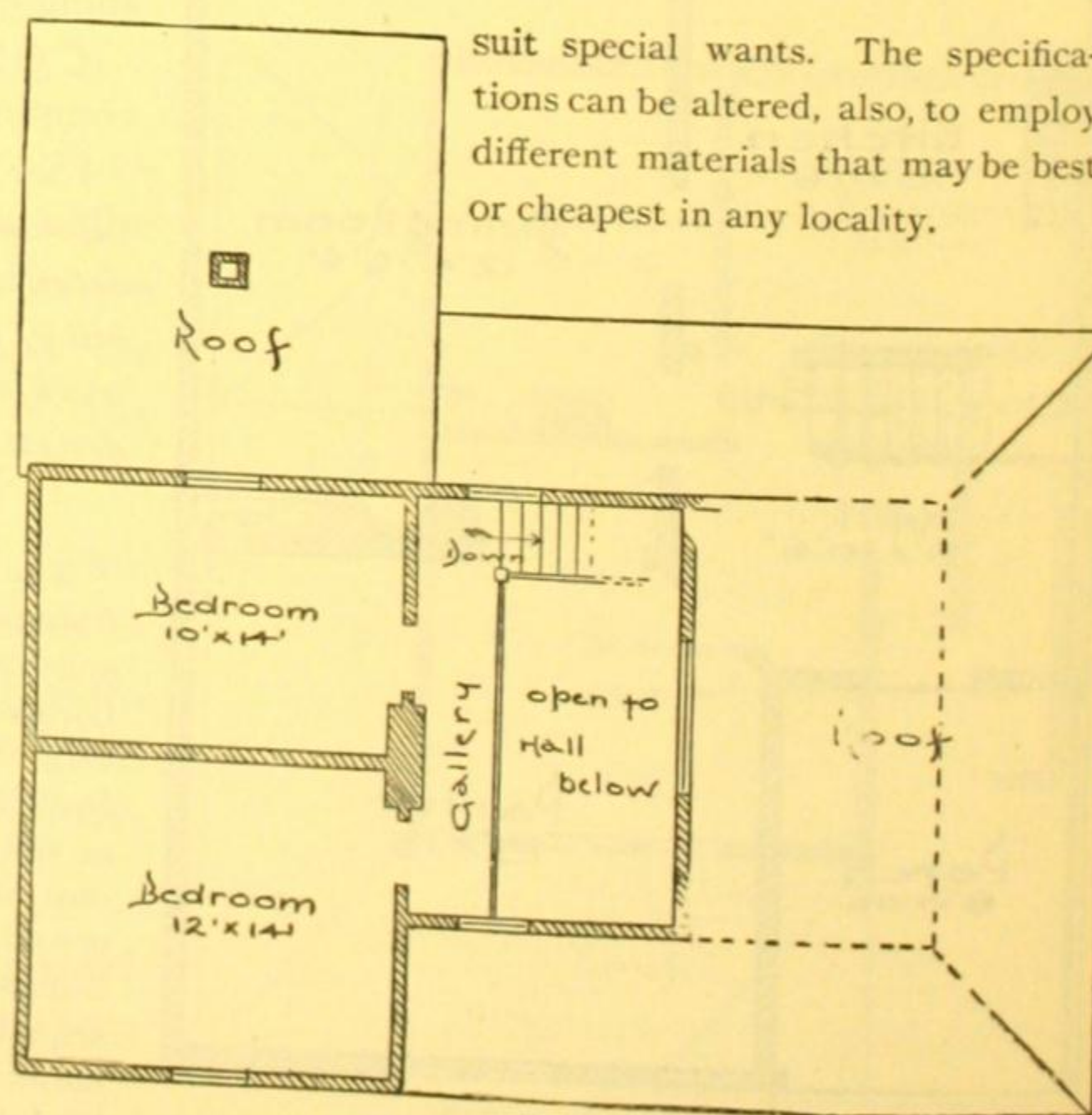
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to

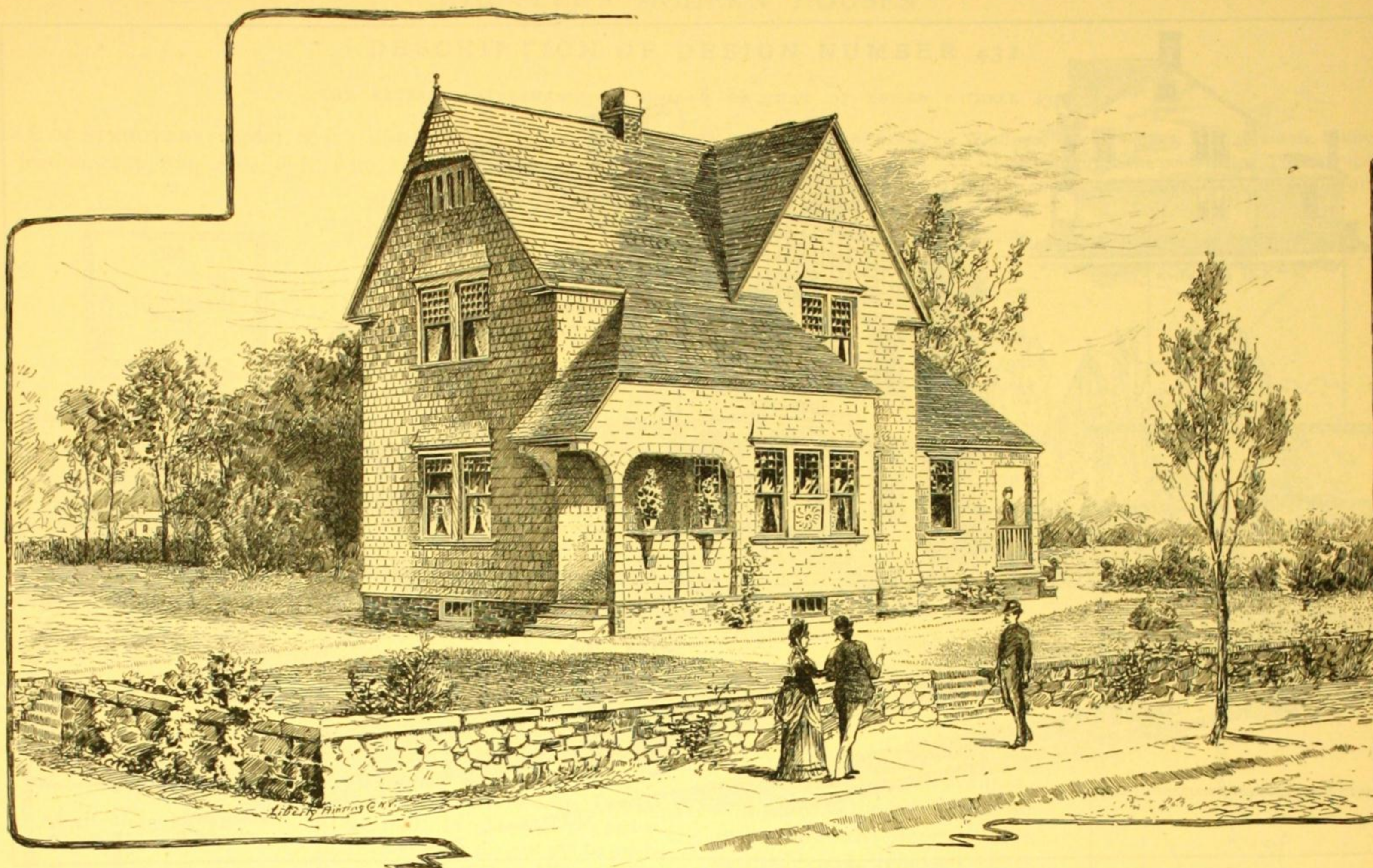
suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 429



SECOND FLOOR. NO. 429



DESIGN No. 430. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 430

SIZE OF STRUCTURE: Front, 20 ft. Side, 44 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, shingles; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,200, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and

distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

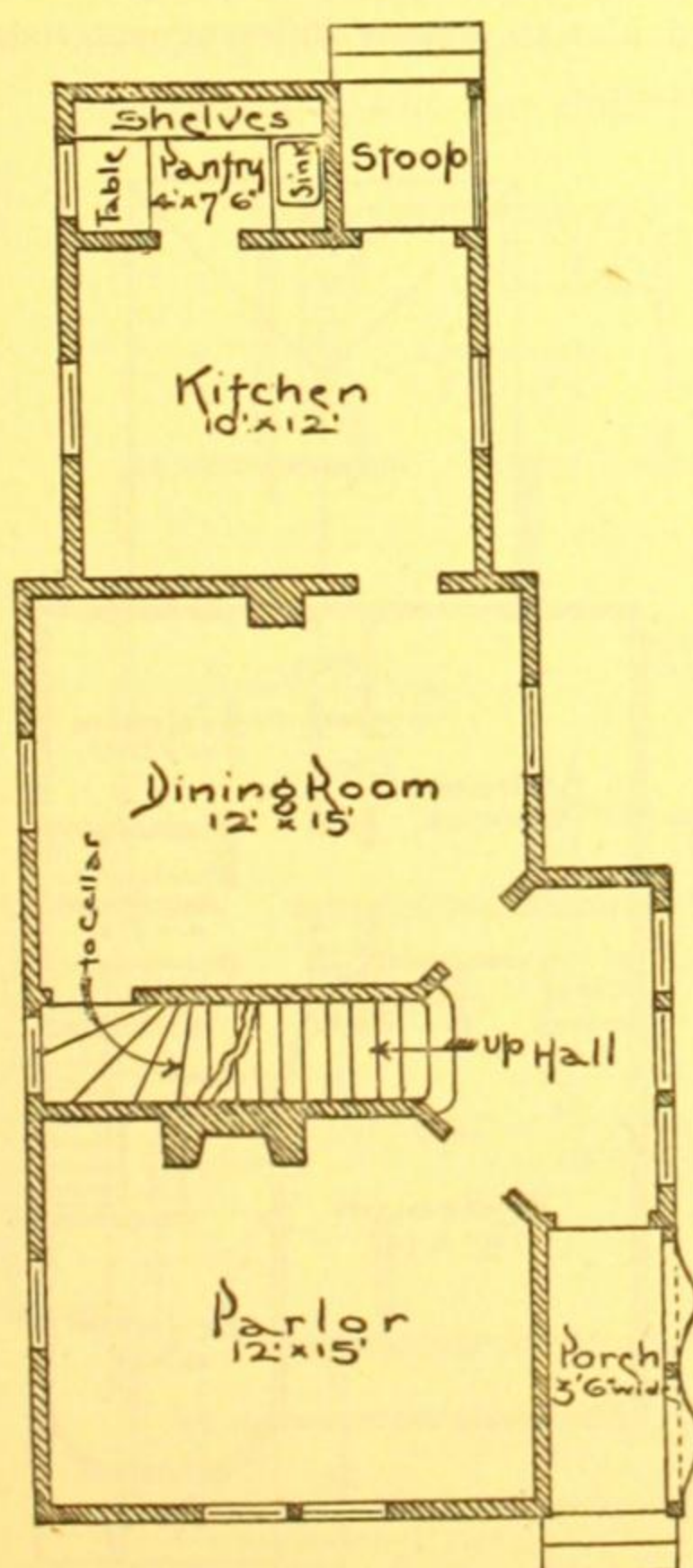
SPECIAL FEATURES.—Can be built on a 25 foot lot, leaving space for a passage to the rear.

The shingled porch, with its flower shelves, makes an attractive entrance.

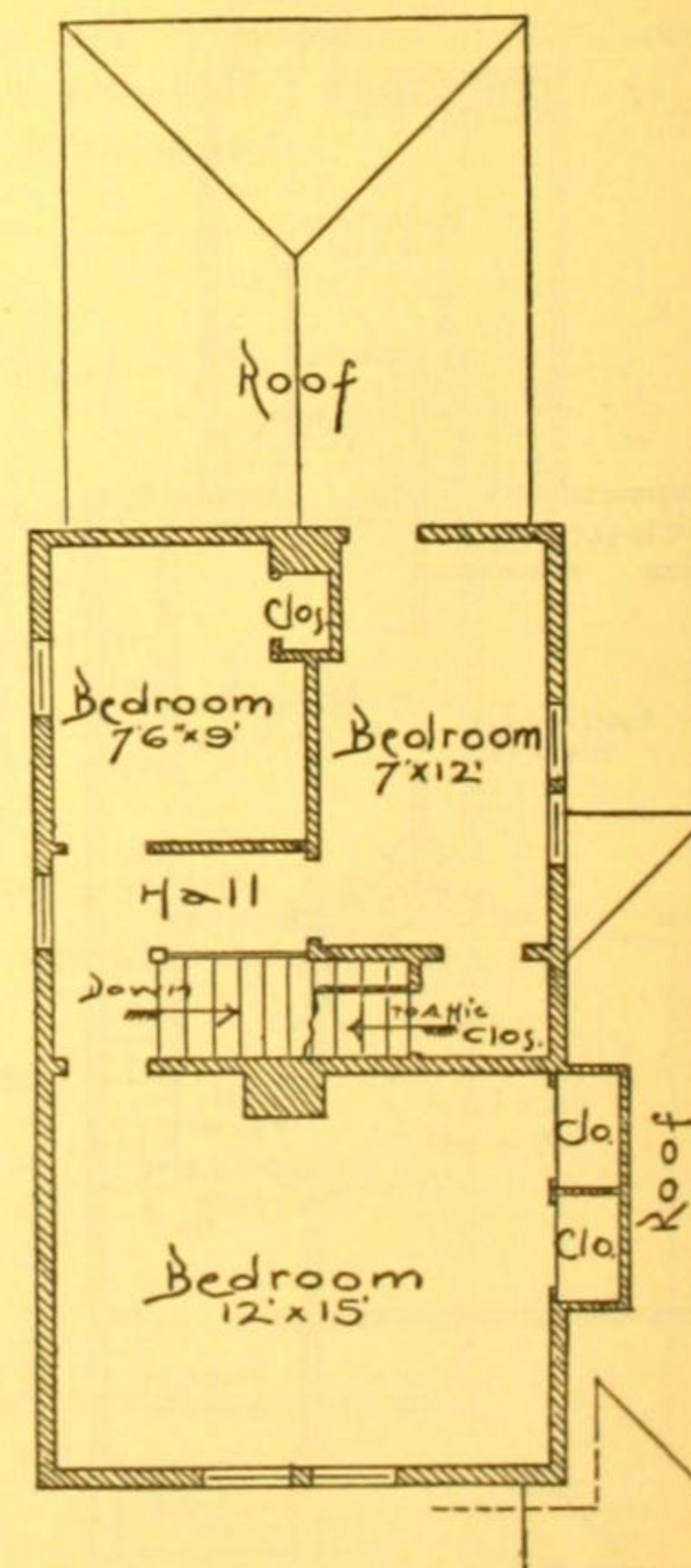
Open fire-place in the parlor. Flue for a stove in the dining-room.

Large pantry, and back porch. Three good bedrooms on the second floor. Under the roof of the kitchen extension there is space for storage of trunks, etc. Storage space in the attic, also.

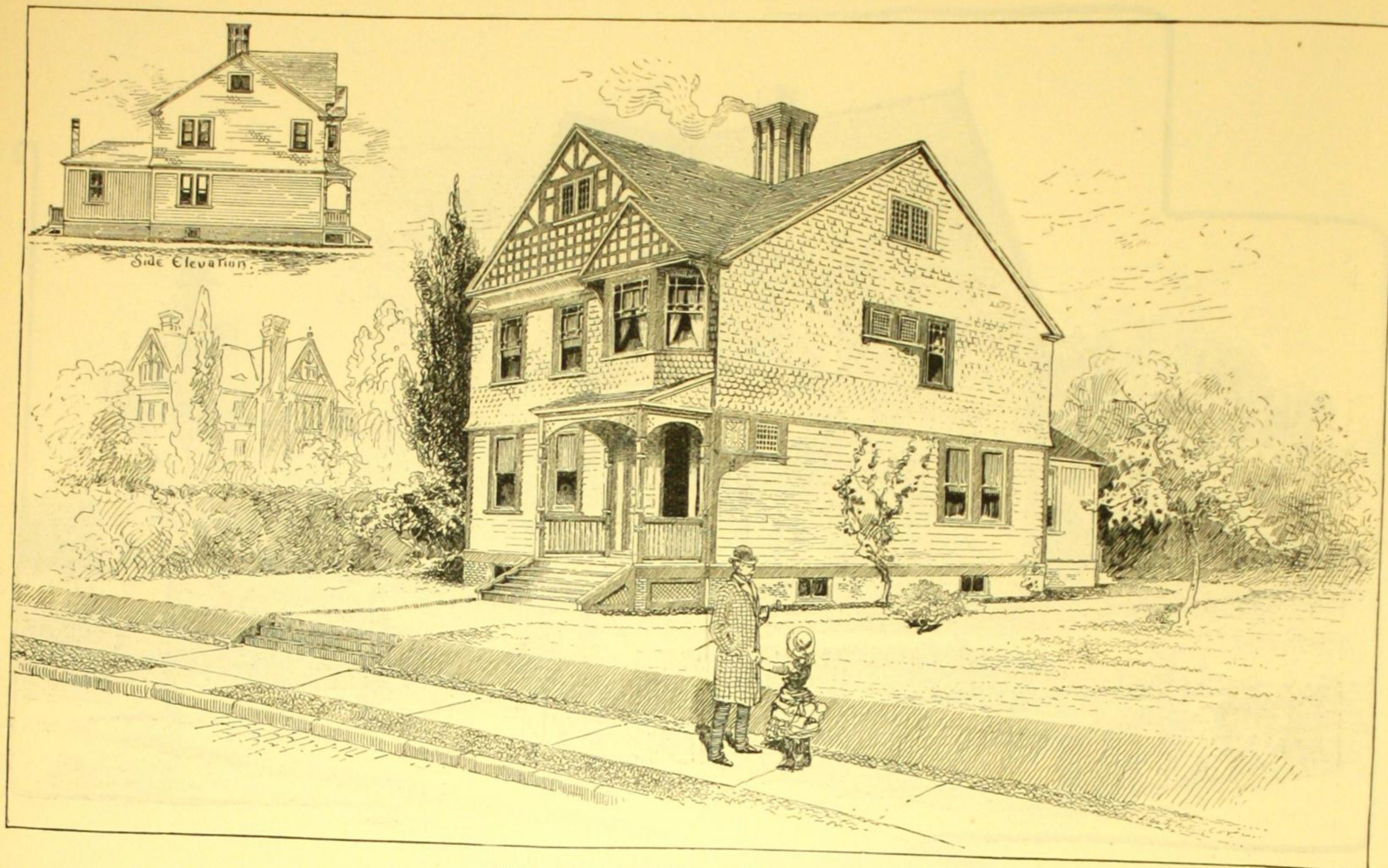
Cellar under the dining-room.



FIRST FLOOR. NO. 430



SECOND FLOOR. NO. 430



DESIGN No. 431. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 431

SIZE OF STRUCTURE: Front, 22 ft. Side, 45 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,100, complete, except mantels and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Stair-

case, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Can be built on a 25-foot village or city lot, leaving space for a passage to the rear.

Double folding-doors connect all the principal rooms of the first floor.

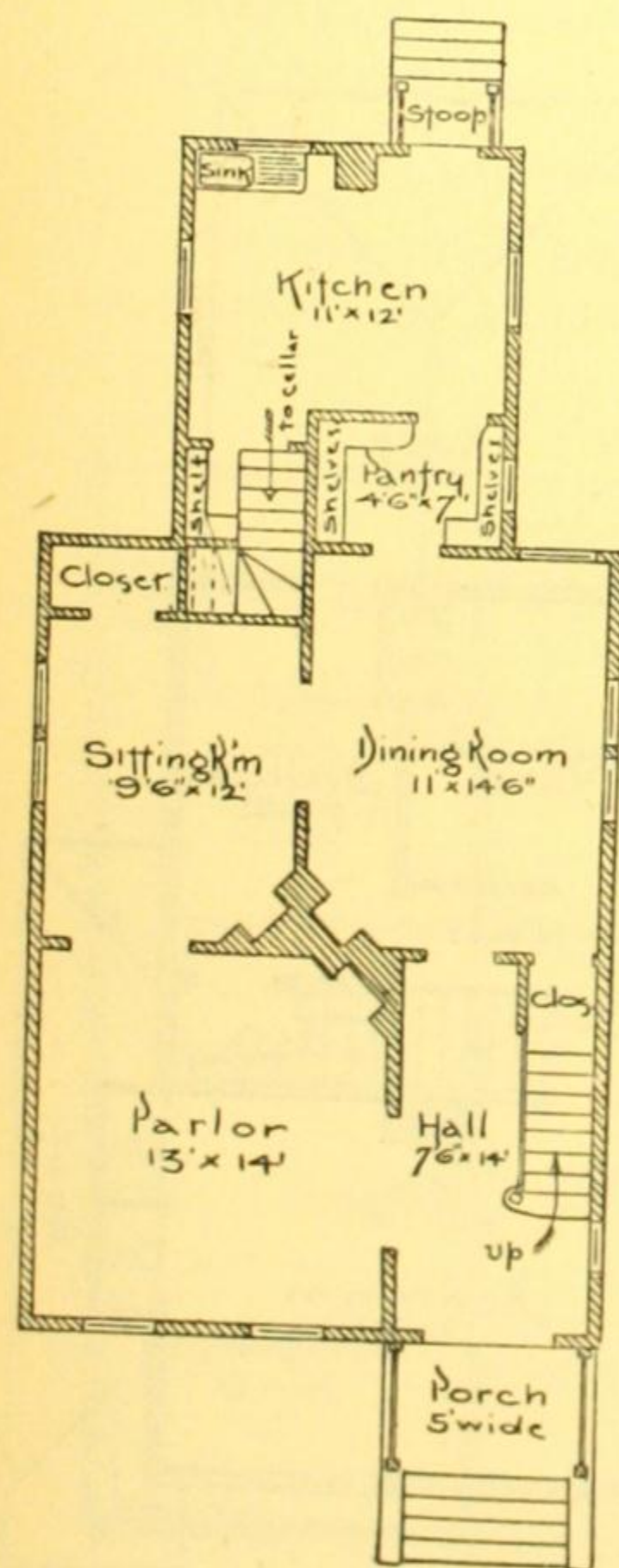
Two of the bedrooms can be heated from a fire-place heater placed in the parlor or in the dining-room.

A bath-room containing tub, water-closet and stationary basin.

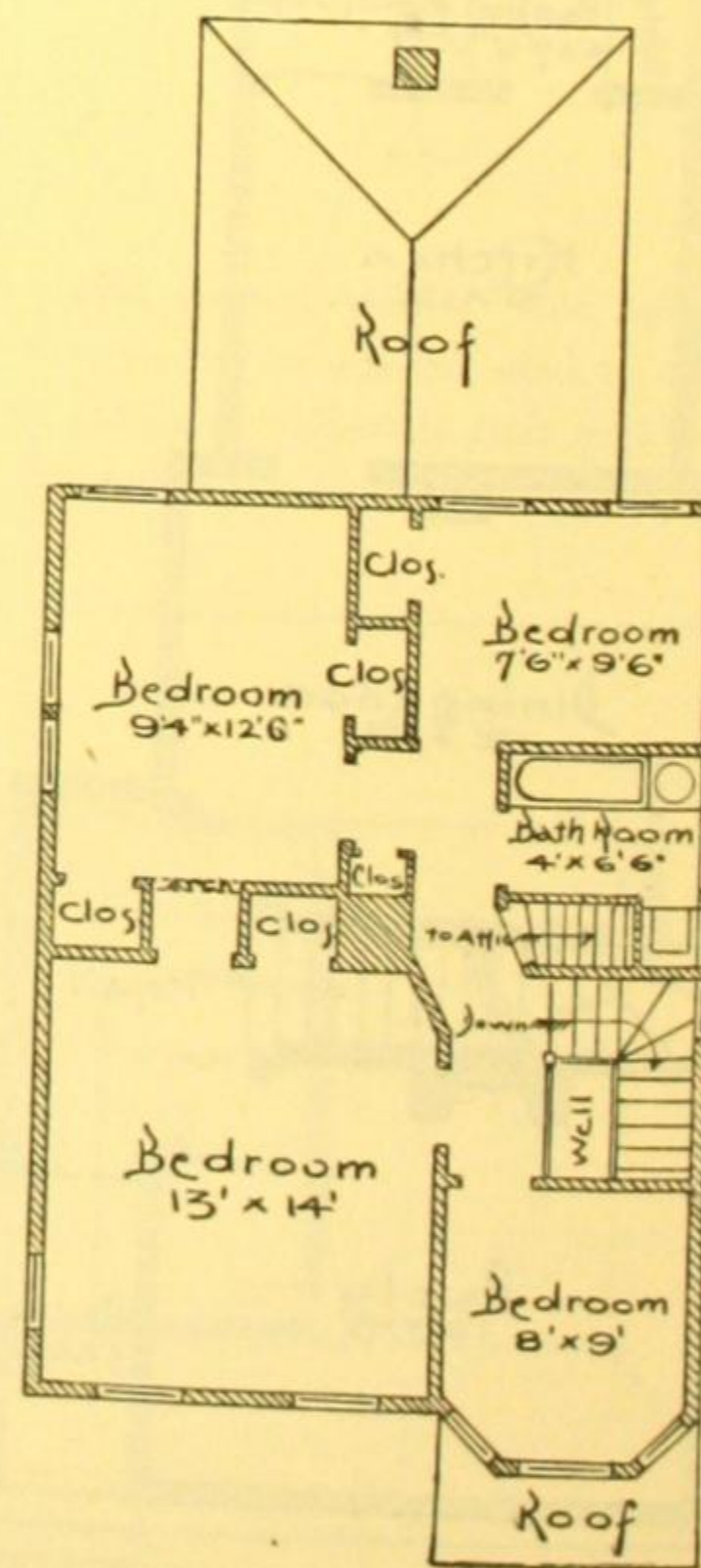
Two bedrooms and hallway are finished in the attic.

Cellar under the whole of the main house.

The appearance of this house is much enhanced by the colors used in painting and staining. These are detailed in our specification.



FIRST FLOOR. NO. 431



SECOND FLOOR. NO. 431

DESCRIPTION OF DESIGN NUMBER 432

THE EXTERIOR APPEARANCE IS SIMILAR TO THAT OF DESIGN NUMBER 431

SIZE OF STRUCTURE: Front, 20 ft.; width, including stairway projection, 22 ft., 6 in. Side, 36 ft., 6 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 8 ft., 8 in.; Second Story, 8 ft.

MATERIALS: Foundation, locust or chestnut posts; First Story, clapboards; Second Story, clapboards, except front, which is shingled; Gables, shingles; Front Gable, paneled; Roof, shingles.

COST: \$1,500, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

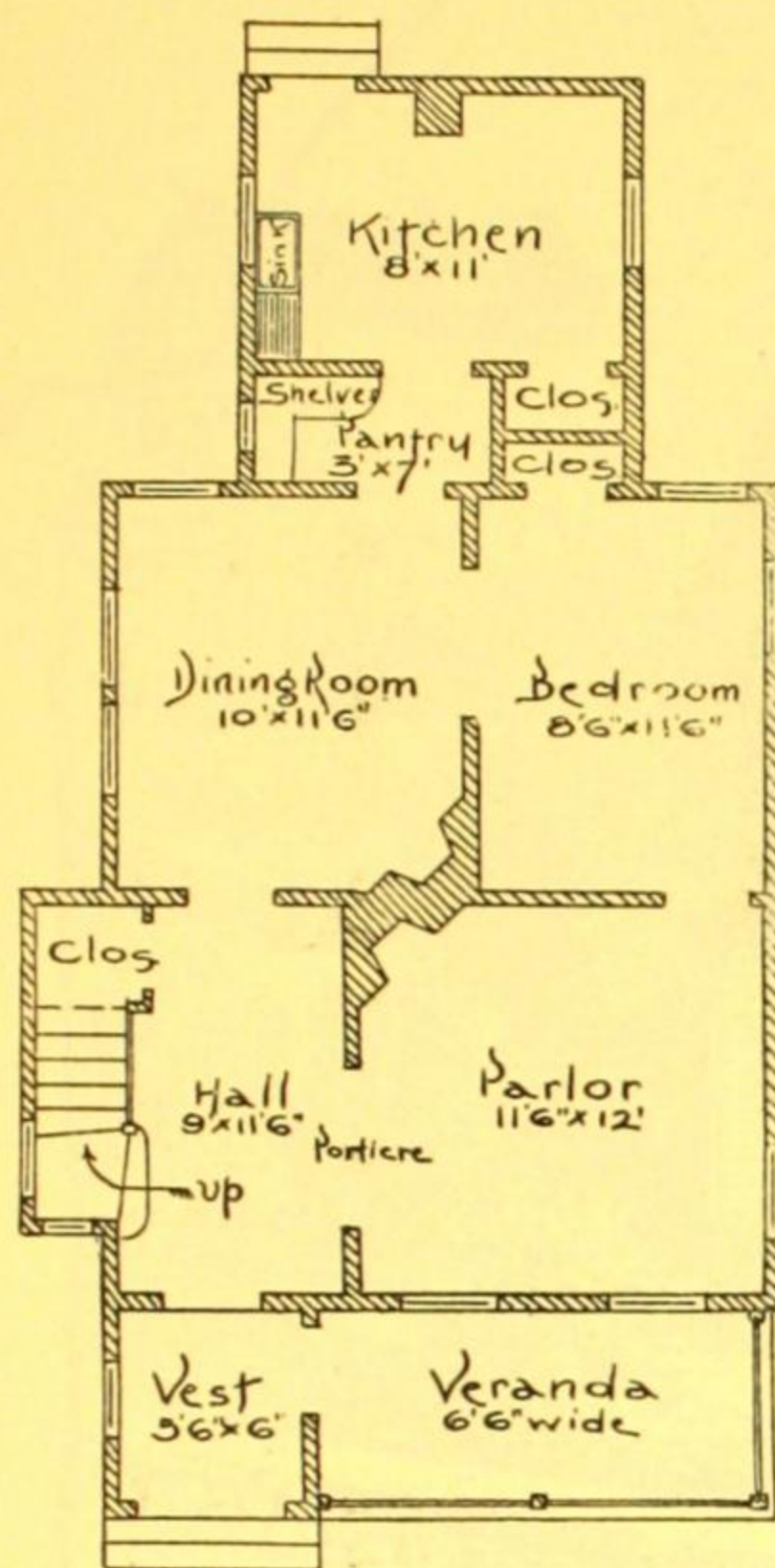
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES. — Can be built on a 25-foot lot, leaving space of 2 ft., 6 in., at the side for a passage to the rear.

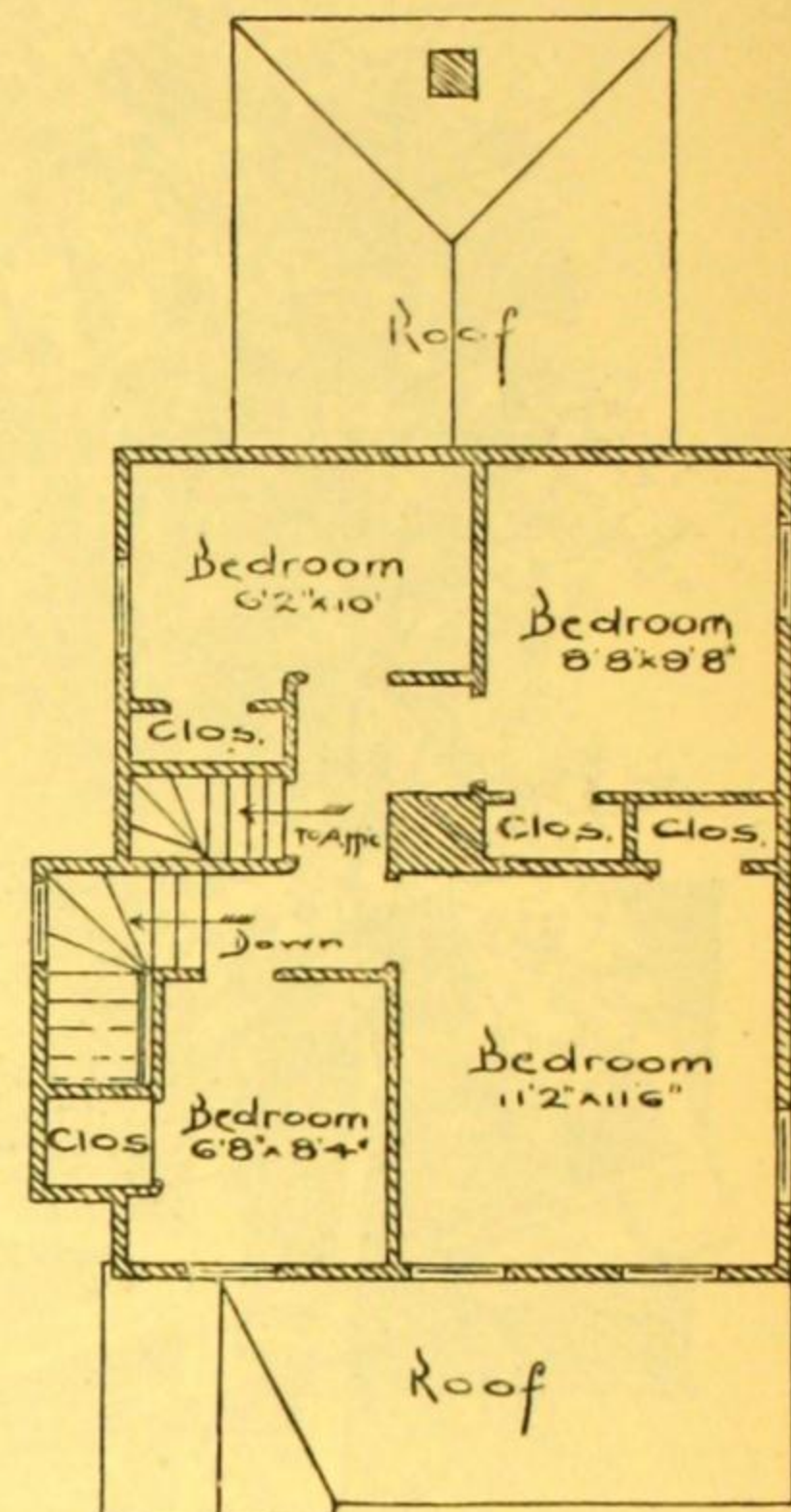
No cellar. The house stands upon wood posts, set well into the ground.

Large, open attic, not finished, but floored.

The enclosed porch or vestibule is an advantage in winter, as it protects the hall from cold. In summer the doors of this vestibule can be removed, which makes it, practically, an open porch.



FIRST FLOOR. NO. 432



SECOND FLOOR. NO. 432

DESCRIPTION OF DESIGN NUMBER 433

THE EXTERIOR APPEARANCE IS SIMILAR TO THAT OF DESIGN NUMBER 431

SIZE OF STRUCTURE: Front, 24 ft.; extreme width, including veranda and stairway projection, 33 ft., 2 in. Side, 36 ft., 4 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone and brick under dining-room and kitchen, and wood posts under remainder; First Story, clapboards; Second Story, clapboards; Roof, shingles.

COST: \$2,150, complete, except range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

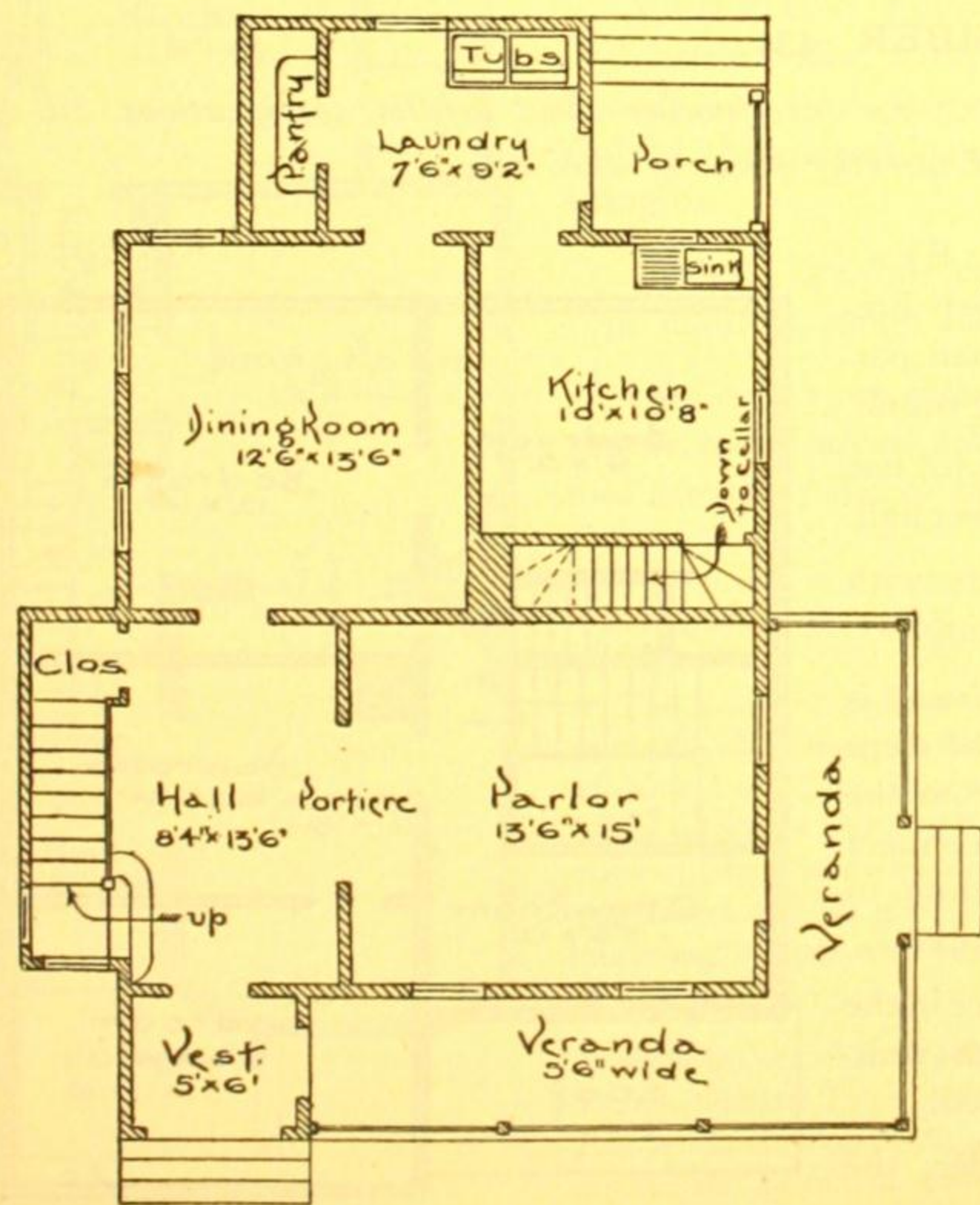
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

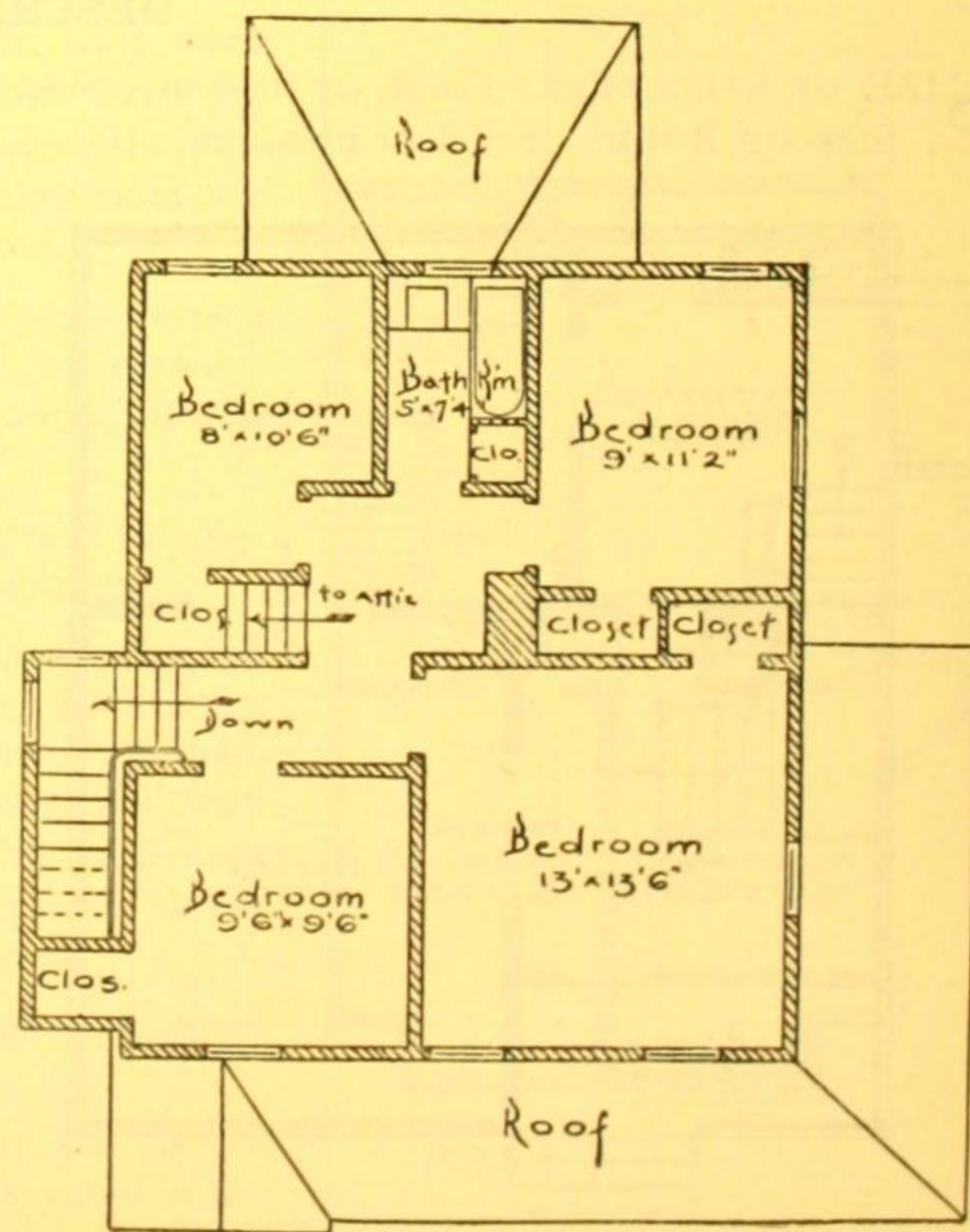
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES. — Cellar under the dining-room and kitchen.

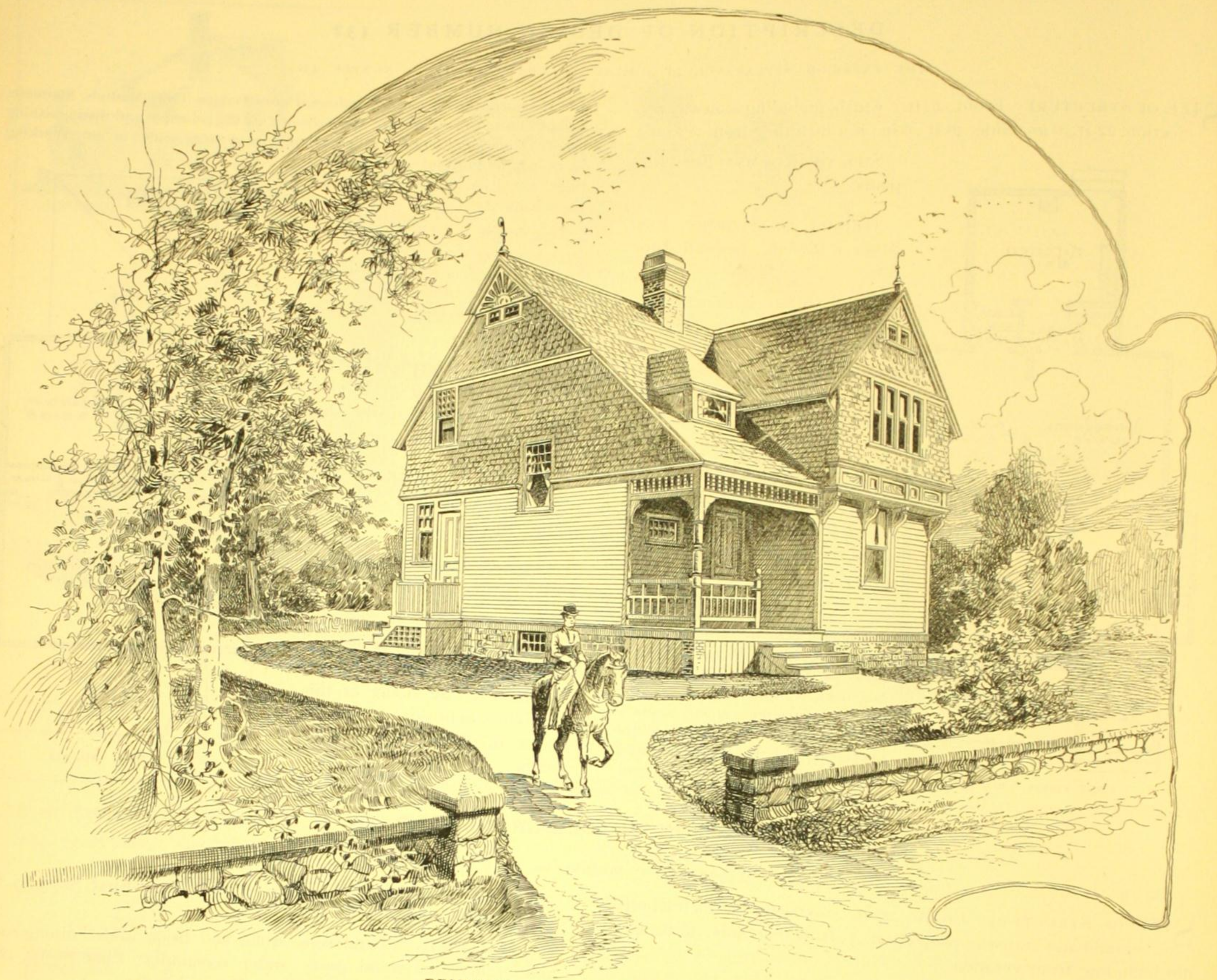
Two bedrooms and a hallway are finished in the attic.



FIRST FLOOR. NO. 433



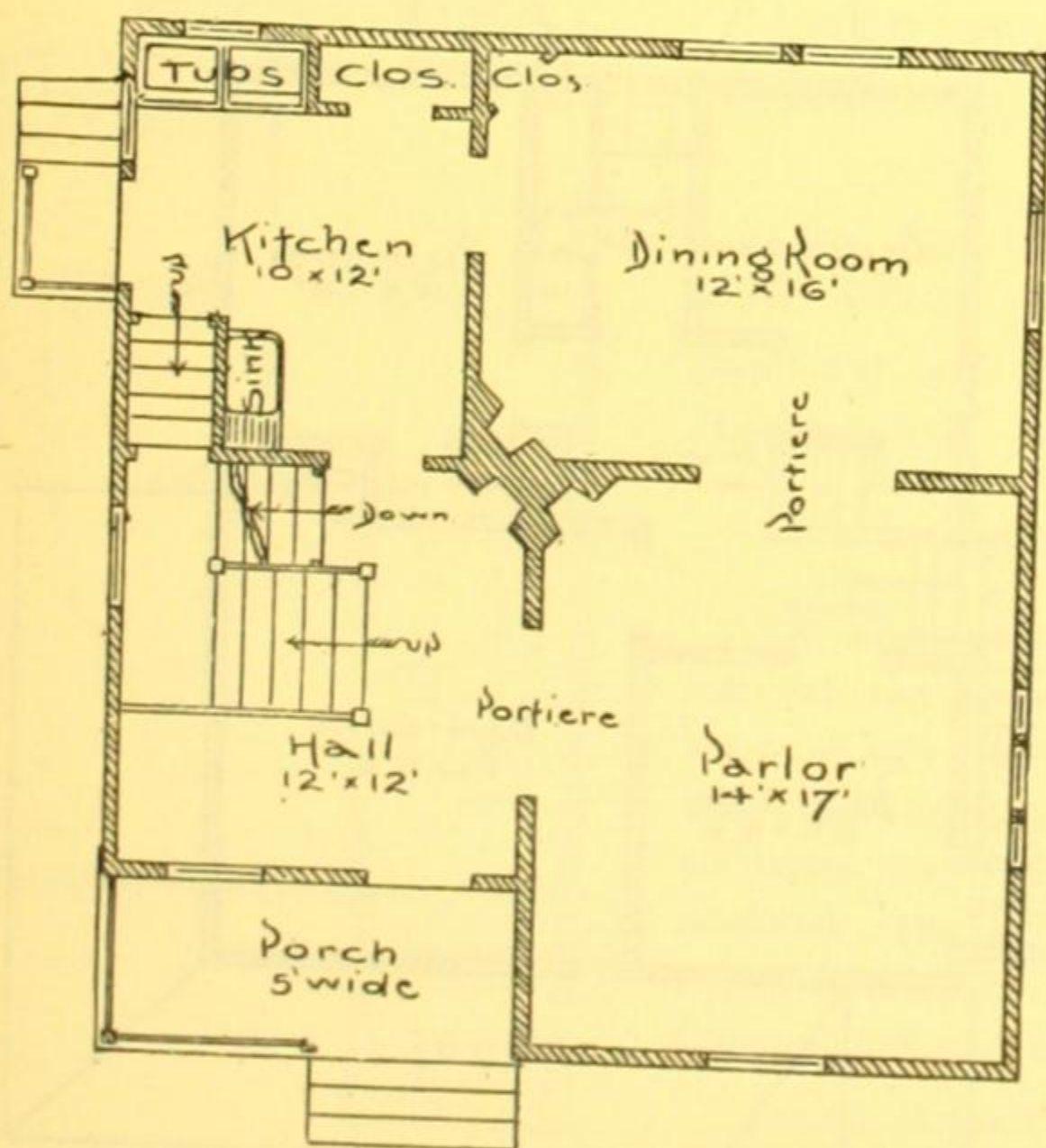
SECOND FLOOR. NO. 433



DESIGN No. 434. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 434

SIZE OF STRUCTURE: Front, 27 ft., 6 in. Side, 30 ft., 6 in.
 SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 434

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,500, complete, except range.

SPECIAL FEATURES.—Open fireplaces in the hall, parlor and dining-room.

Good space for hat rack in the lower hall.

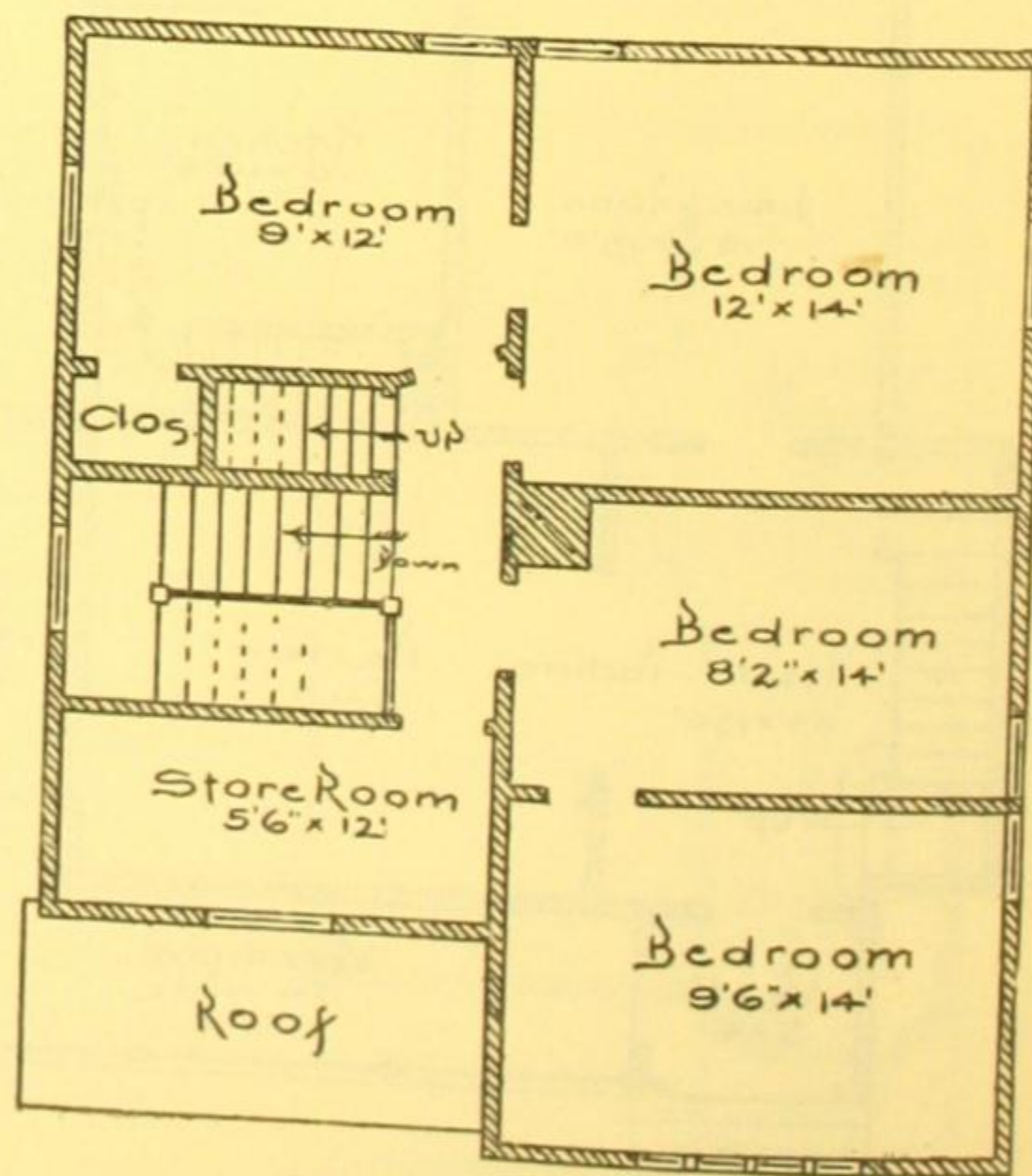
Wide staircase with platform landing.

A back stairway is provided by the steps which start from the kitchen and connect with the landing of the main staircase.

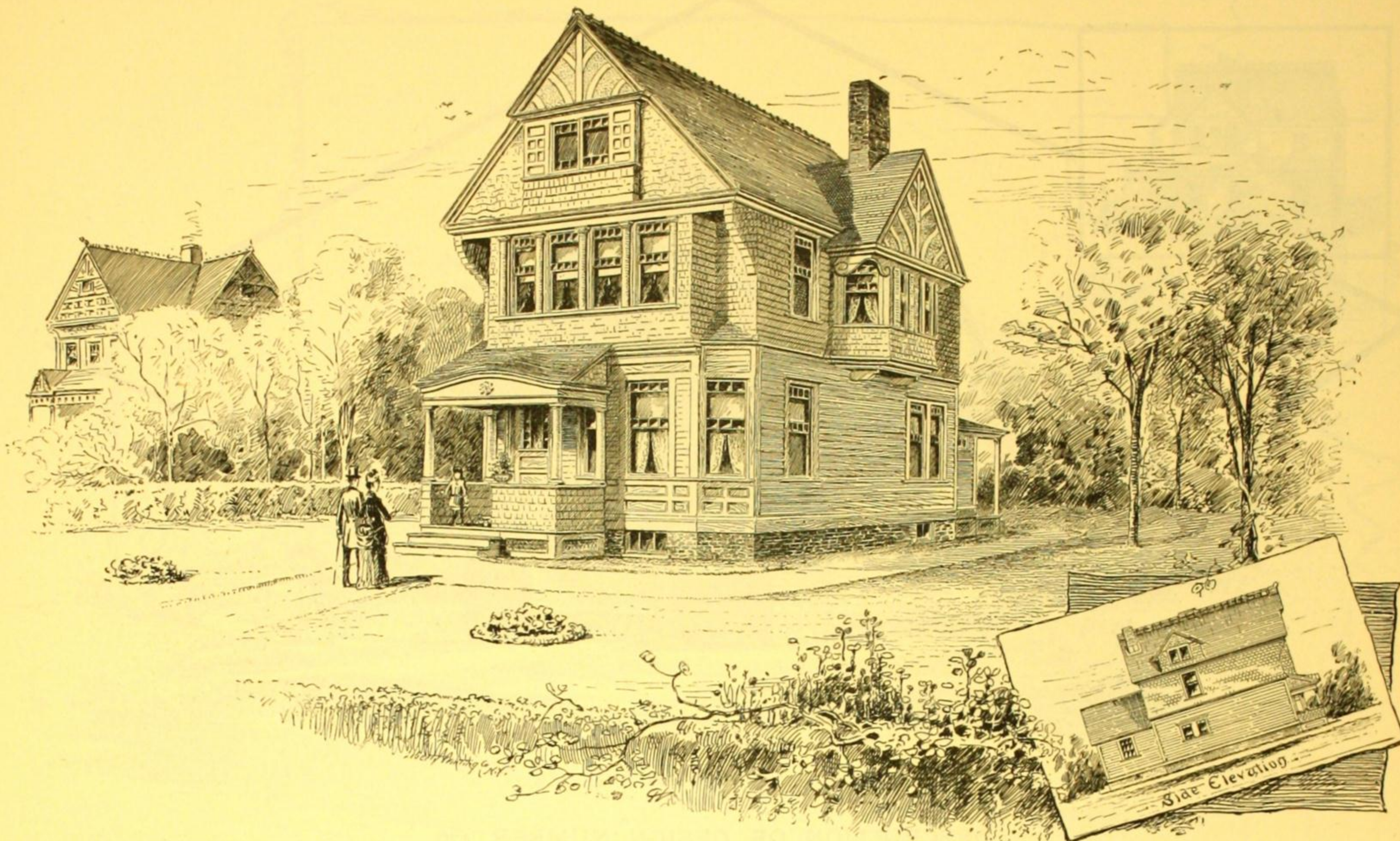
Storage space in the attic, to which stairway is provided.

Cellar under the whole house.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]



SECOND FLOOR. NO. 434

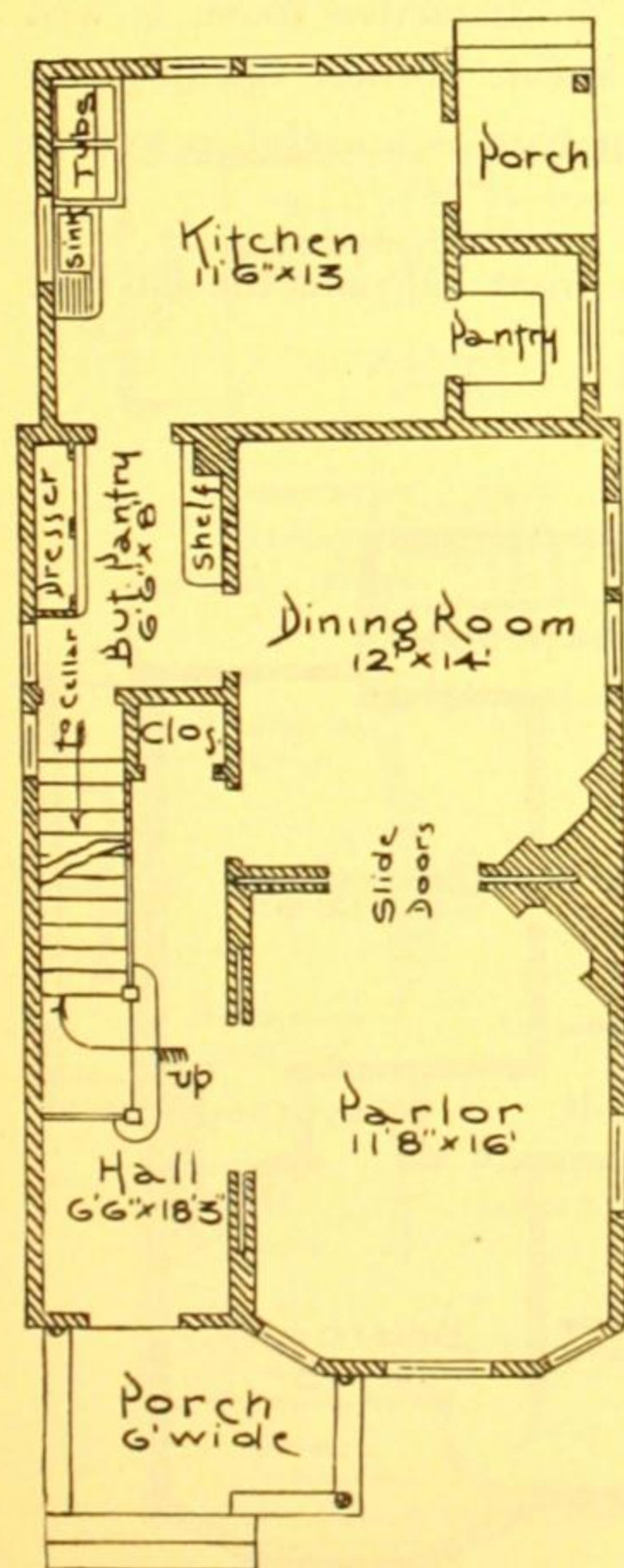


DESIGN No. 435. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 435

SIZE OF STRUCTURE: Front, 20 ft. Side, not including porch, 43 ft., 6 in.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR, NO. 435

HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick walls; First Story, clapboards; Second Story, shingles; Gables, shingles and paneling; Roof, shingles.

COST: \$2,300, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully

shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A very compact, convenient and attractive house.

The hall, 6½ ft. wide, communicates with the parlor by double sliding doors; the parlor and the dining-room are similarly connected.

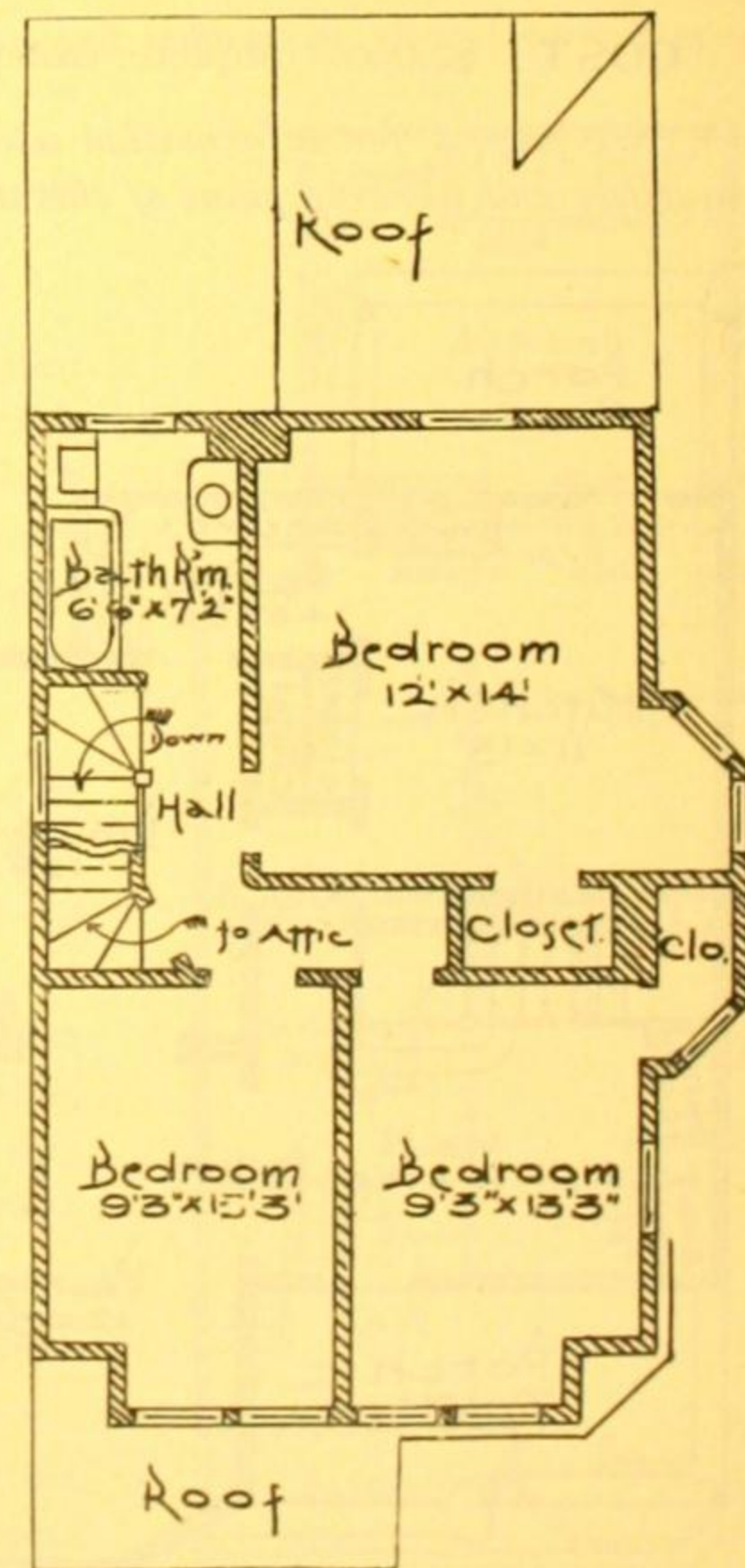
The butler's pantry has a dresser, shelves and drawers. A large store pantry off the kitchen.

Open fire-places in the parlor and the dining-room.

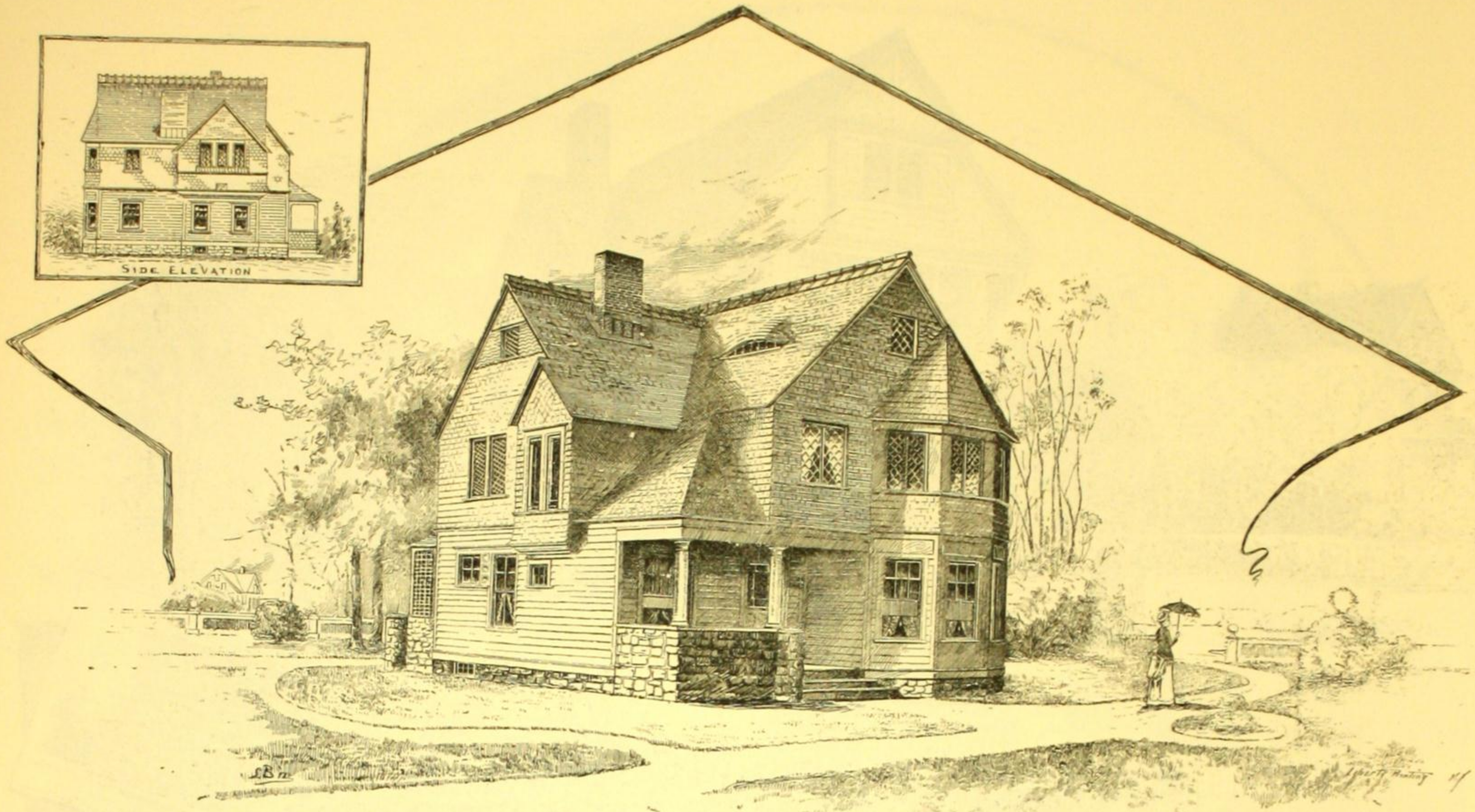
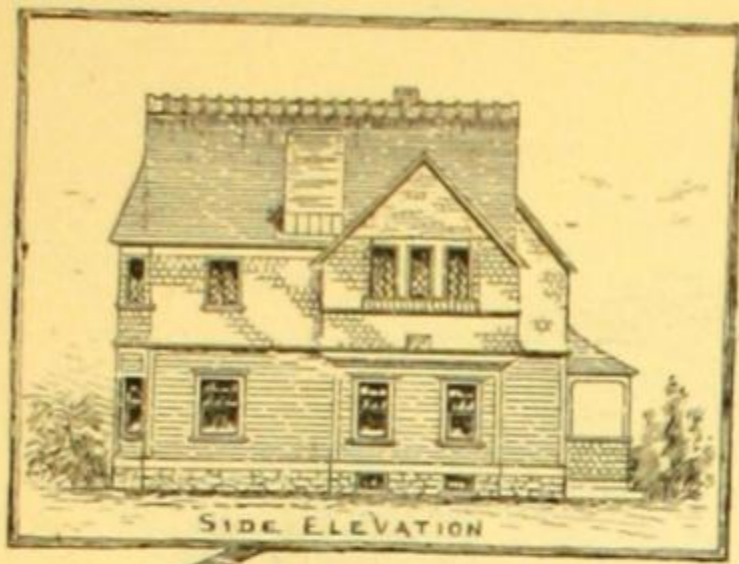
Three bedrooms of good size on the second floor, and a bath-room. Two of the bedrooms have connection with the chimney. The bath-room water-pipes are placed at the side of the chimney.

A servant's room is finished in the attic.

Cellar under the main house. Not excavated under the kitchen part.



SECOND FLOOR, NO. 435



DESIGN No. 436. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 436

SIZE OF STRUCTURE: Front, 28 ft. Side, 34 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,600, complete, except mantels, range and heater.

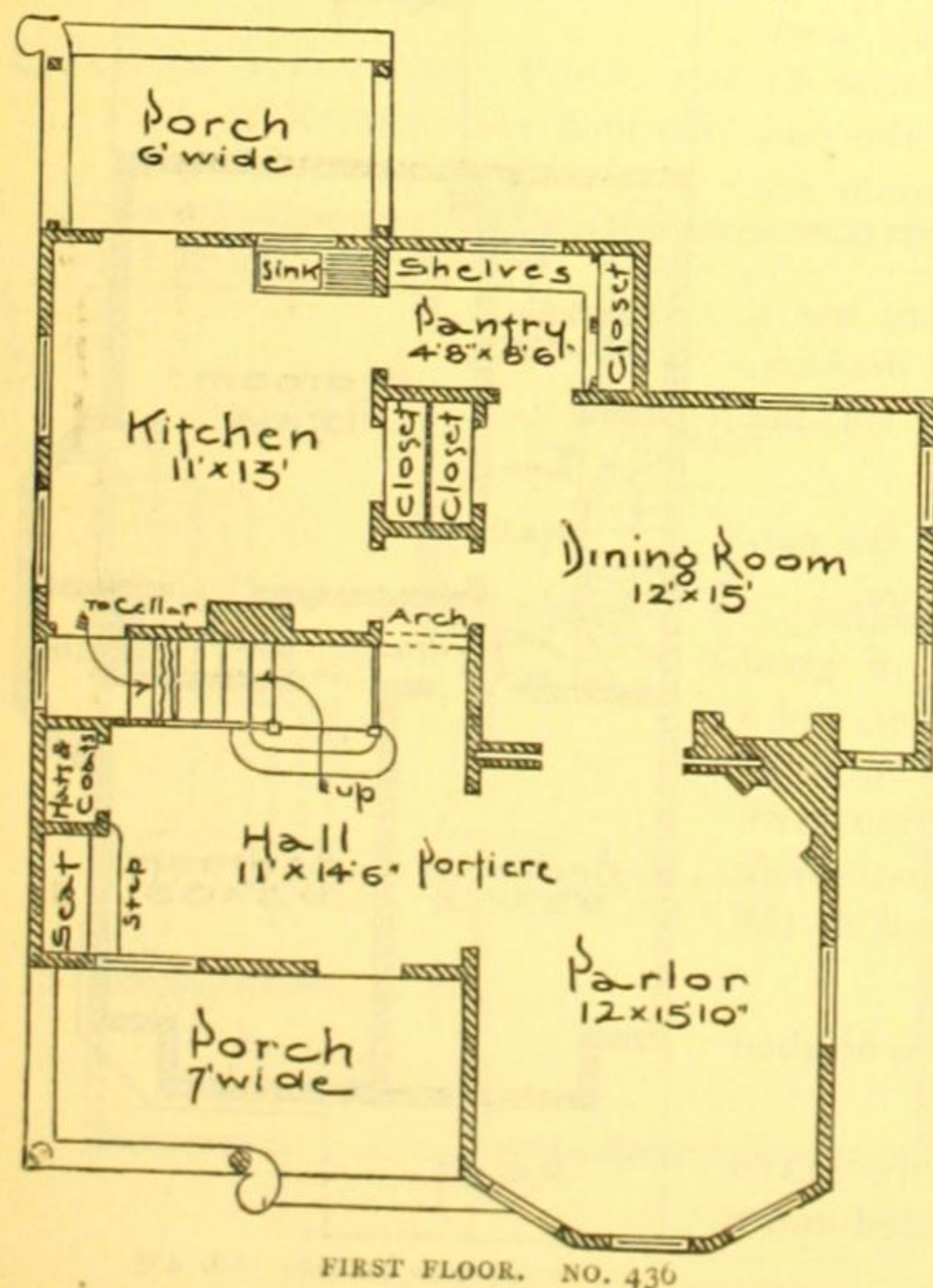
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The hall is an attractive room, is well lighted and opens into the parlor by a wide portiere opening. A permanent seat on a platform one step high is a useful as well as a pretty feature.

Direct communication between the front hall and the kitchen.



FIRST FLOOR. NO. 436

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

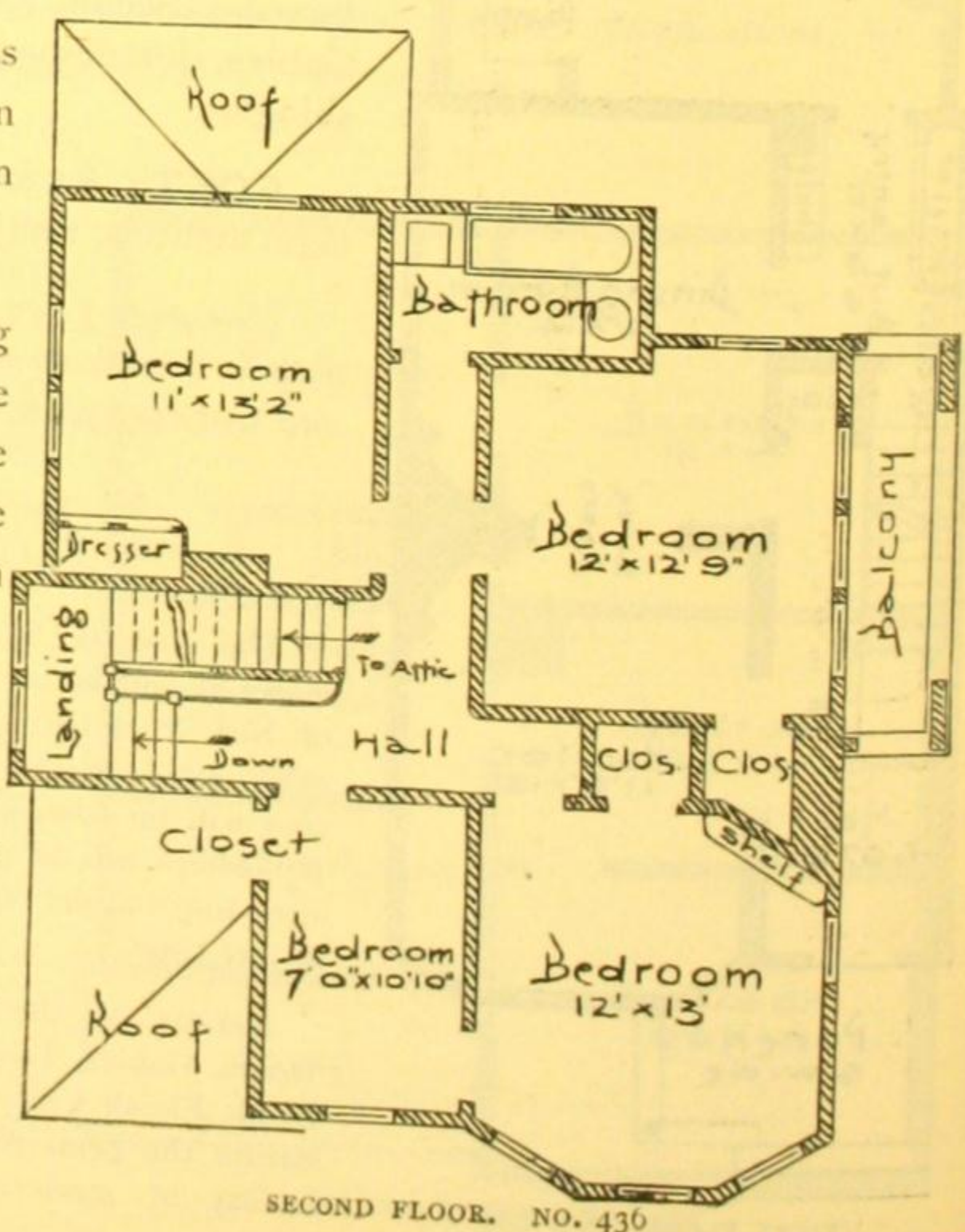
Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing

Large pantry, as well as kitchen and dining-room closets.

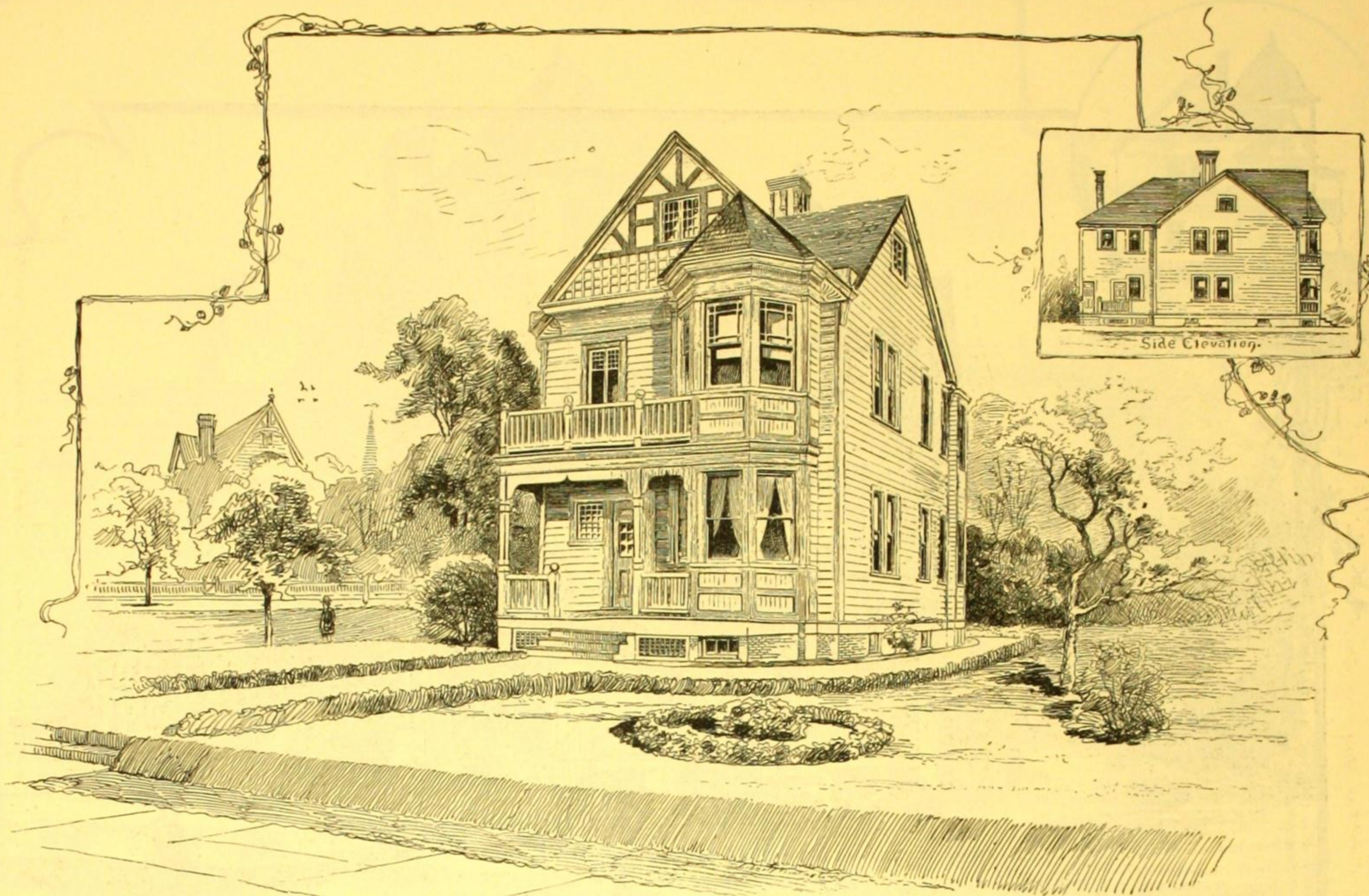
Double sliding doors between the parlor and the dining-room; these rooms have open fire-places.

An open attic, floored, where two rooms can be finished if desired.

Cellar under kitchen and dining-room. Provision for a furnace.



SECOND FLOOR. NO. 436



DESIGN No. 437. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 437

SIZE OF STRUCTURE: Front, 22 ft. Side, 48 ft., 3 in., not including front bay and porch.

SIZE OF ROOMS: See floor plans.

constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

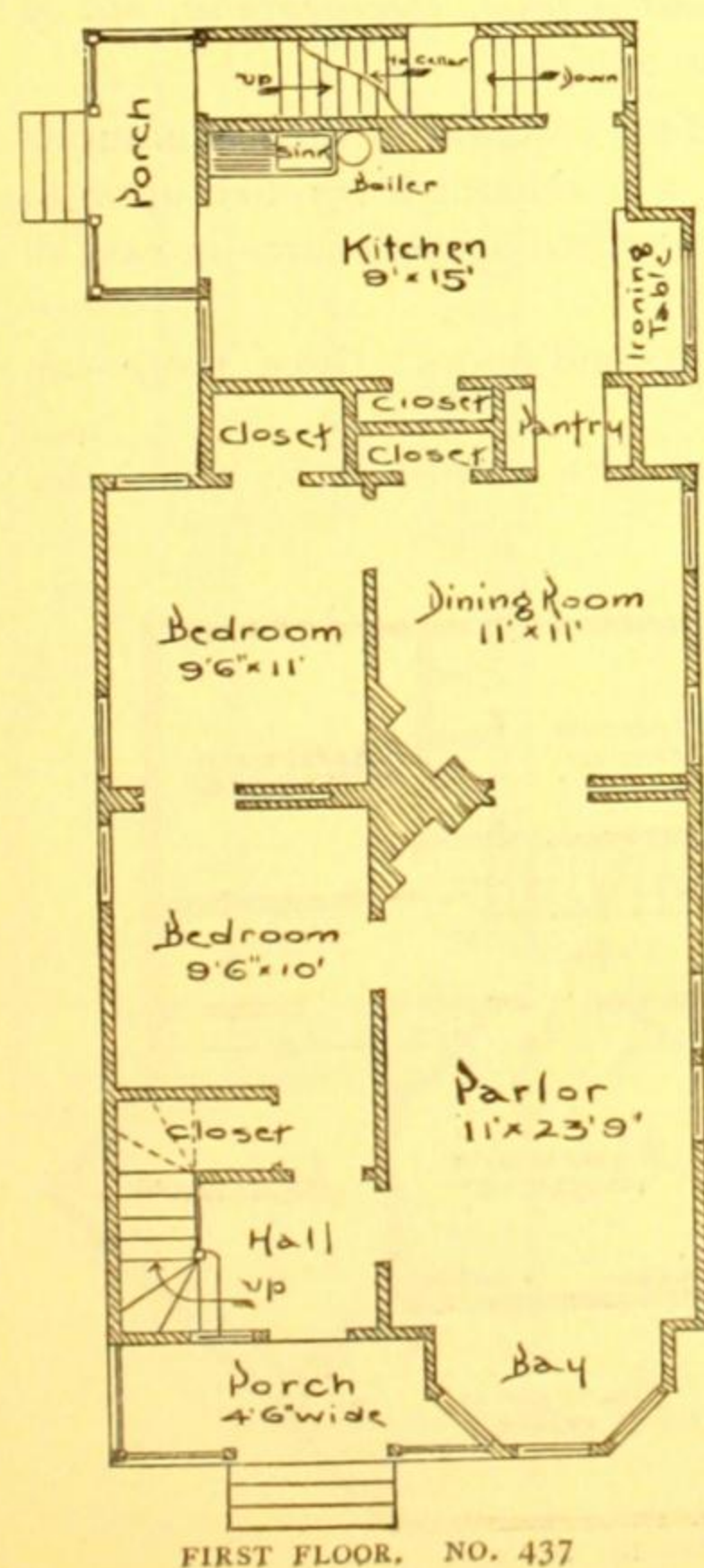
SPECIAL FEATURES: Designed to accommodate two families, each family having six rooms; the sixth room for each family is a bedroom of good size in the attic, warmed by the chimney. There are two trunk-rooms, also, in the attic.

The stairway at the rear end of the house gives the second floor occupants independent access to the yard.

The kitchen bay window makes a fine ironing or moulding table, as it has a solid, smooth top; underneath the top are drawers.

Sliding doors connect parlor and dining-room and the bedrooms.

Cellar under the whole house. Stationary tubs and water-closet in the cellar.



HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, clapboards; Gables, front paneled; side gables, shingled; Roof, shingles.

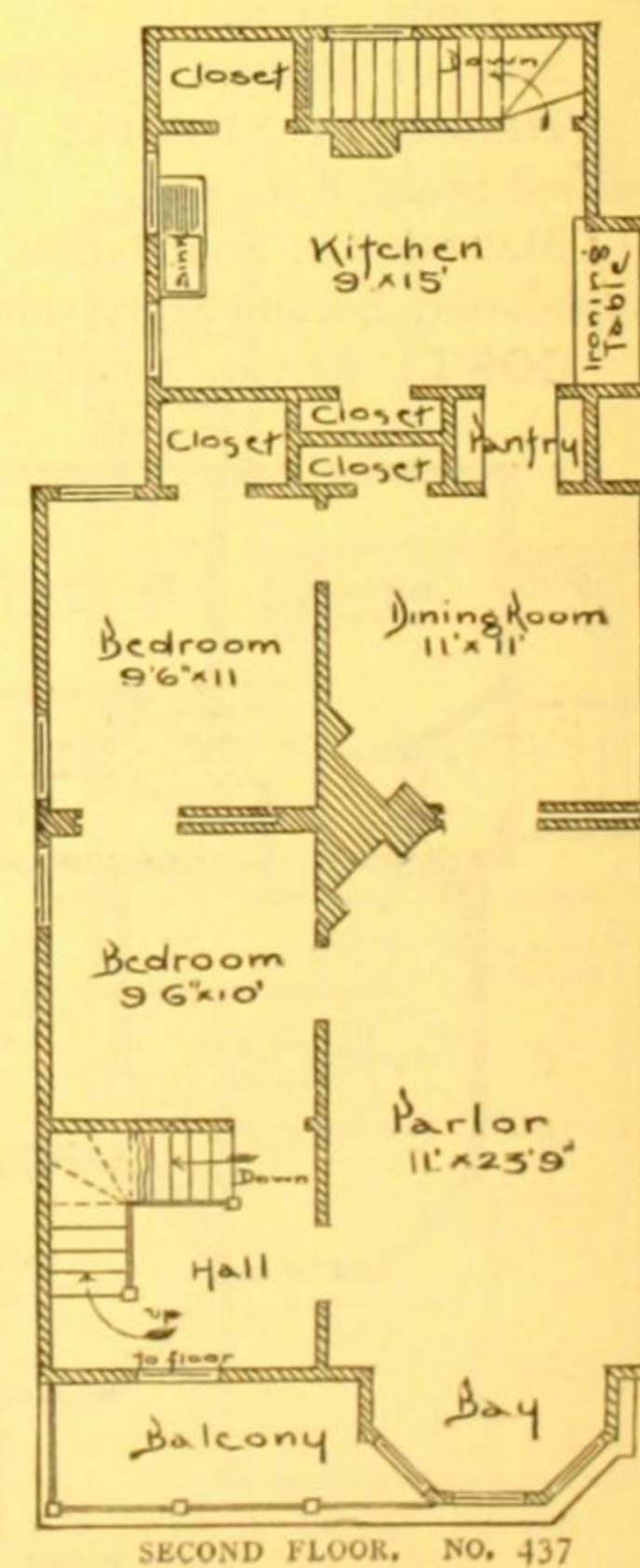
COST: \$2,500, complete, except mantels and ranges.

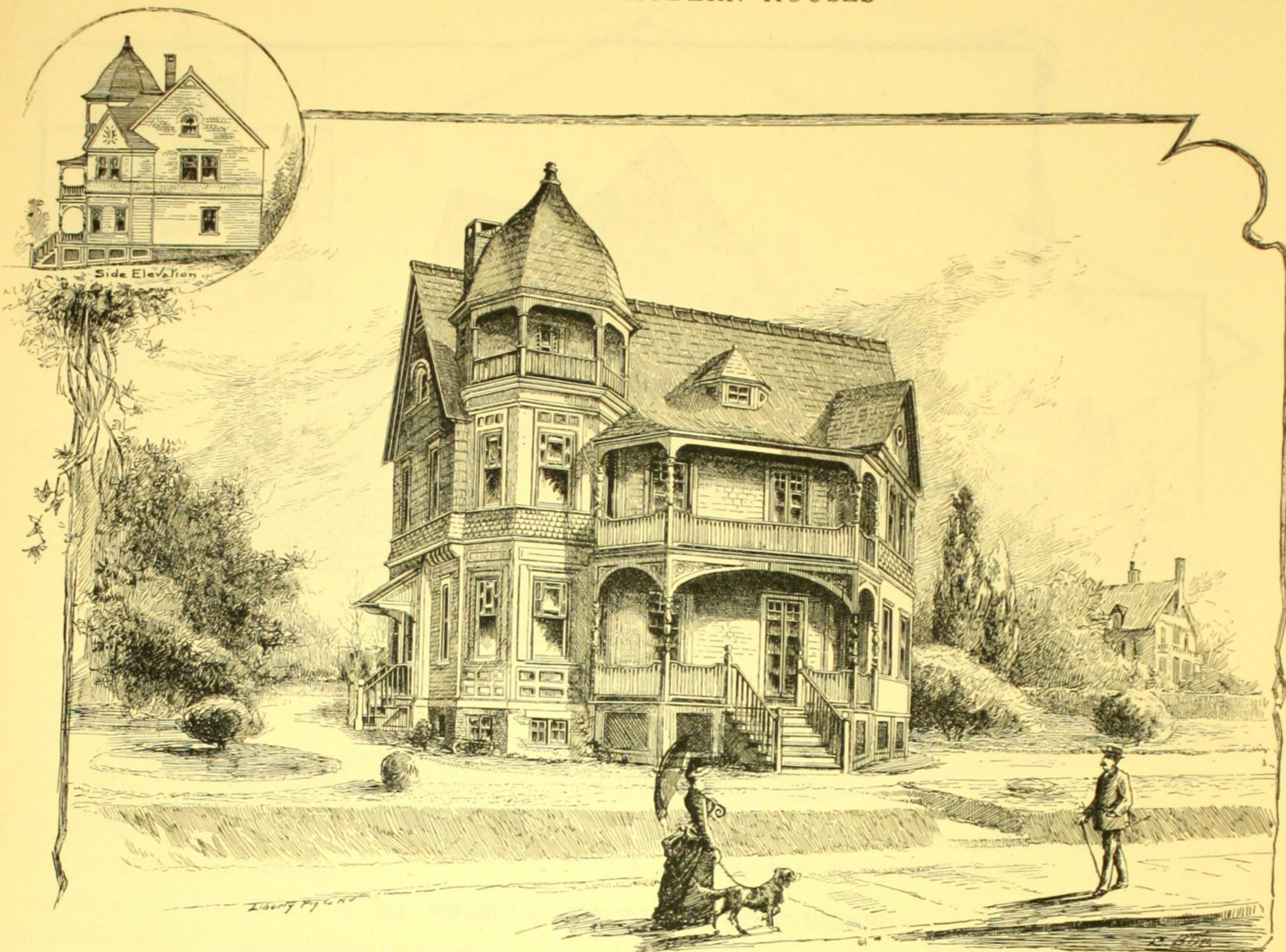
[See page 3 for information about details specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these





DESIGN No. 438. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 438

SIZE OF STRUCTURE: Front, 38 ft. Side, including front veranda, 33 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft.; Second Story, 8 ft., 8 in.

MATERIALS: Foundation, stone wall and brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,500, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed for erection in the Chautauqua Assembly Grounds, New York, near a hotel which is relied upon to supply meals. A small kitchen is provided as a resource in case of necessity.

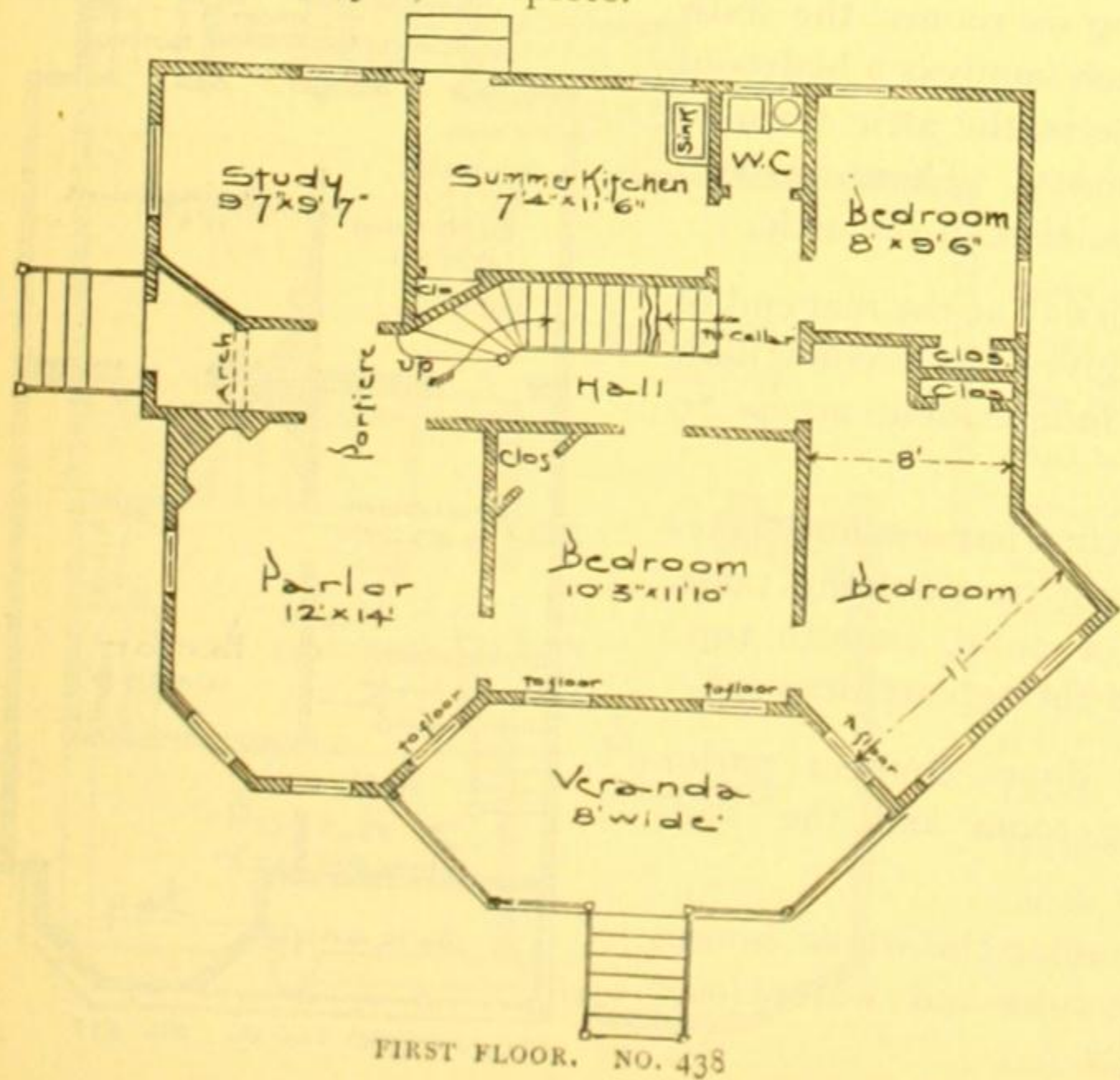
Nine bedrooms on the first and second floors; three more can be finished in the attic.

Cellar under the parlor, enclosed with stone walls; remainder of the house is set on brick piers.

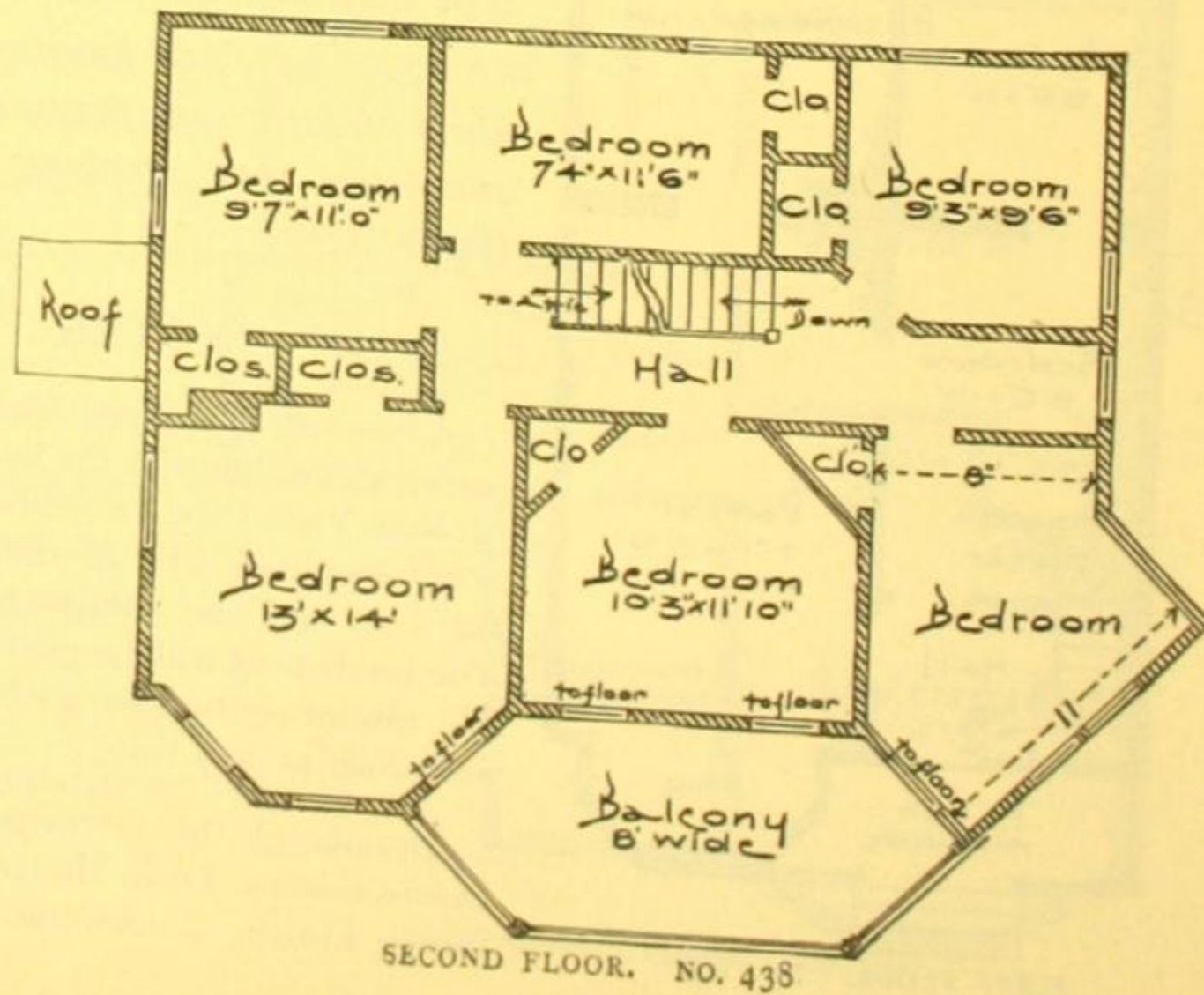
NOTES

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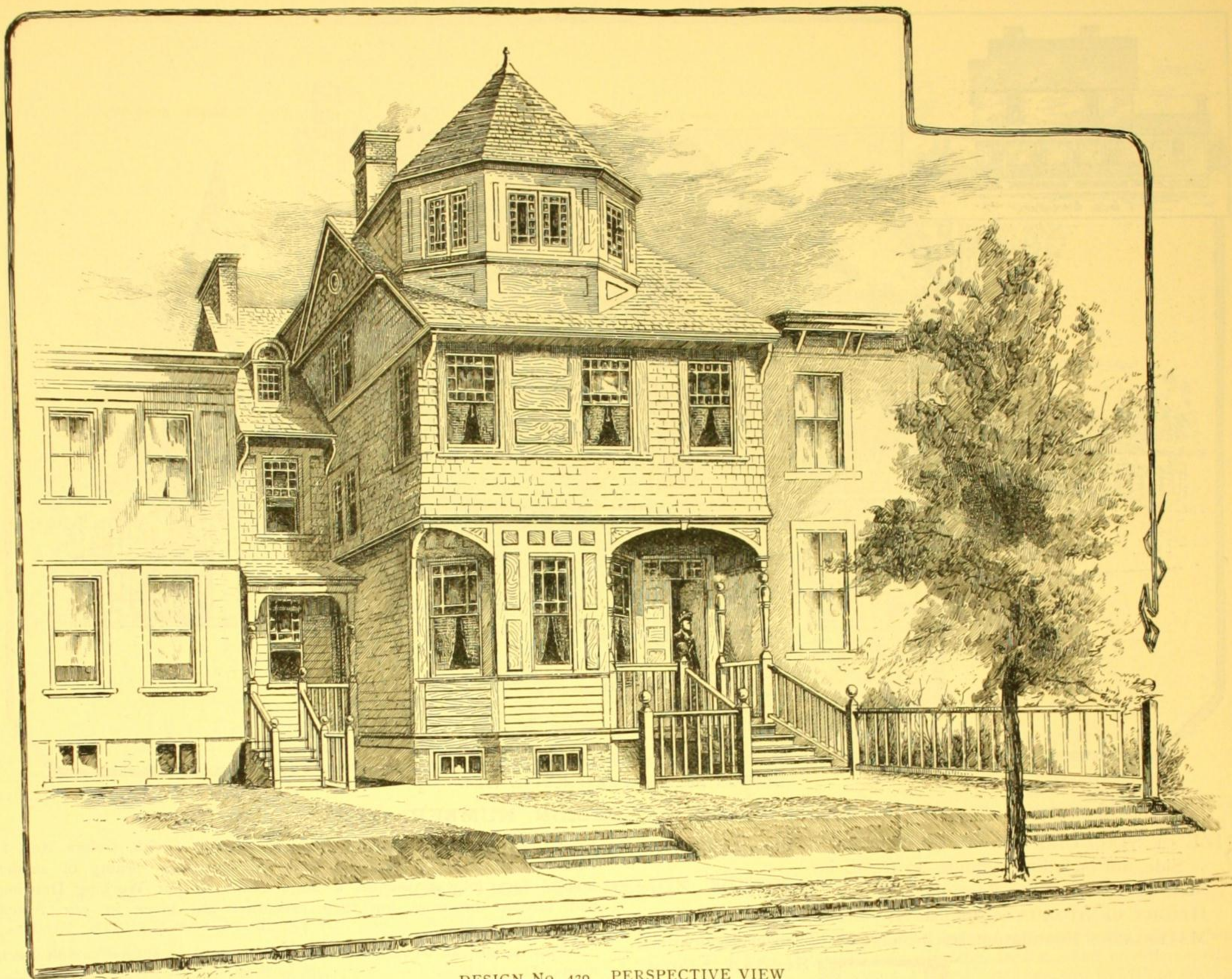
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



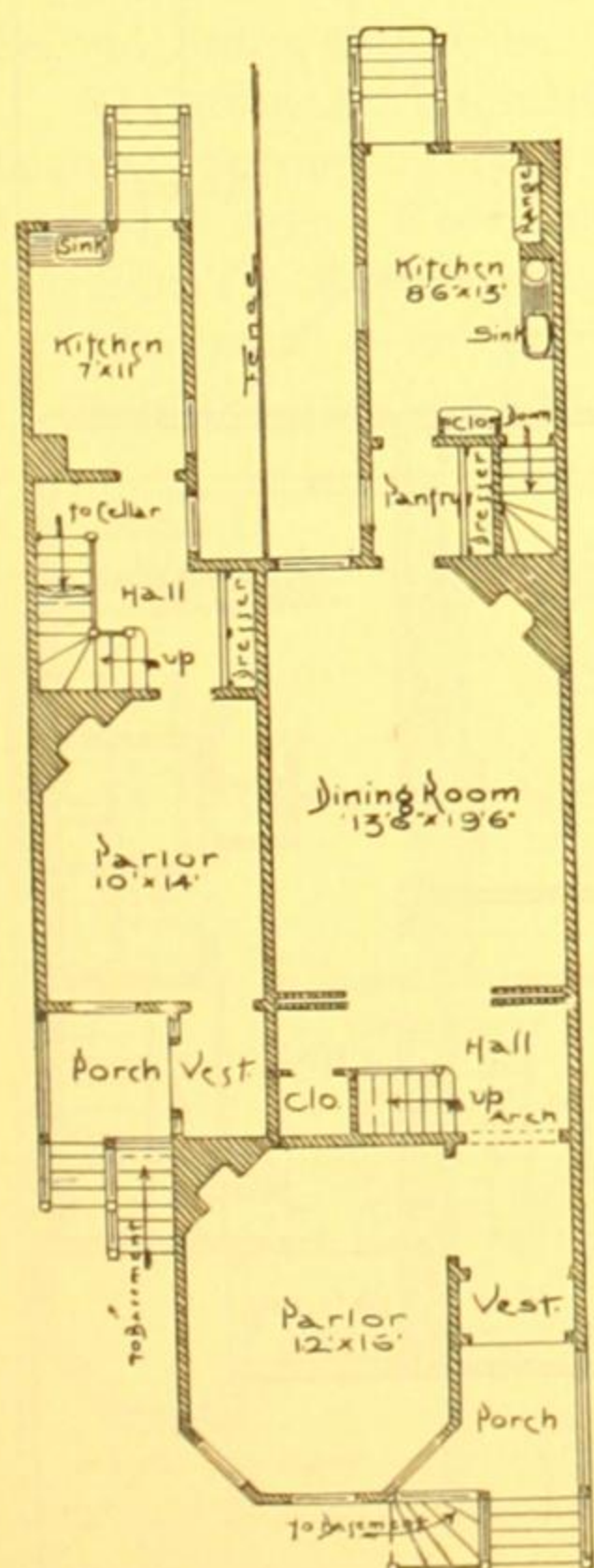
FIRST FLOOR, NO. 438



SECOND FLOOR, NO. 438



DESIGN No. 439. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 439



FIRST FLOOR. NO. 439

SIZE OF STRUCTURE: Front, 19 ft.; extreme width, 25 ft. Side, extreme depth, 63 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, brick wall; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels and ranges.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

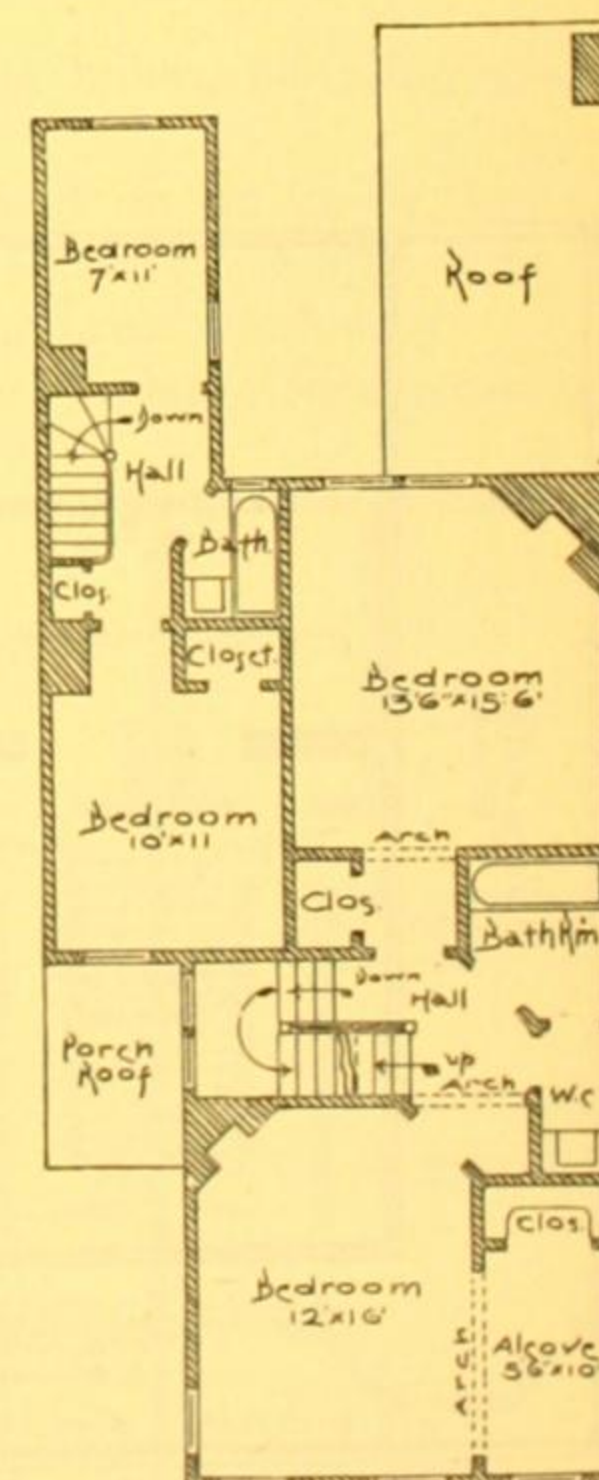
The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

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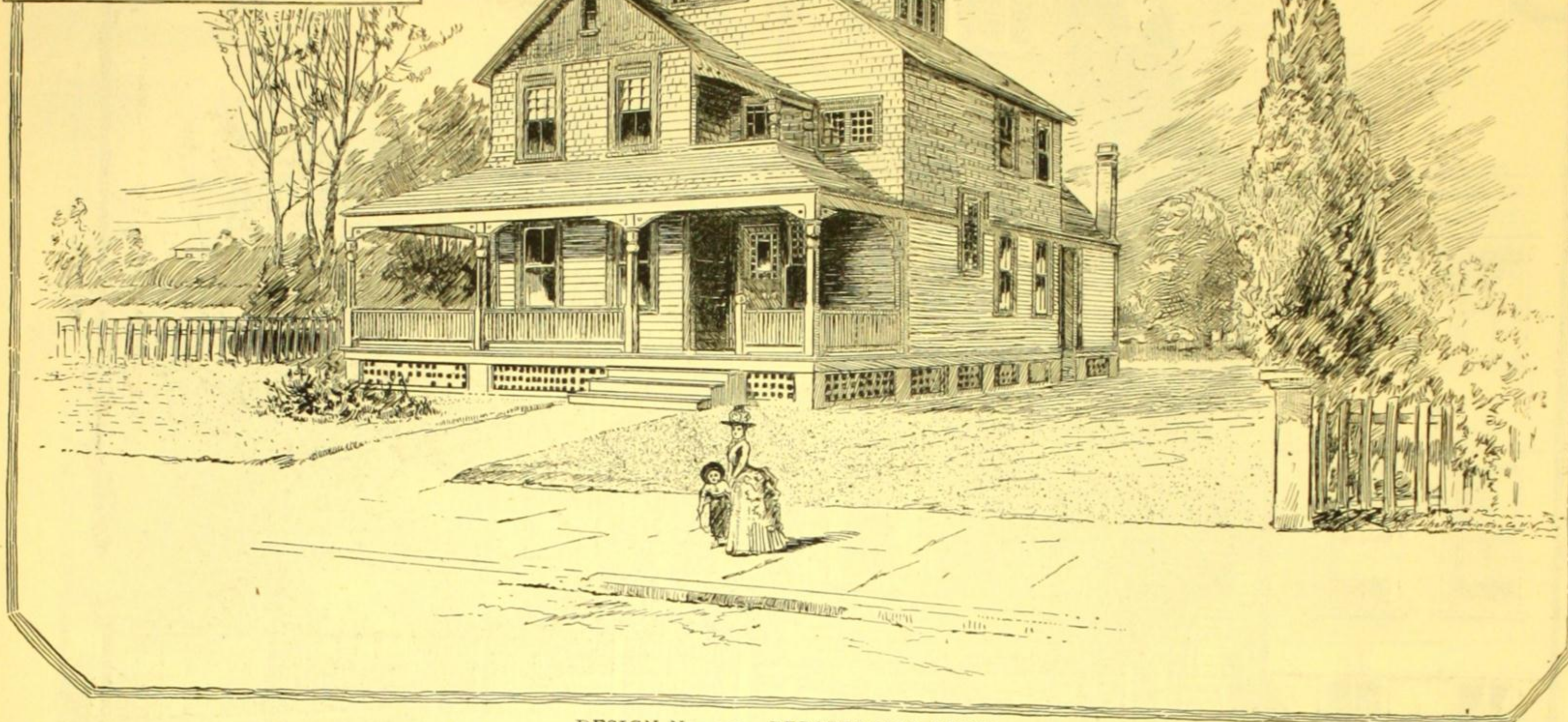
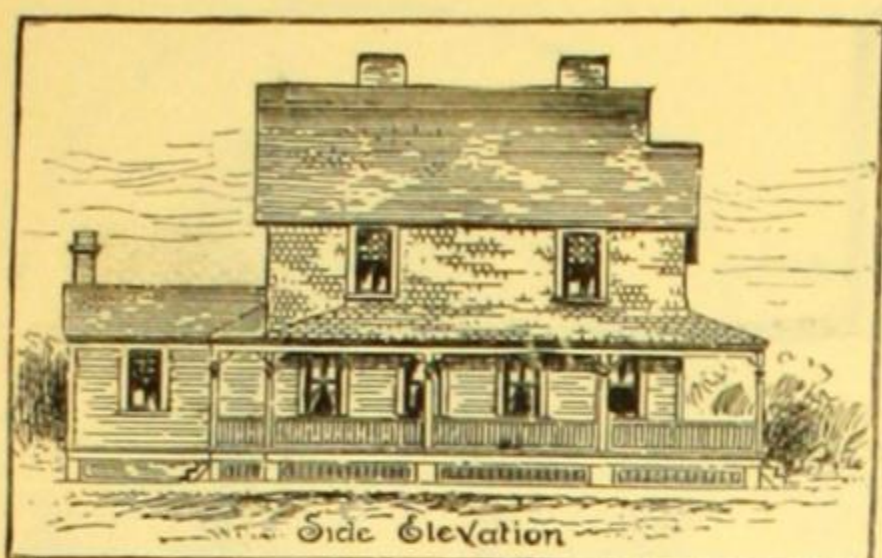
SPECIAL FEATURES.—A double house, built on the full width of a city lot, designed for a single lady, who required small but complete apartments for herself, and larger and complete apartments for the purpose of renting. This is a very suggestive design for an investor, as both sets of apartments will rent well.

The floor plans fully show the arrangement. The smaller set of apartments has four rooms, the larger set, eight rooms, three of them being on the attic floor.

Separate entrance to the basement or cellar of each, in front, to accommodate the delivery of fuel, household supplies, &c.



SECOND FLOOR. NO. 439



DESIGN No. 440. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 440

SIZE OF STRUCTURE: Front, not including veranda, 29 ft., 6 in.

Side, not including veranda, 49 ft., 10 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards;

Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,600, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows,

Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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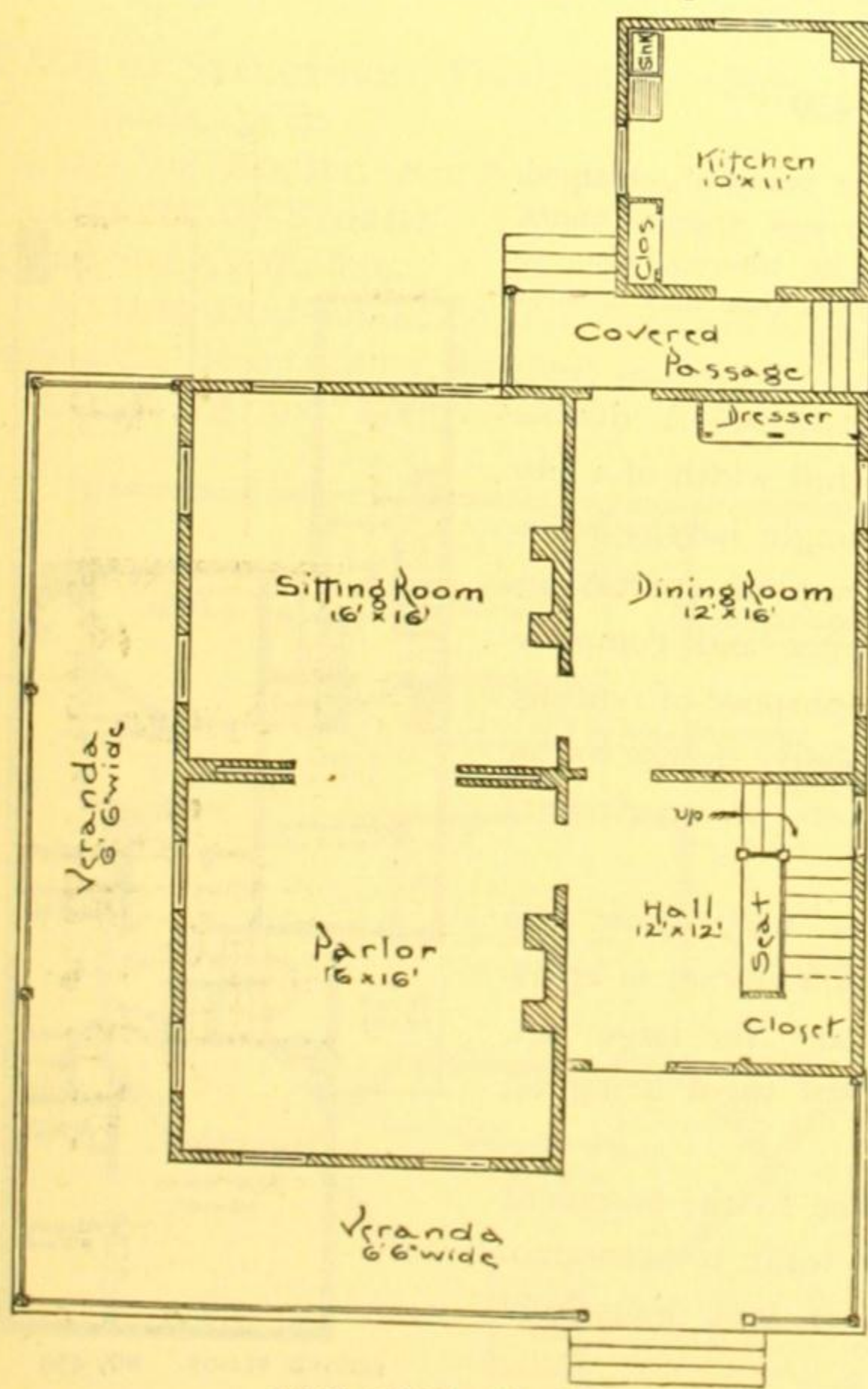
SPECIAL FEATURES.—A good sea-side or Southern cottage. If walls are substituted for pier foundations it makes a good house for any climate.

Large rooms. Open fire-places.

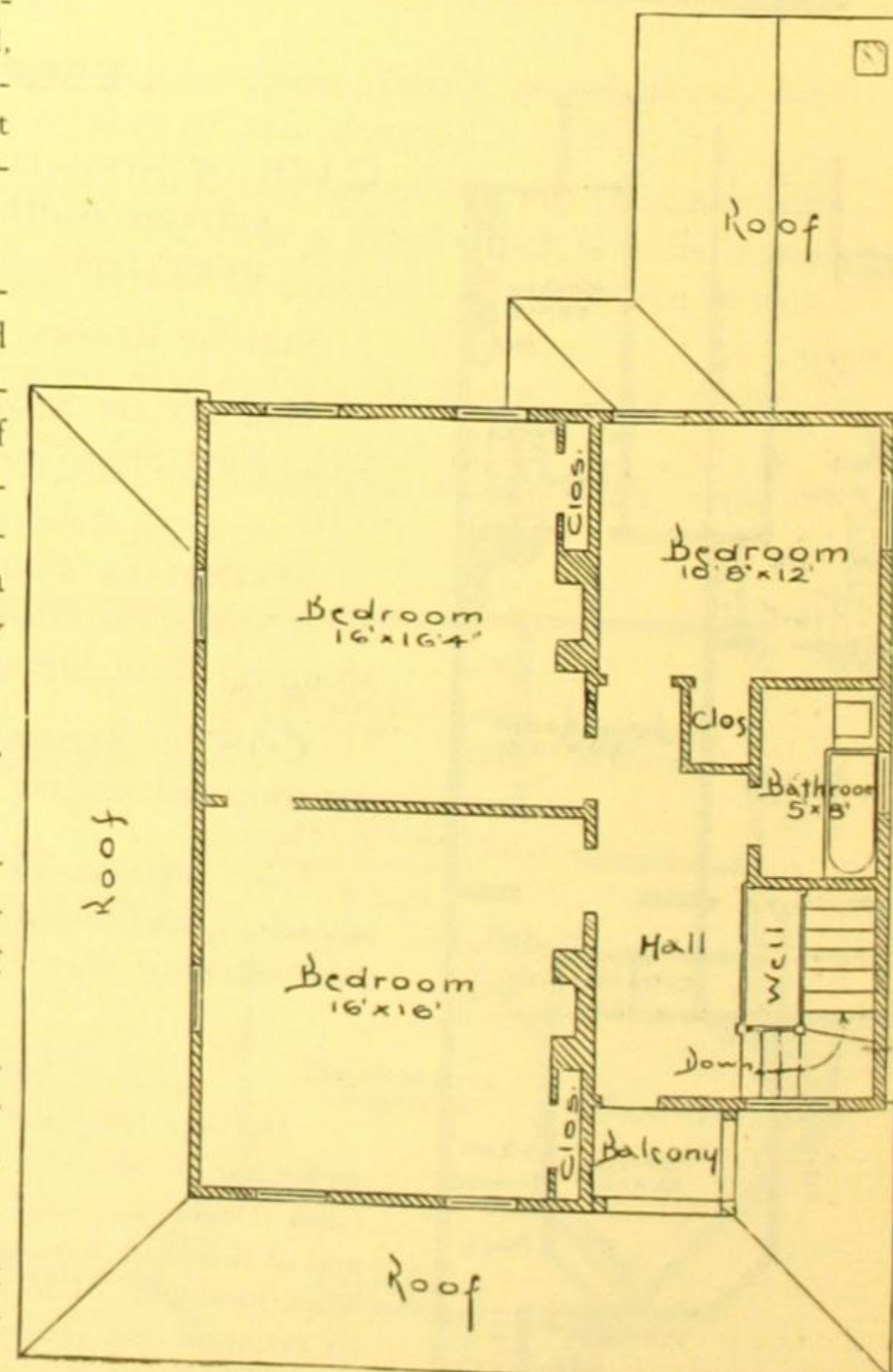
Parlor and sitting-room are connected by sliding doors.

Large open attic, where two or three rooms can be finished if desired.

No cellar; brick piers are used for foundations.



FIRST FLOOR, NO. 440



SECOND FLOOR, NO. 440



DESIGN No. 441. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 441

SIZE OF STRUCTURE: Front, 34 ft. Side, including bay window, 35 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, front, shingles; elsewhere, clapboards; Gables, shingles; Roof, shingles.

COST: \$3,600, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

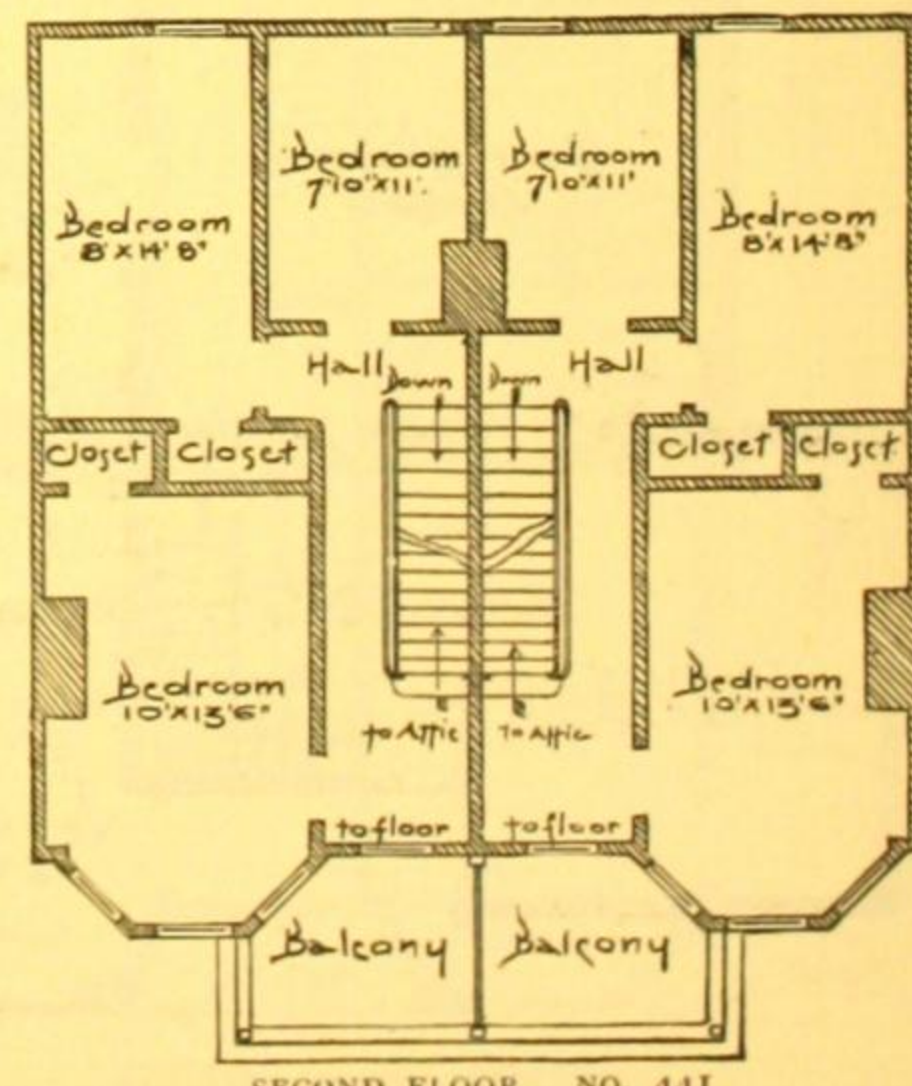
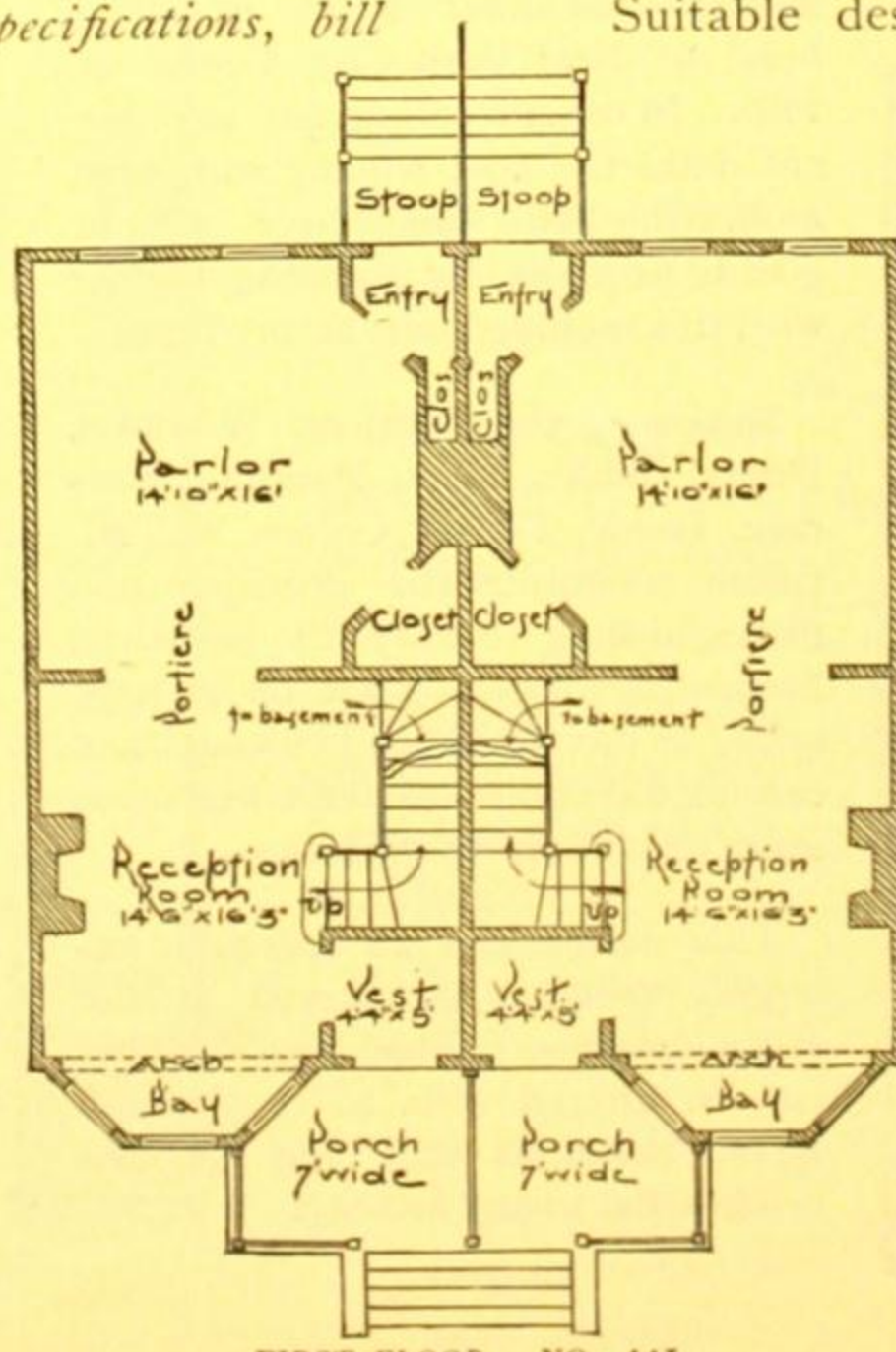
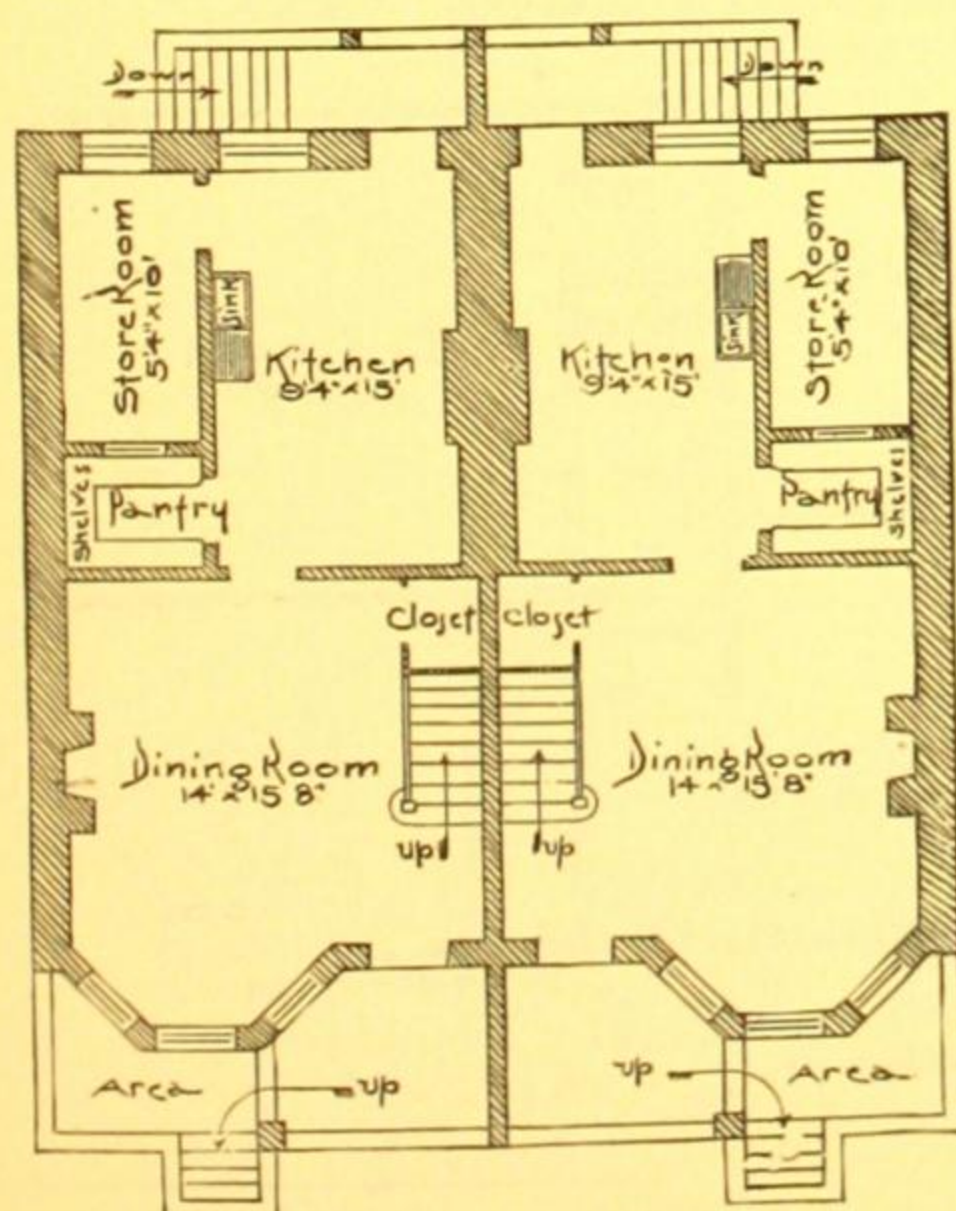
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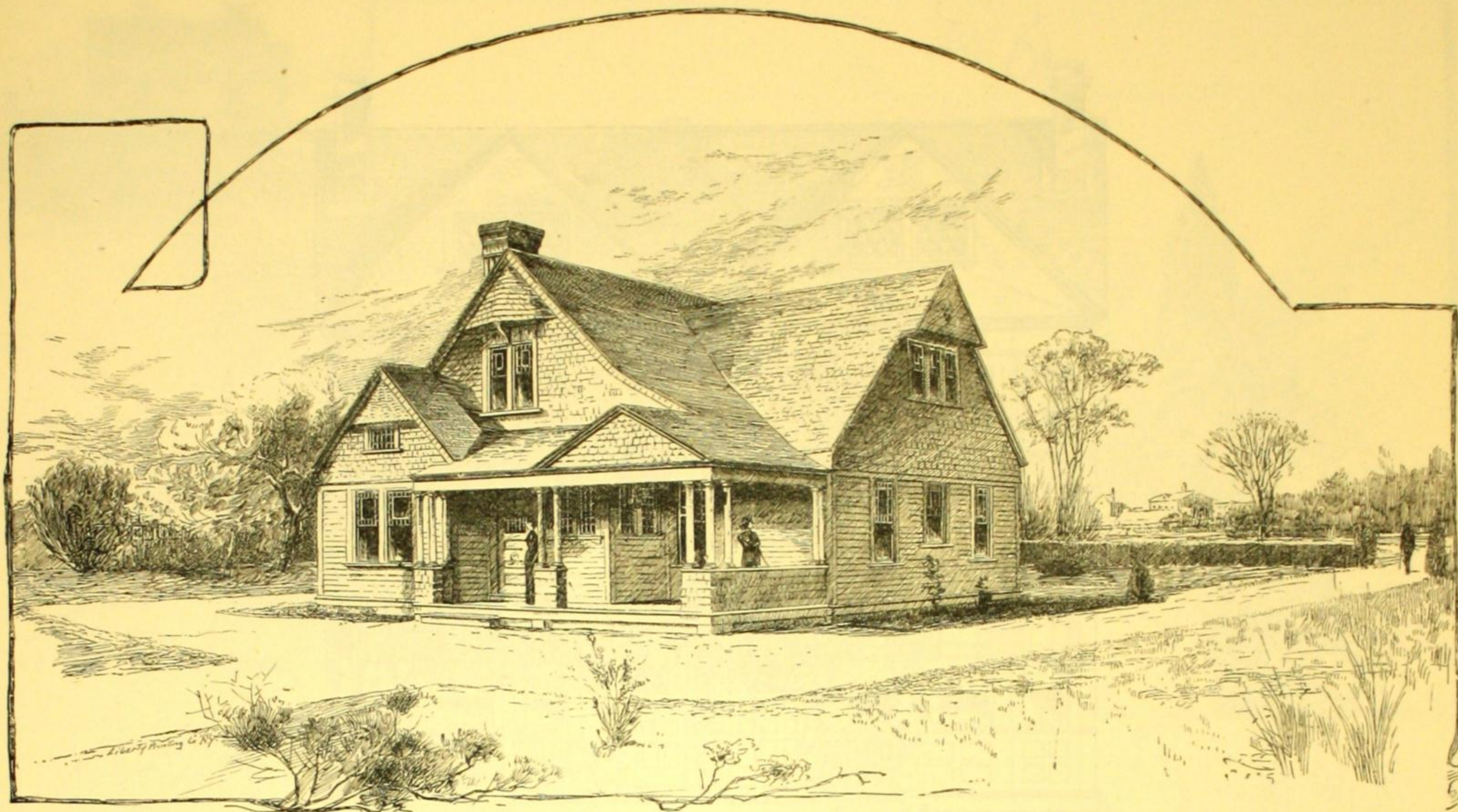
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A small double house, affording good accommodations for two families.

Suitable design for a row of buildings on an inside lot, as side windows are unnecessary. Ample light is afforded by the front and rear windows.

Large attic, where two large rooms can be finished if desired.





DESIGN No. 442. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 442

SIZE OF STRUCTURE: Front, 38 ft., 6 in. Side, 49 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

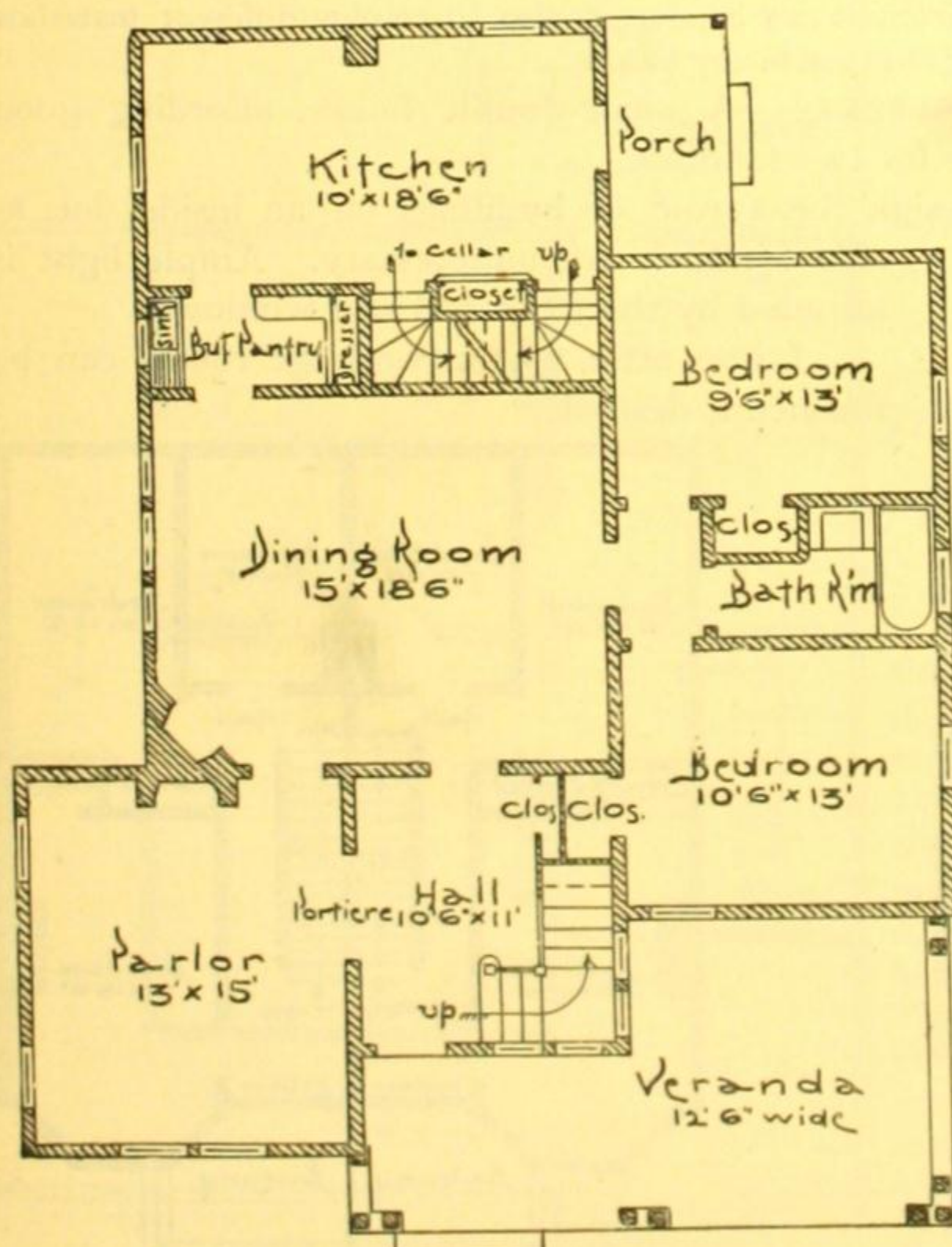
COST: \$2,700, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—This design gives two good bedrooms and a bath-room on the ground floor, besides hall, parlor, dining-room and kitchen.

Three bedrooms and a servants' room on the second floor; the back stairway leads to the latter.

Cellar under the kitchen and dining-room.



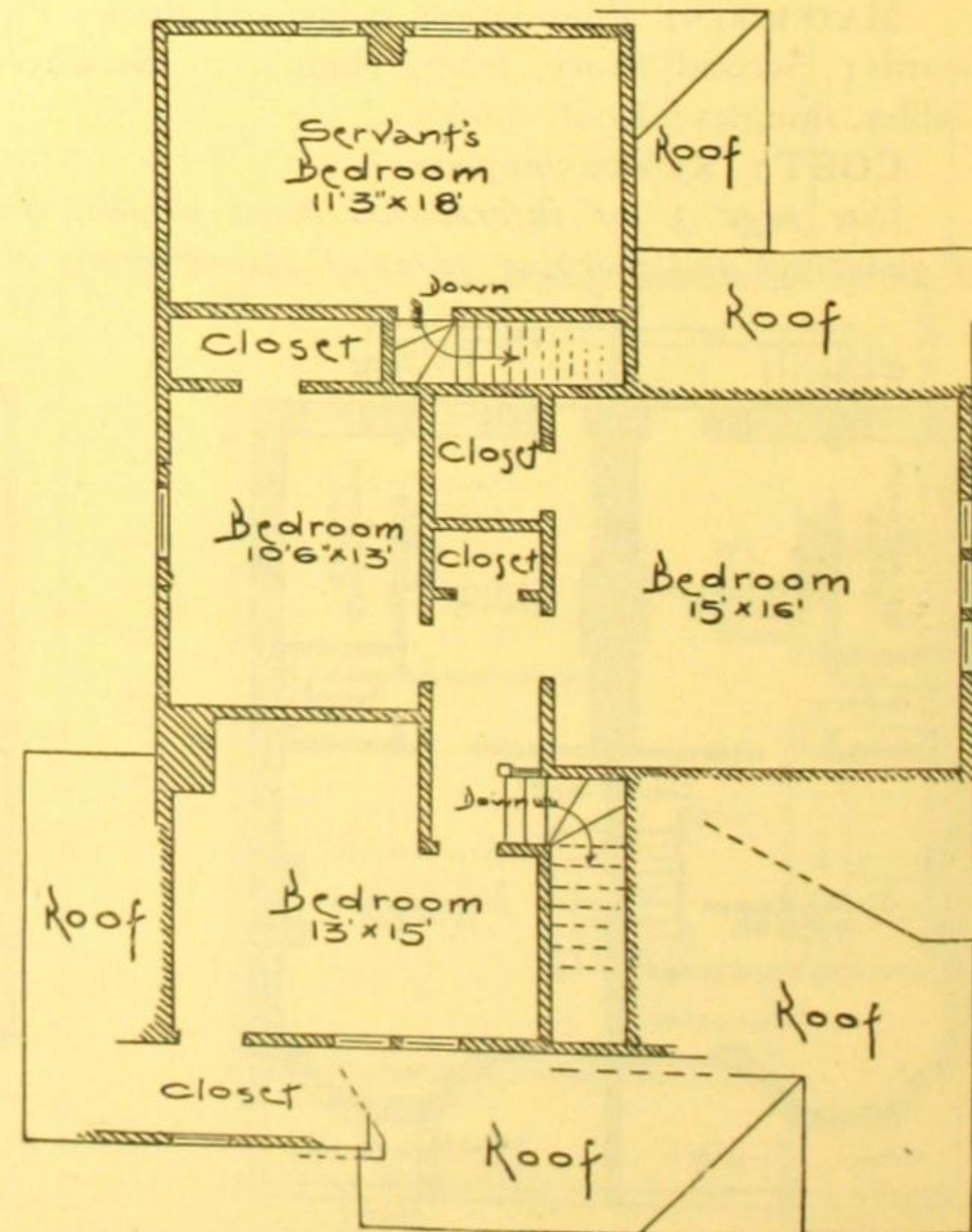
FIRST FLOOR. NO. 442

NOTES.

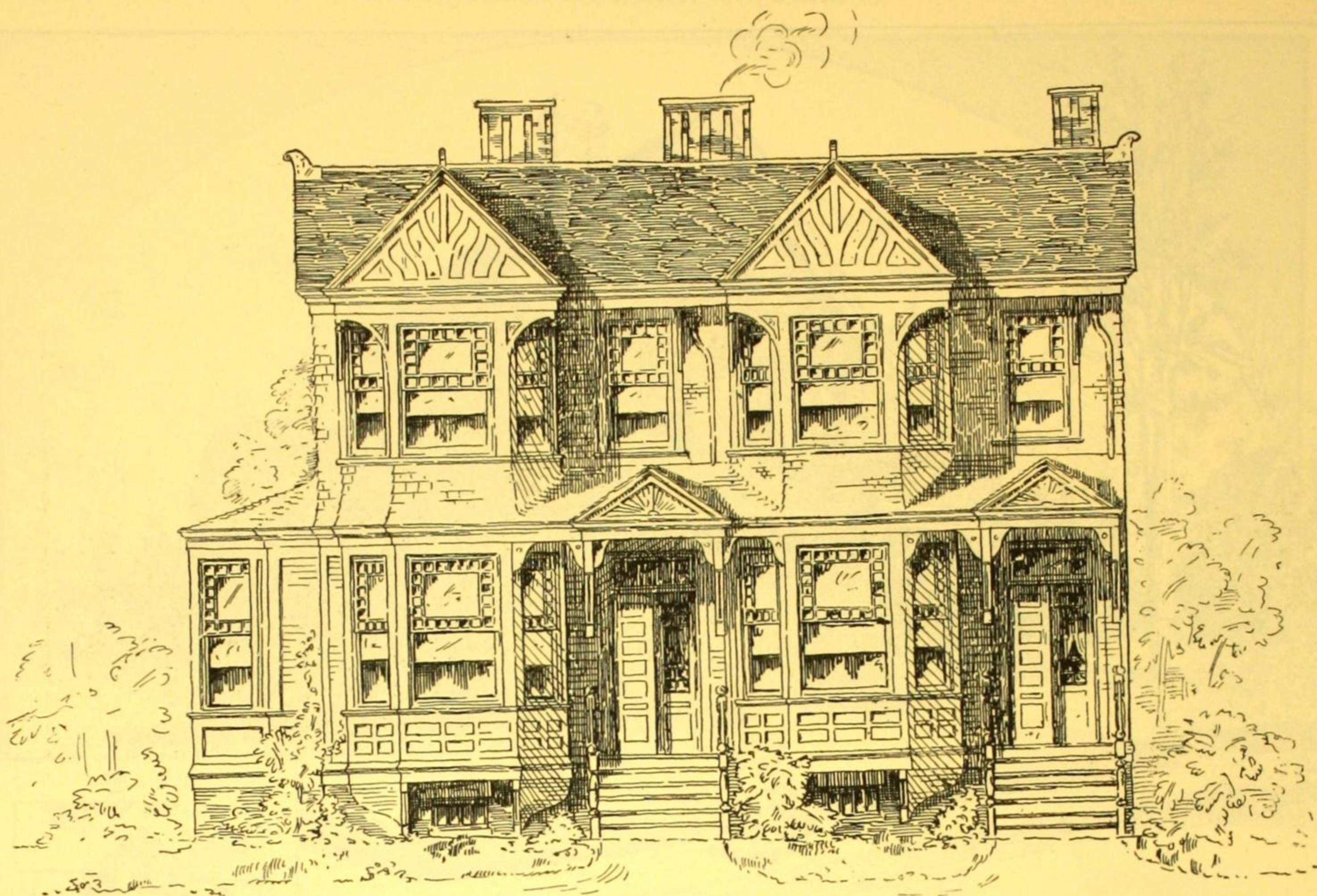
The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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SECOND FLOOR. NO. 442



DESIGN No. 443. FRONT ELEVATION

DESCRIPTION OF DESIGN NUMBER 443

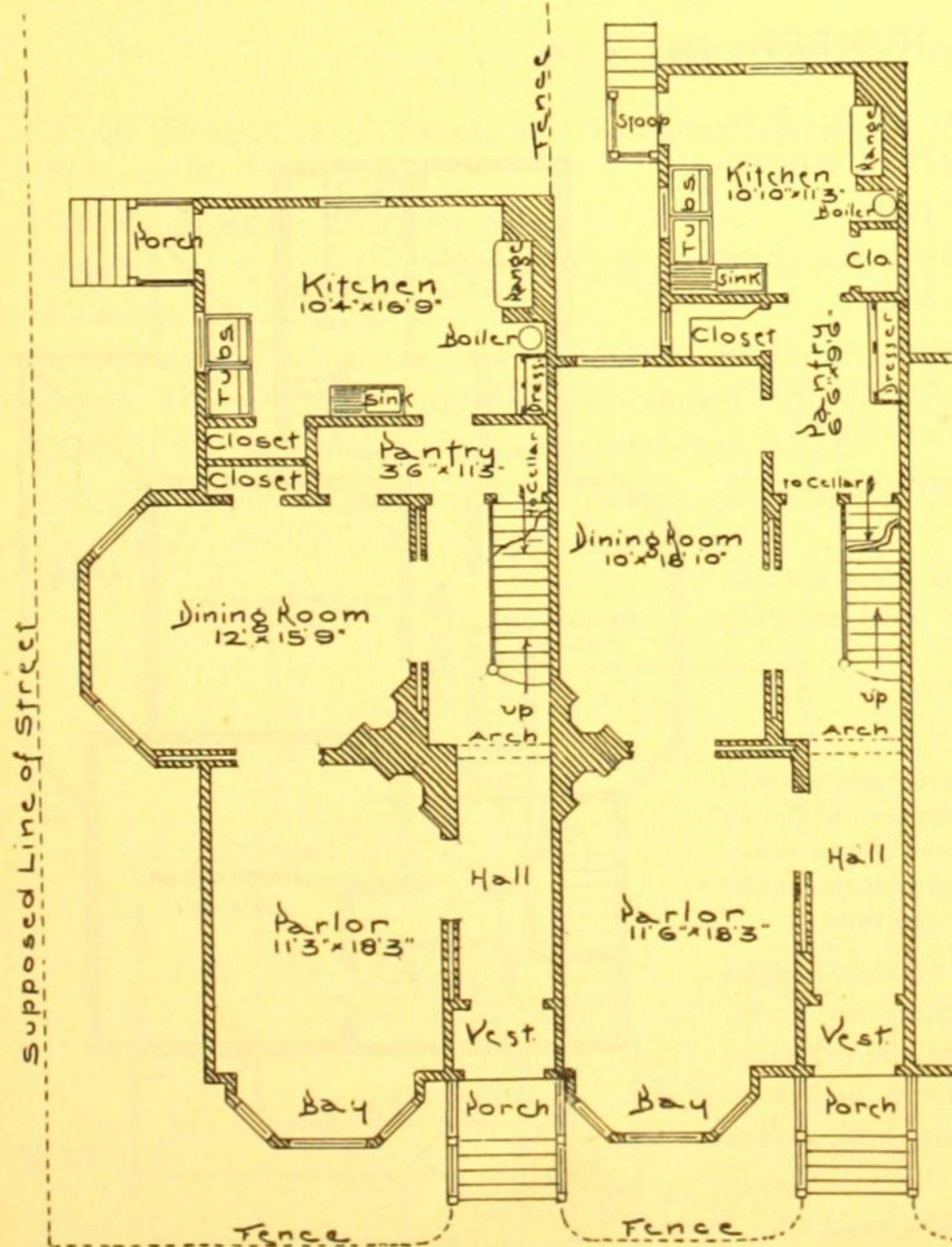
SIZE OF STRUCTURE: Front, each house, 17 ft. 6 in. Side, corner house, 43 ft., 8 in.; inside house, 50 ft., 2 in.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 10 ft.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles and tin.

COST: Corner house, \$2,800; inside house, \$2,600. Both complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities, and working plans of this design.]



FIRST FLOOR. NO. 443

SPECIAL FEATURES.—Small city or village houses that can be built on narrow lots in a row.

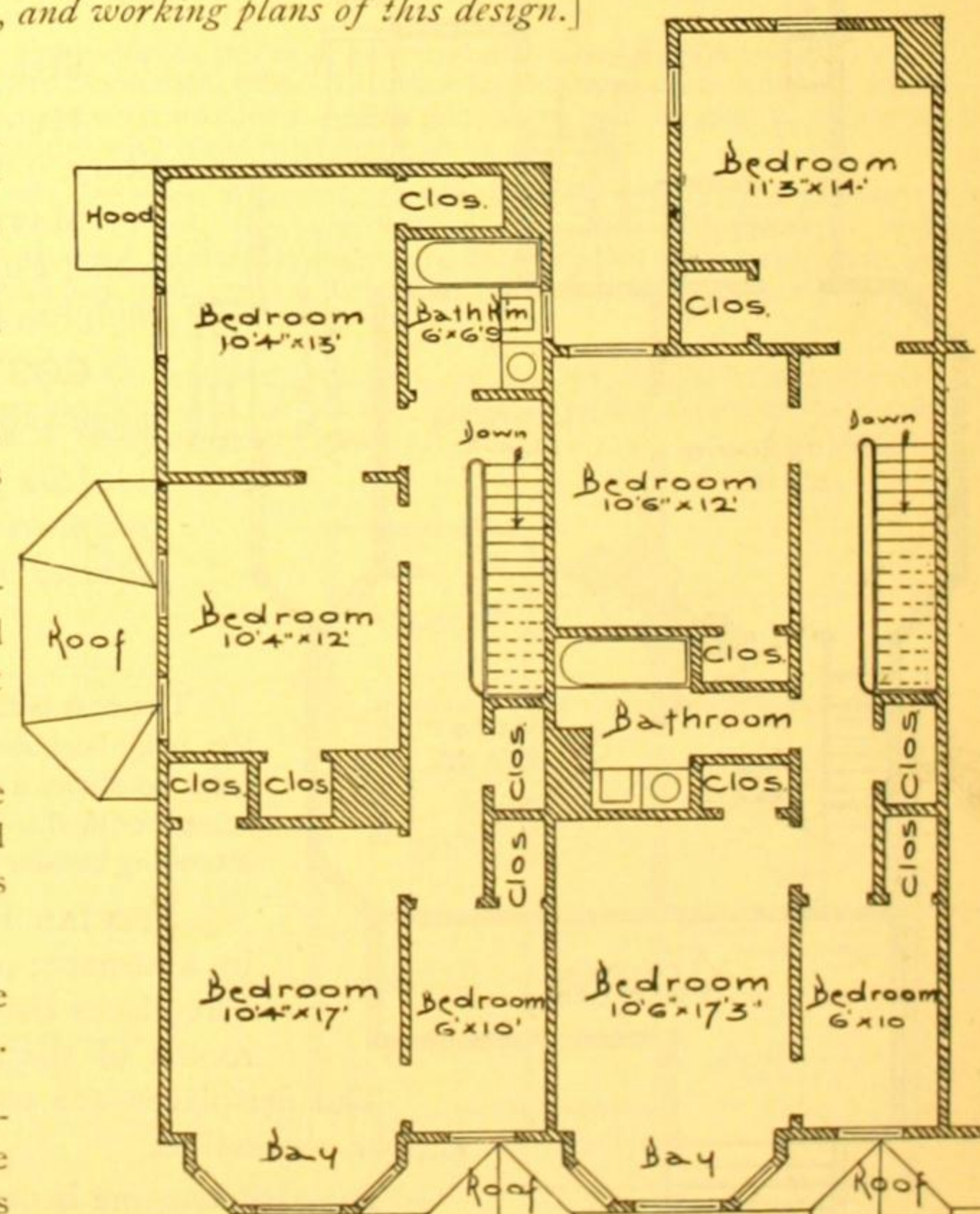
Open fire-places in the principal rooms of first stories.

Sliding doors connect the principal rooms of the first floors.

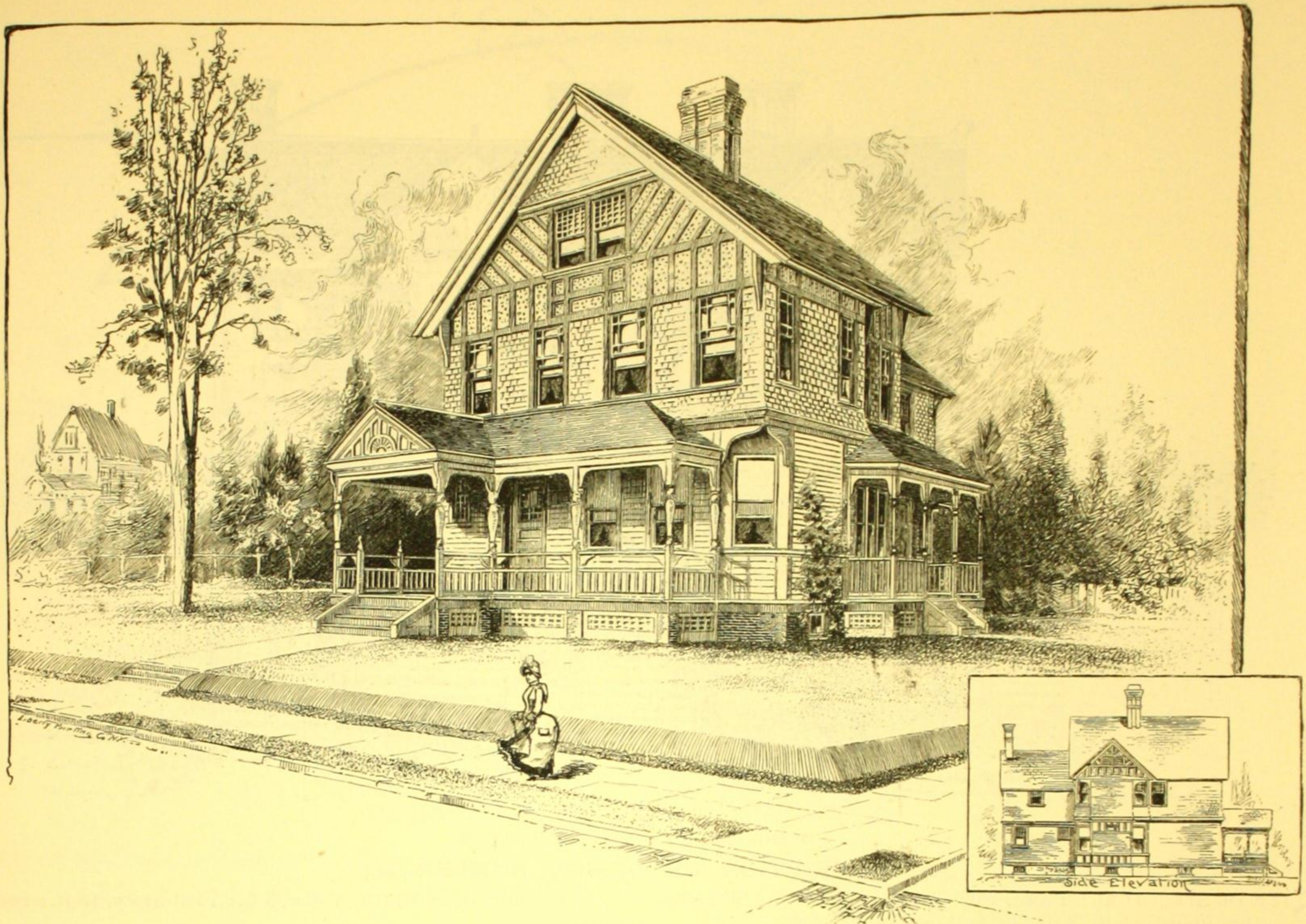
Skylights in the roof ventilate and light the bath-rooms and halls.

Cellar under the whole of each house.

The side elevation of the corner house is very attractive.

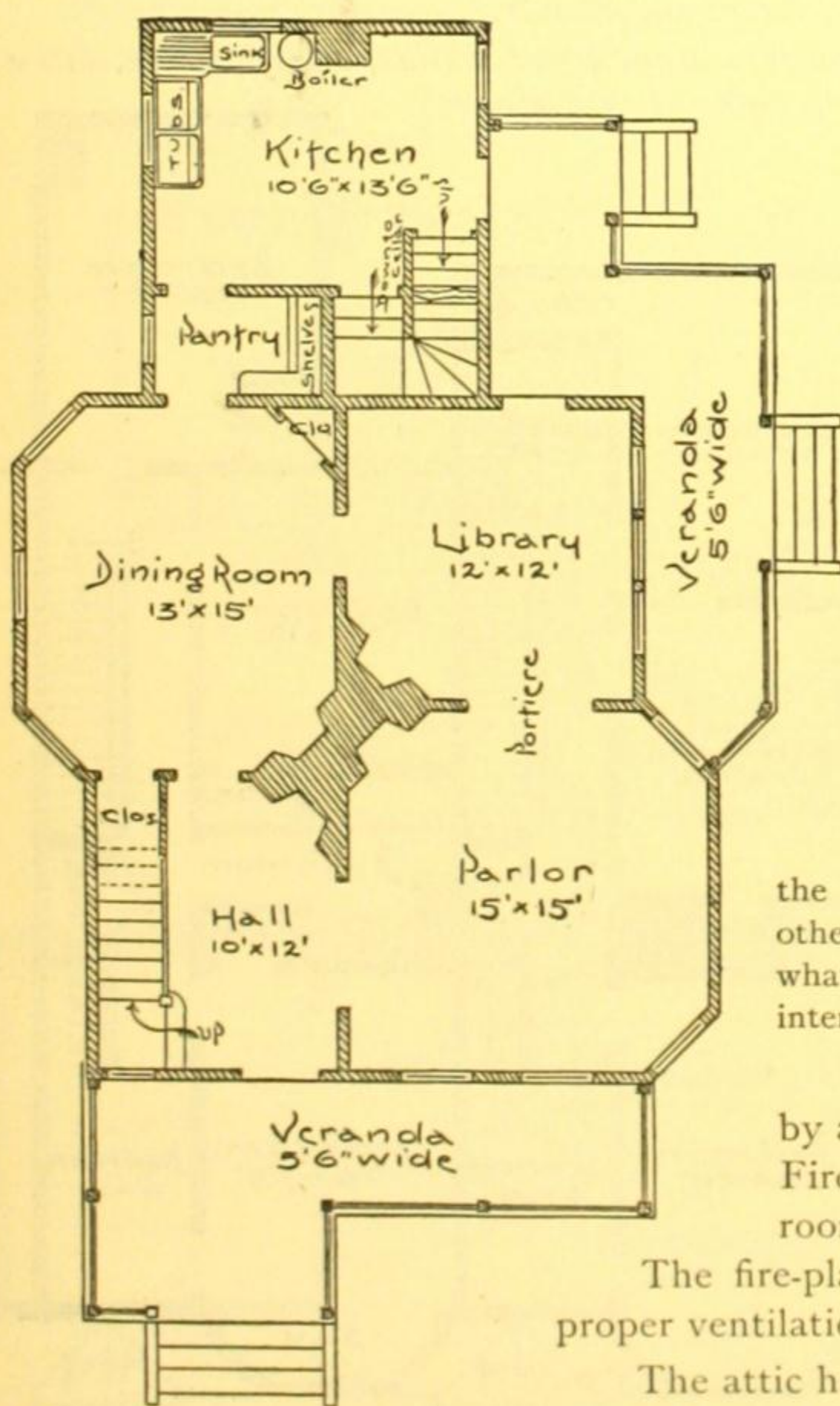


SECOND FLOOR. NO. 443



DESIGN No. 444. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 444



FIRST FLOOR. NO. 444

SIZE OF STRUCTURE: Front, 26 ft., 6 in.
Side, 44 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, stone and brick walls; First Story, clapboards; Second Story, shingles; Gables, paneling; Roof, shingles.

COST: \$2,850, complete, except mantels, range and heater.

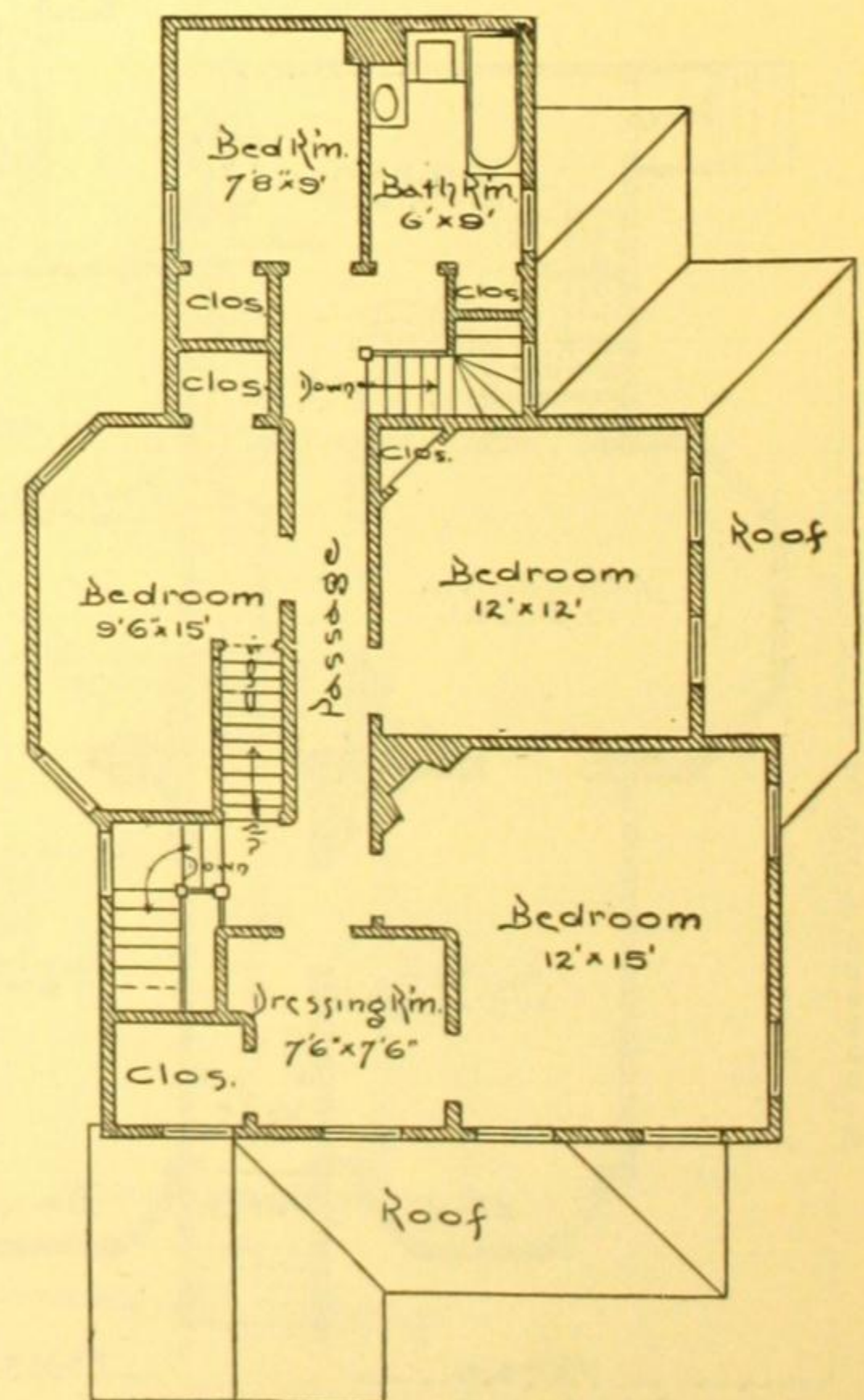
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

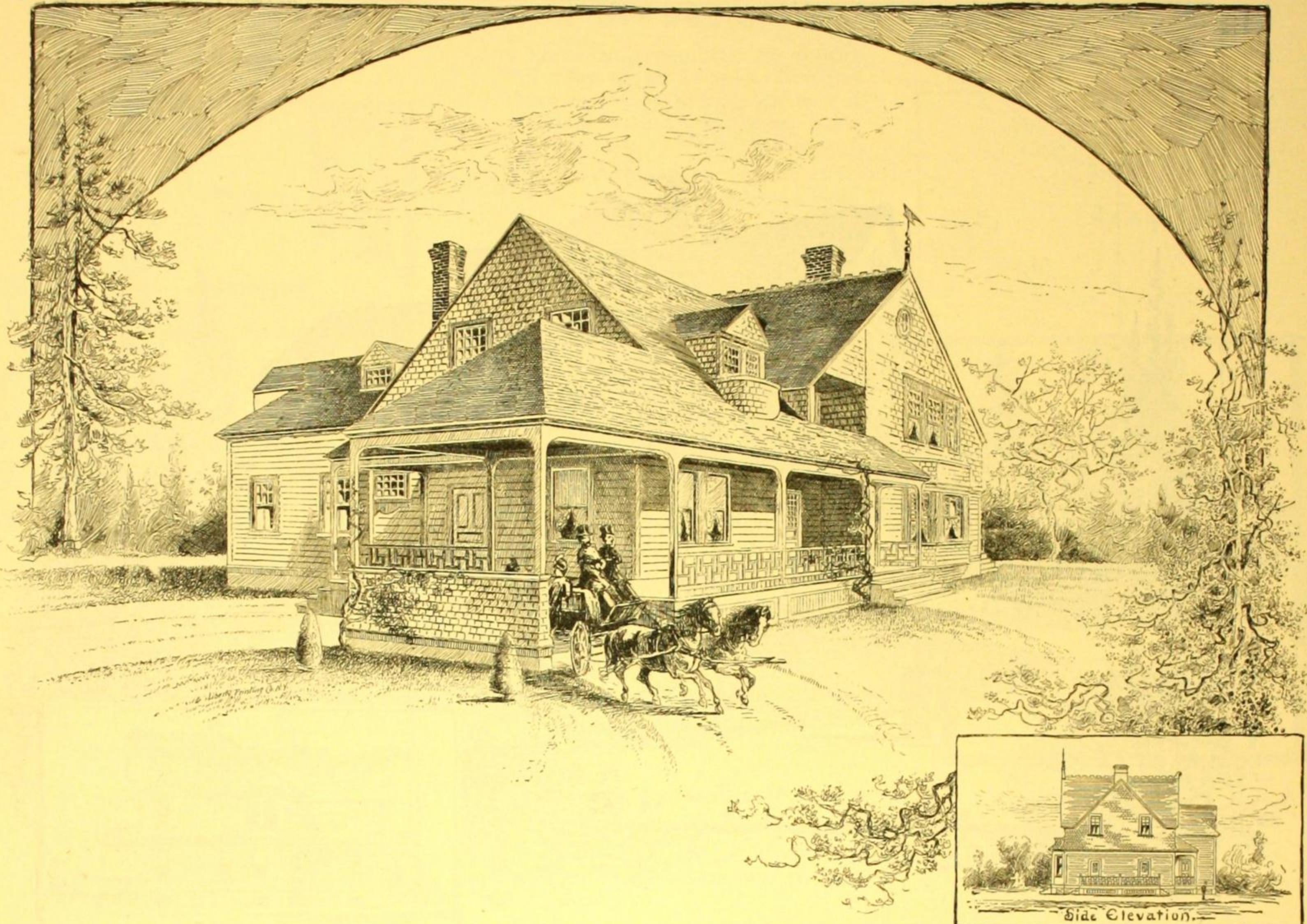
The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—Designed to be heated by a furnace; pipes and registers built into the walls. Fire-places also, are provided in each of the principal rooms of the first story and in the front bedroom. The fire-places are useful adjuncts in heating and insure proper ventilation.

The attic has one bedroom, a trunk-room and a hallway. Cellar under the whole house.



SECOND FLOOR. NO. 444



DESIGN No. 445. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 445

SIZE OF STRUCTURE: Front, not including verandas, 37 ft.
Side, 40 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.;
Second Story, 9 ft., 3 in.

MATERIALS: Foundation, stone and brick walls; First Story,
clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels and range.

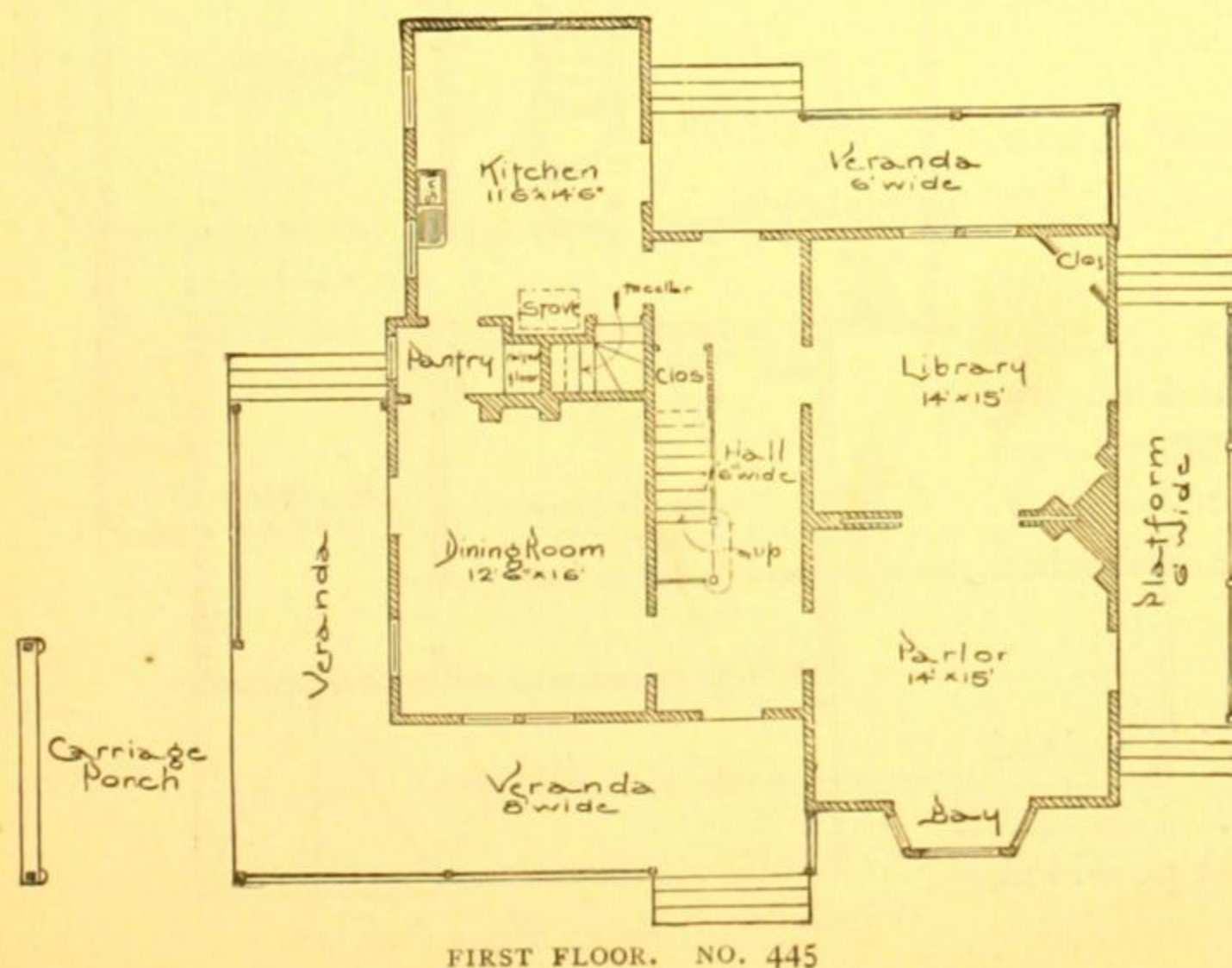
[See page 3 for information about details, specifications, bill of
quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood
of New York City, December, 1886. In other localities and at different dates
the cost will be somewhat modified. The publishers will be glad to acquaint
the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Stair-
case, Inside Finish, Colors, etc., etc. (these constitute the principal and
distinguishing beauty of modern houses), are fully shown, on a large scale, in
our Working Drawings, and careful directions for their execution are given in
our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special
wants. The specifications can be altered, also, to employ different materials
that may be best or cheapest in any locality.



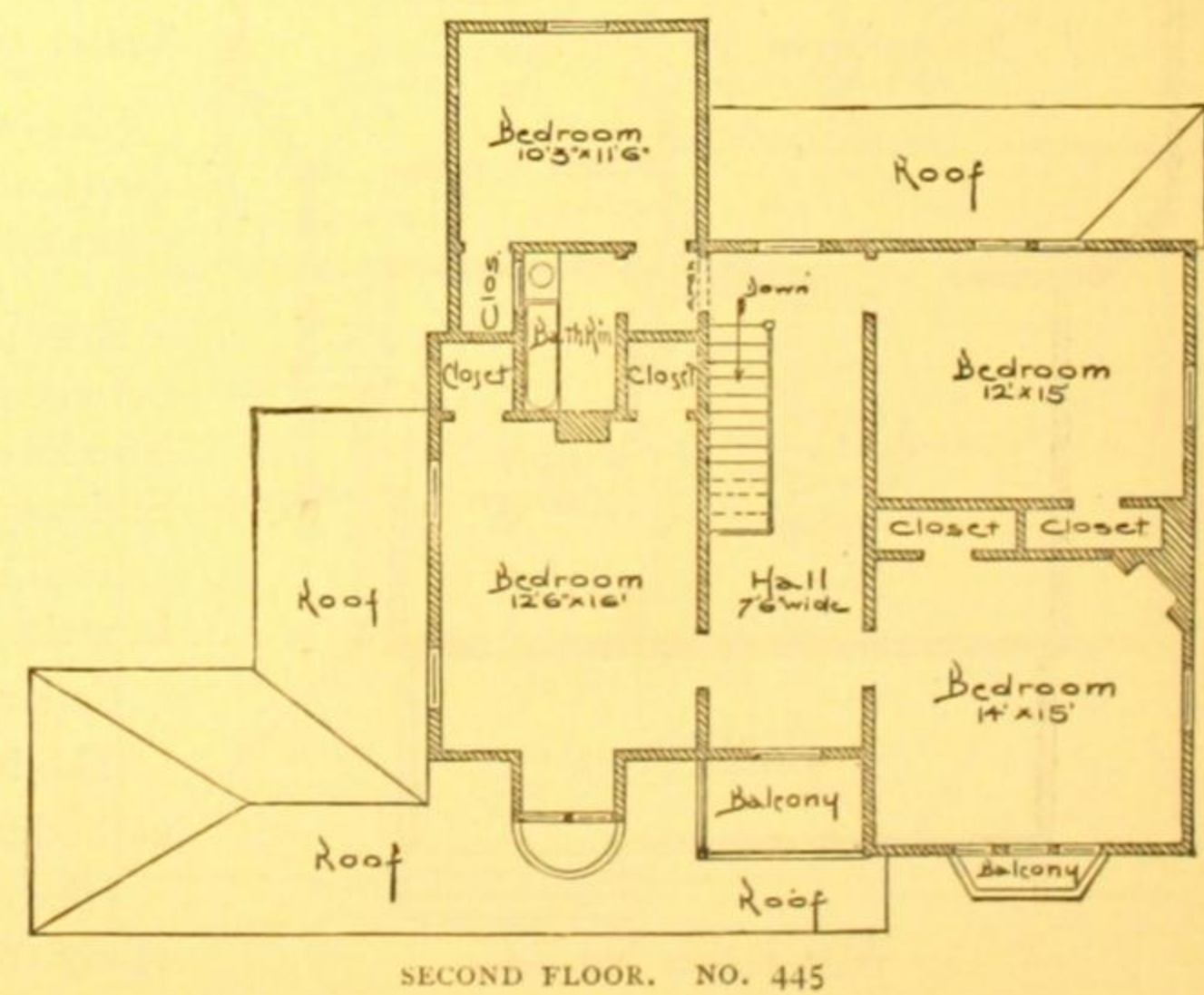
SPECIAL FEAT-
URES.—Verandas
on four sides of the
house.

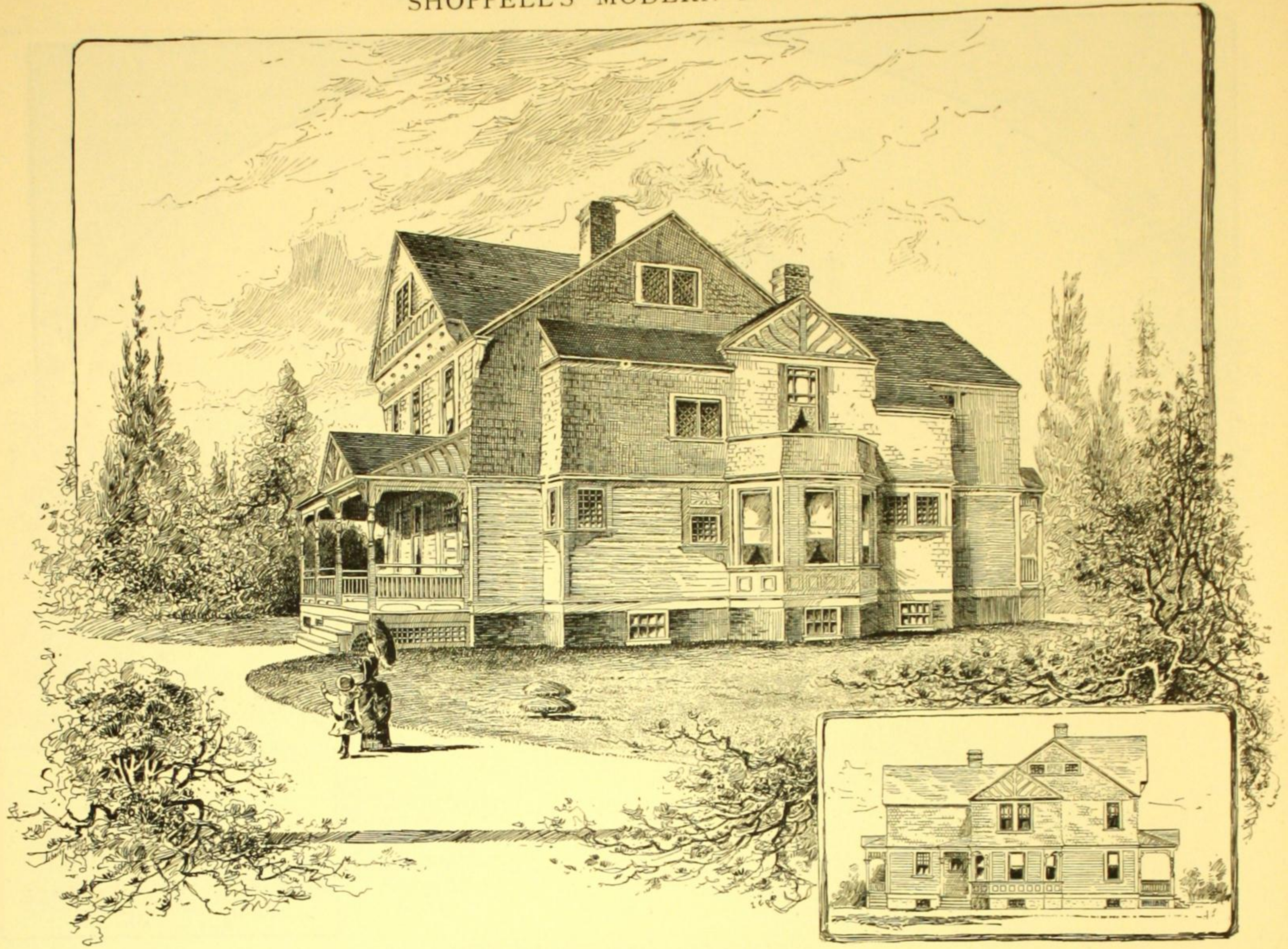
Open fire-places
in parlor, library, din-
ing-room and front
bedroom.

Double sliding-
doors connect the
parlor and the library.

Cellar under the
kitchen. The founda-
tion walls are car-
ried around under the
whole house.

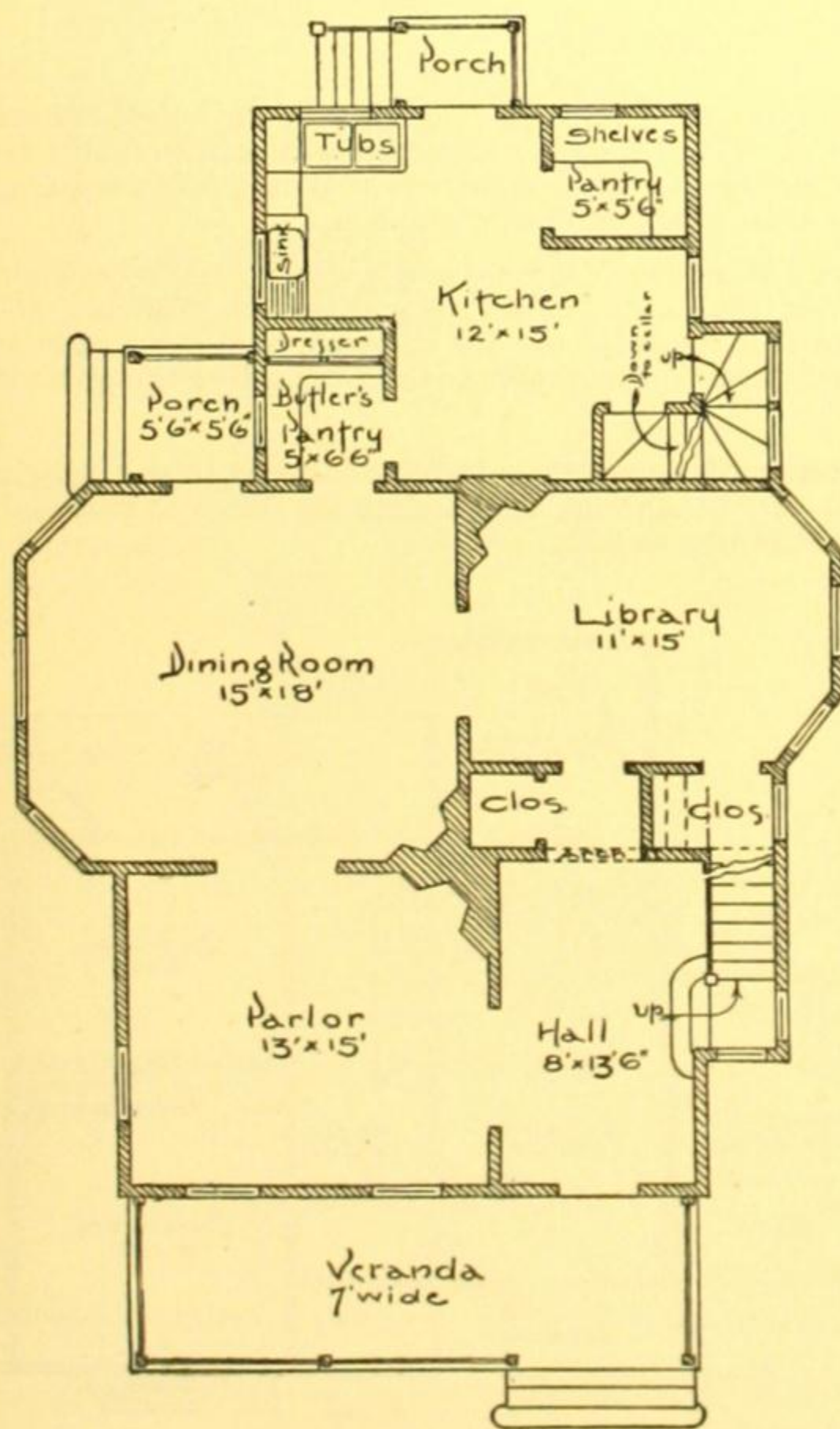
Attic available
for storage only.





DESIGN No. 446. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 446



FIRST FLOOR. NO. 446

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; width, through dining-room and library, 34 ft., 6 in. Side, 45 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,400, complete, except mantels, heater and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

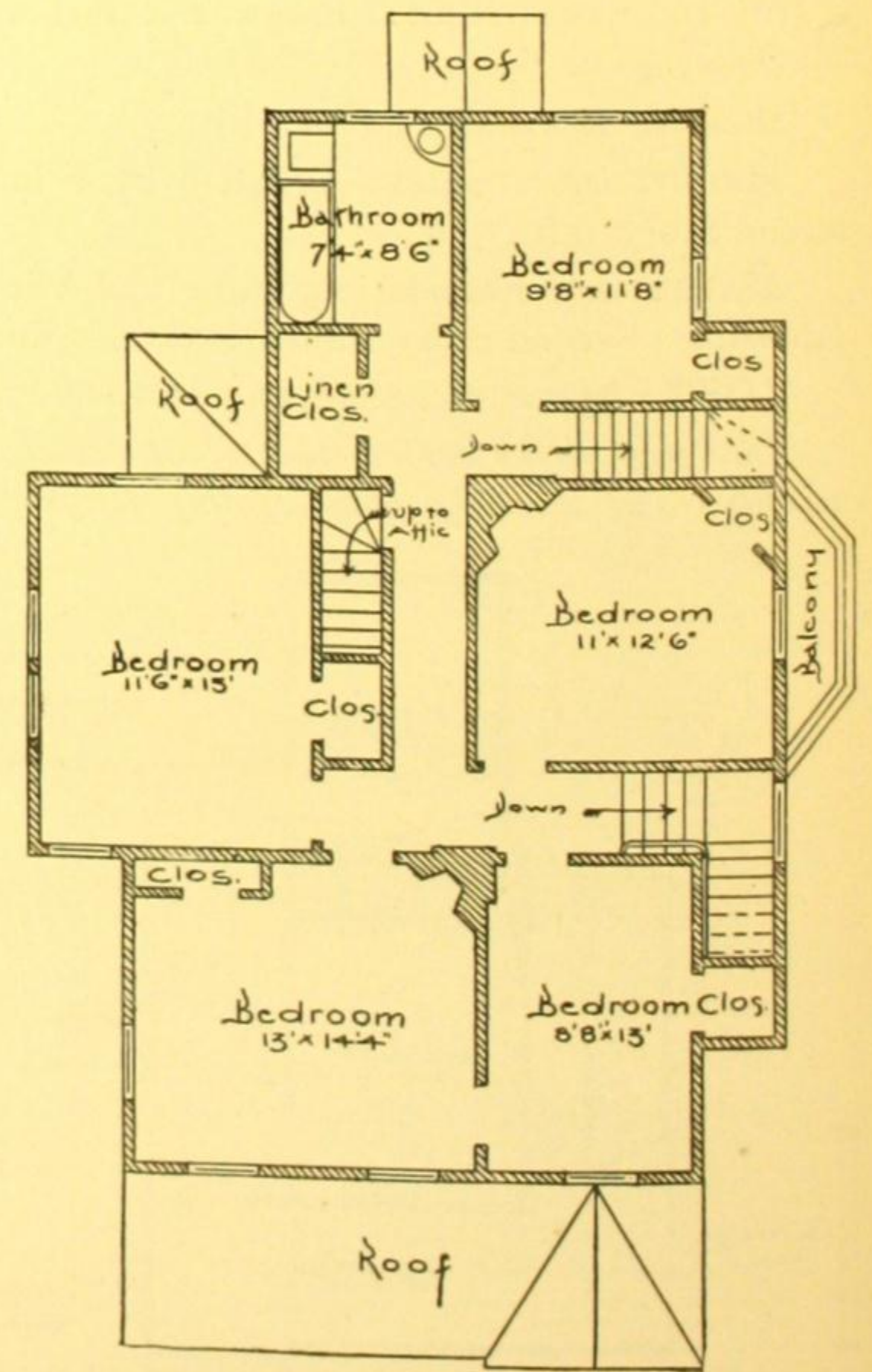
SPECIAL FEATURES.—Portiere openings between the hall, dining-room and library. The kitchen is designed for a portable range. Stairway from the kitchen to the second story.

Two bedrooms and a hallway are finished in attic.

Cellar under the whole house.

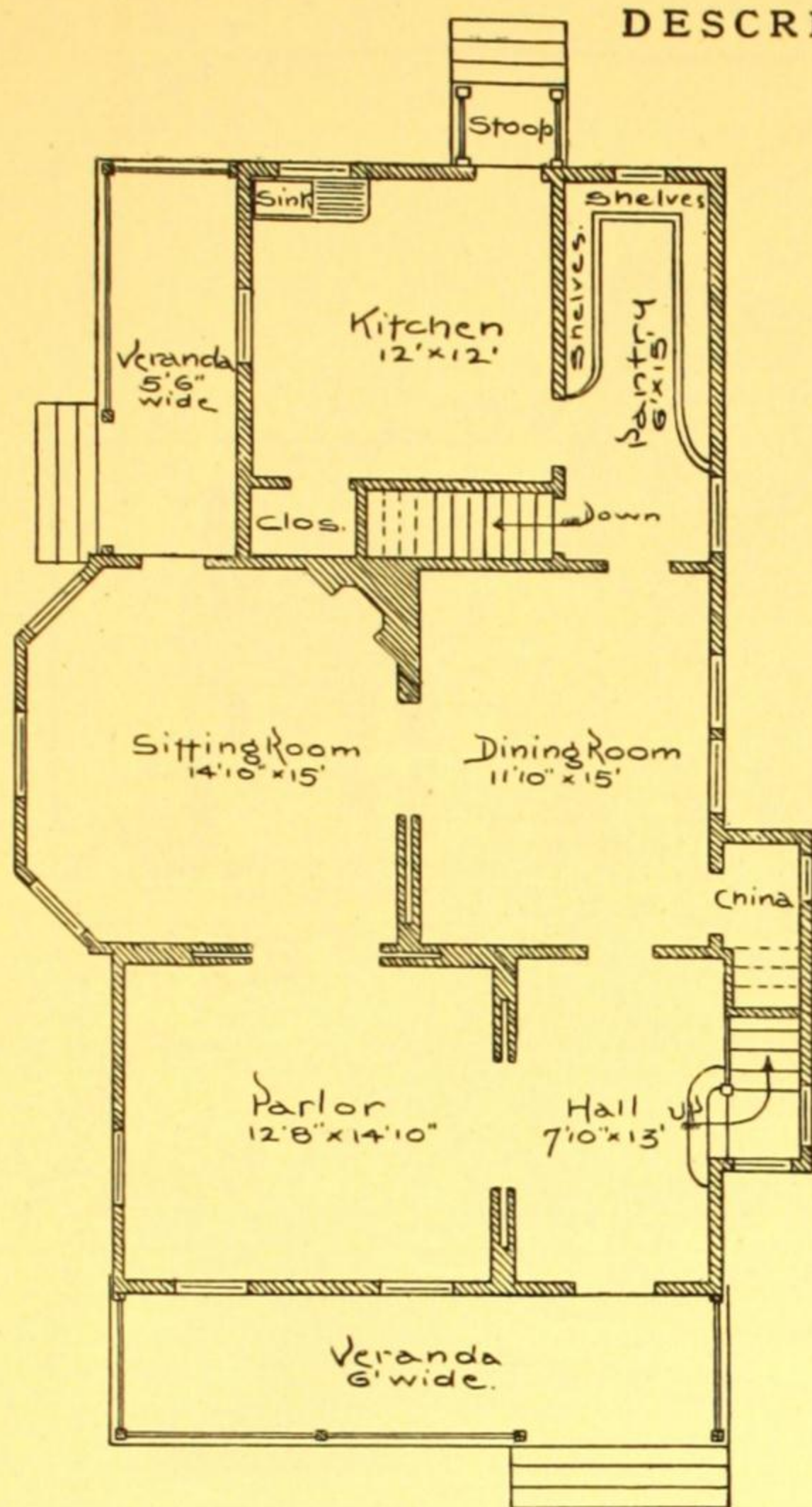
The hall windows are glazed with stained cathedral glass.

Heater pipes and registers are provided, ready to connect with a furnace.



SECOND FLOOR. NO. 446

DESCRIPTION OF DESIGN NUMBER 447



FIRST FLOOR. NO. 447

THE EXTERIOR APPEARANCE IS SIMILAR TO THAT SHOWN BY THE PERSPECTIVE VIEW OF DESIGN NUMBER 446, BUT IT IS MUCH PLAINER. THE FRONT GABLE IS SHINGLED AND DOES NOT PROJECT.

SIZE OF STRUCTURE: Front, 24 ft., 6 in.; extreme width, 32 ft. Side, 45 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 4 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, slate.

COST: \$2,500, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

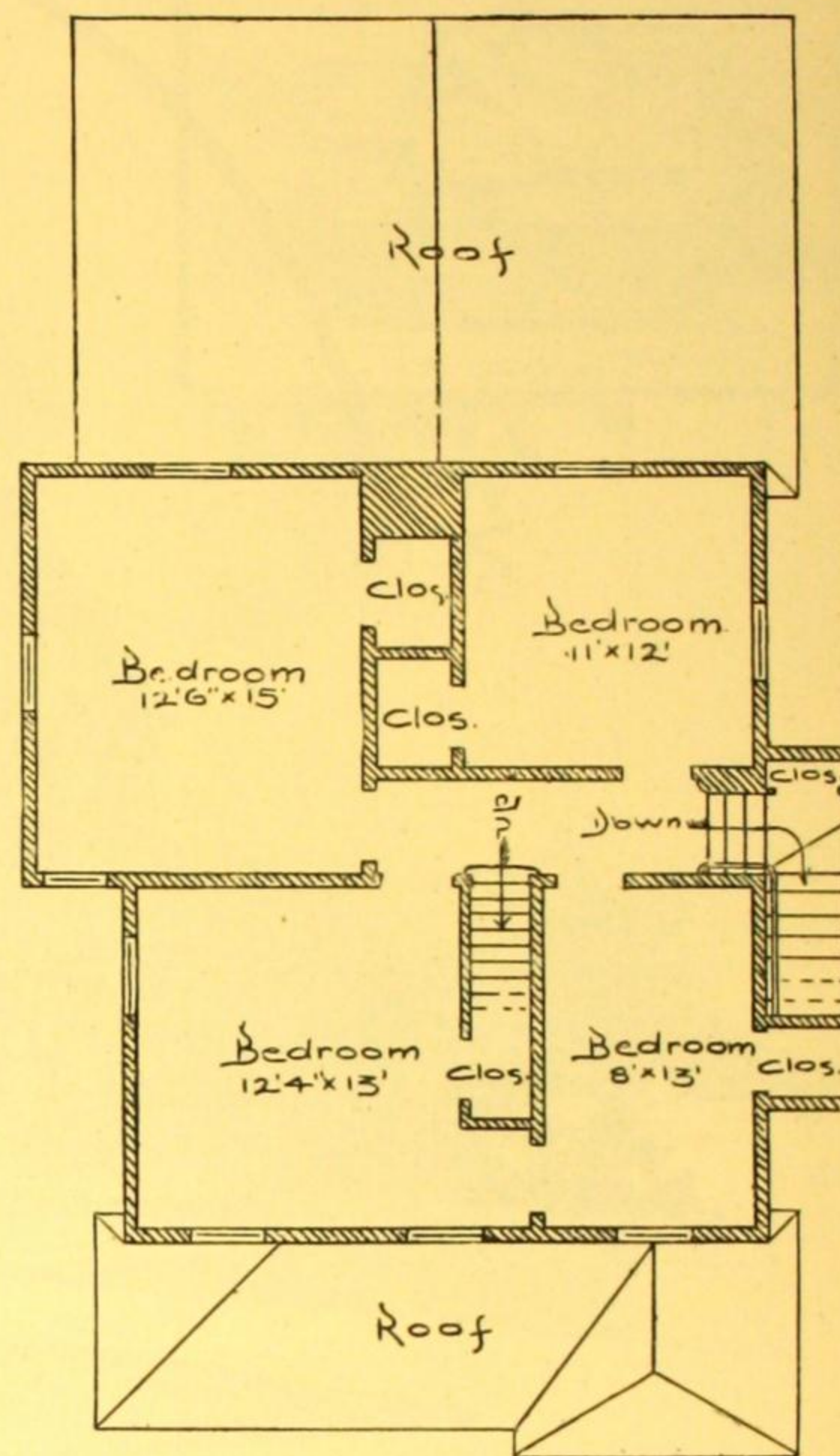
SPECIAL FEATURES.—Sliding doors between hall, parlor, sitting-room and dining-room.

Very large pantry and large china closet.

The house is heated by a furnace or by steam.

The attic is floored, but otherwise is unfinished.

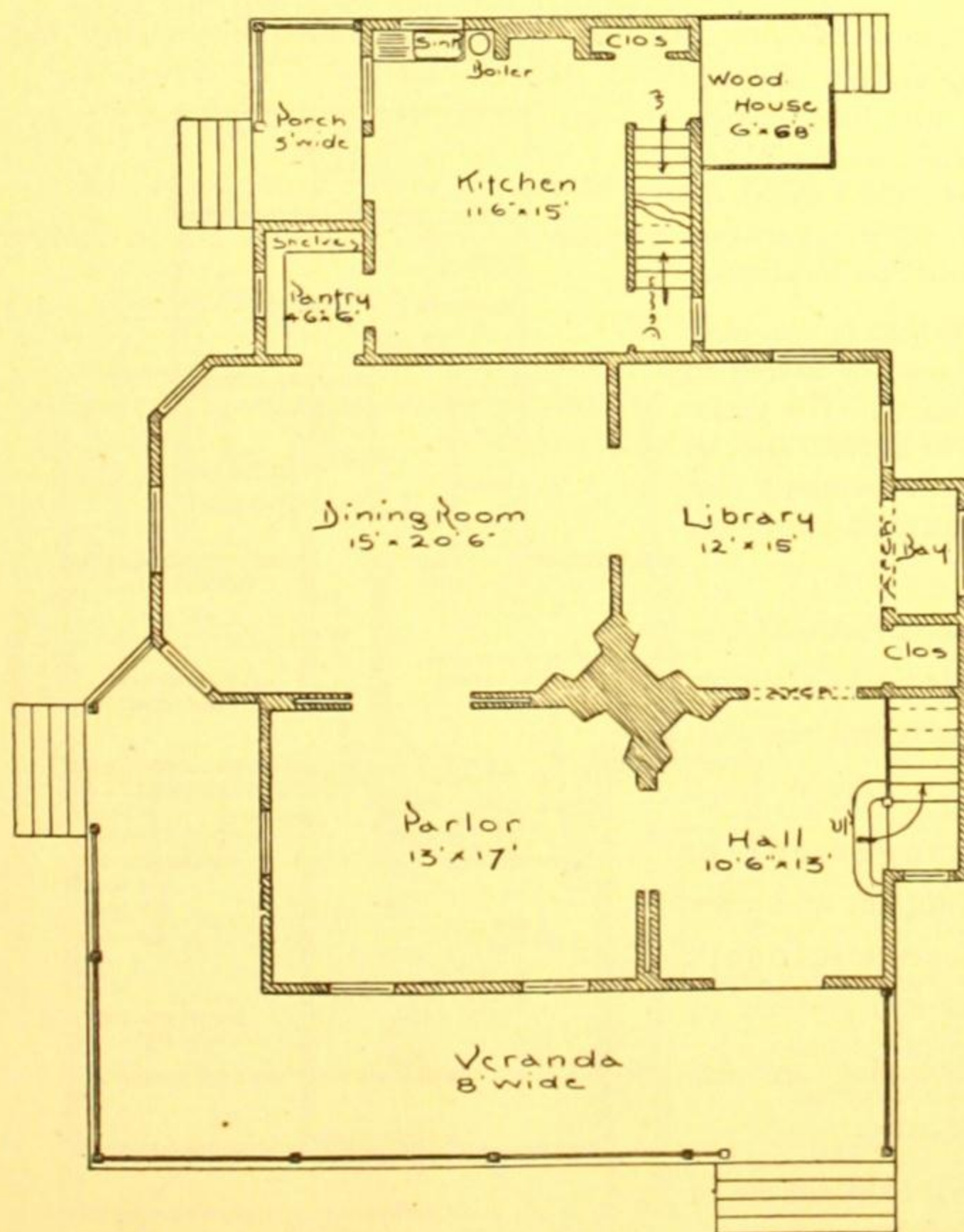
Cellar under the whole house. Laundry with stationary tubs is under the kitchen.



SECOND FLOOR. NO. 447

DESCRIPTION OF DESIGN NUMBER 448

THE EXTERIOR IS SIMILAR TO DESIGN NUMBER 446. SIDING IN PLACE OF SHINGLES IS USED ON THE SECOND STORY WALLS.



FIRST FLOOR. NO. 448

SIZE OF STRUCTURE: Front, 29 ft.; extreme width, 37 ft. Side, 45 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.

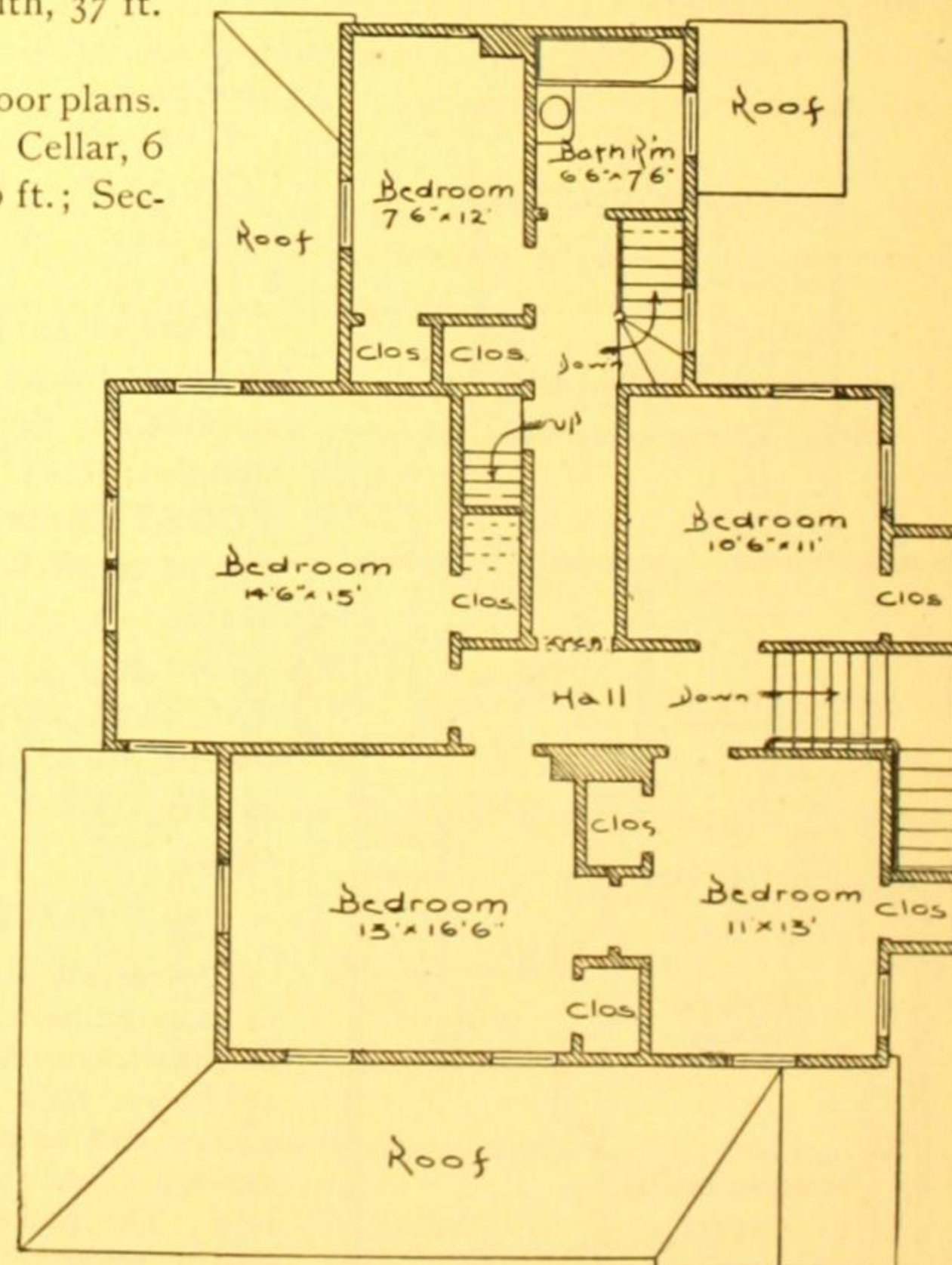
MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, panels; Roof, shingles.

COST: \$3,600, complete, except mantels, heater and range.

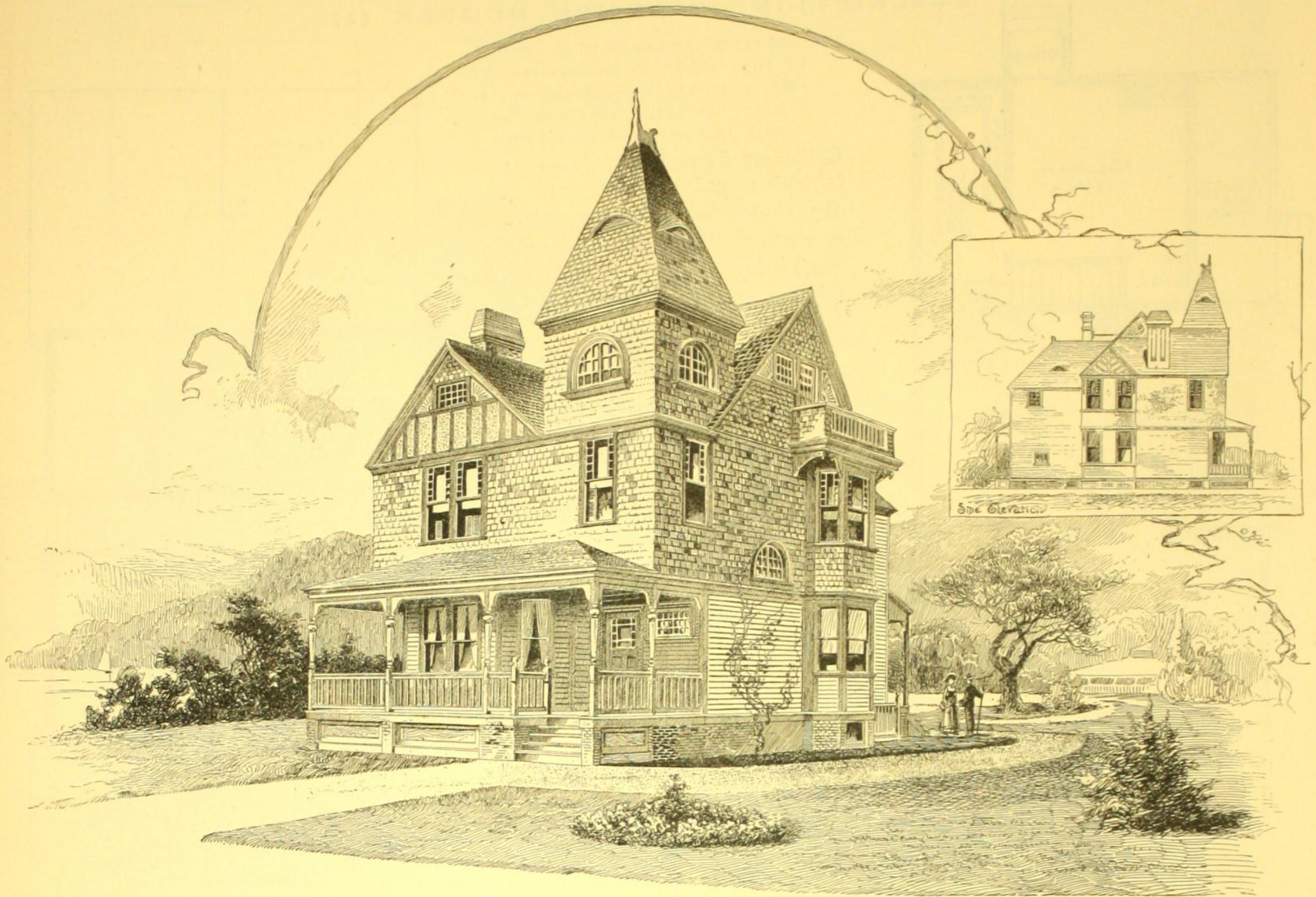
[See page 3 for information about details, specifications, bill of quantities, and working plans of this design.]

SPECIAL FEATURES: Two bedrooms are finished in the attic; the whole space is floored, providing plenty of storage room.

Cellar under the whole house.



SECOND FLOOR. NO. 448



DESIGN No. 449. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 449

SIZE OF STRUCTURE: Front, 25 ft. Side, 54 ft., including front and rear porches.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone and brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

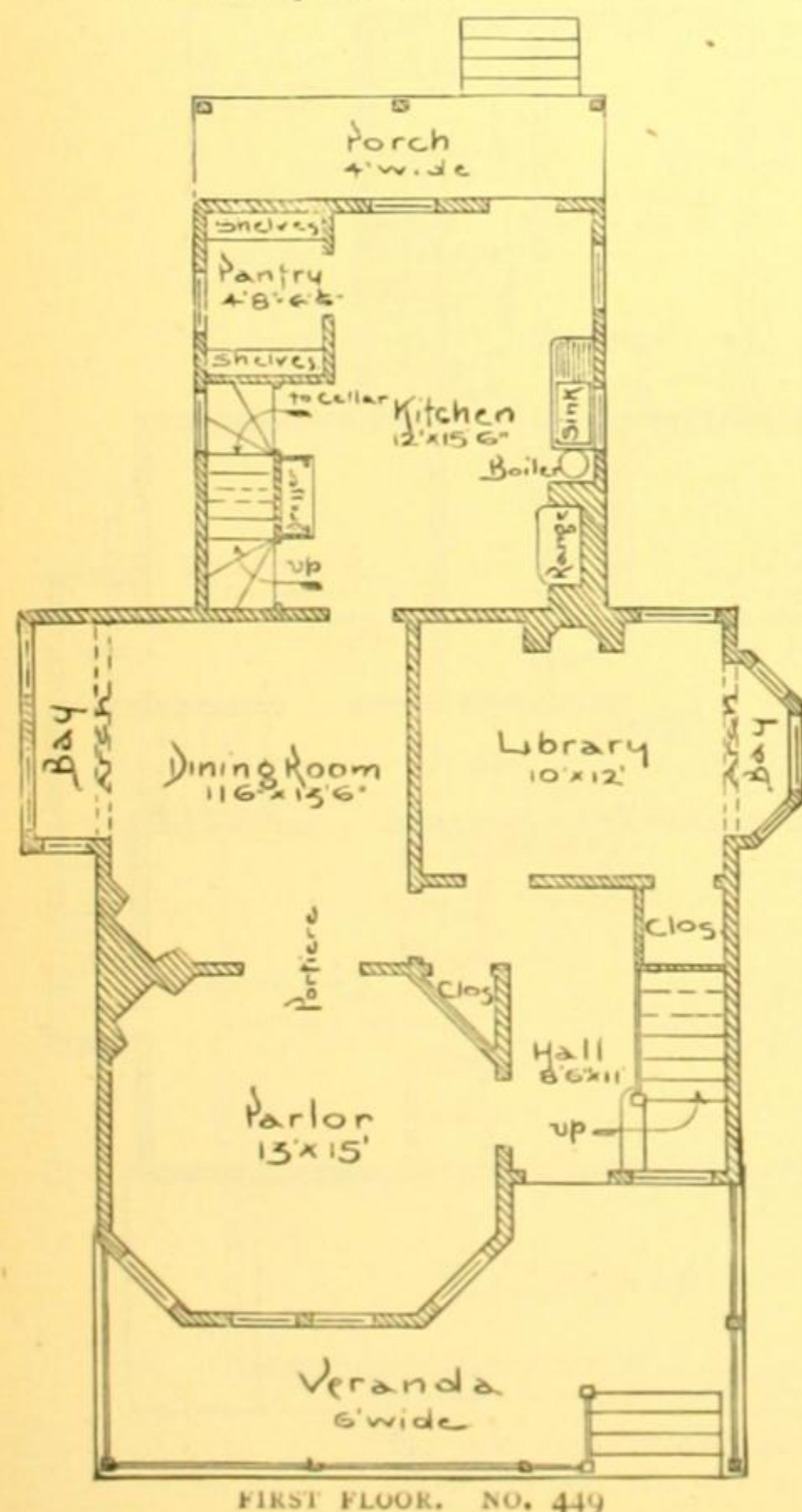
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Open fire-places in the parlor, the library and the dining-room.

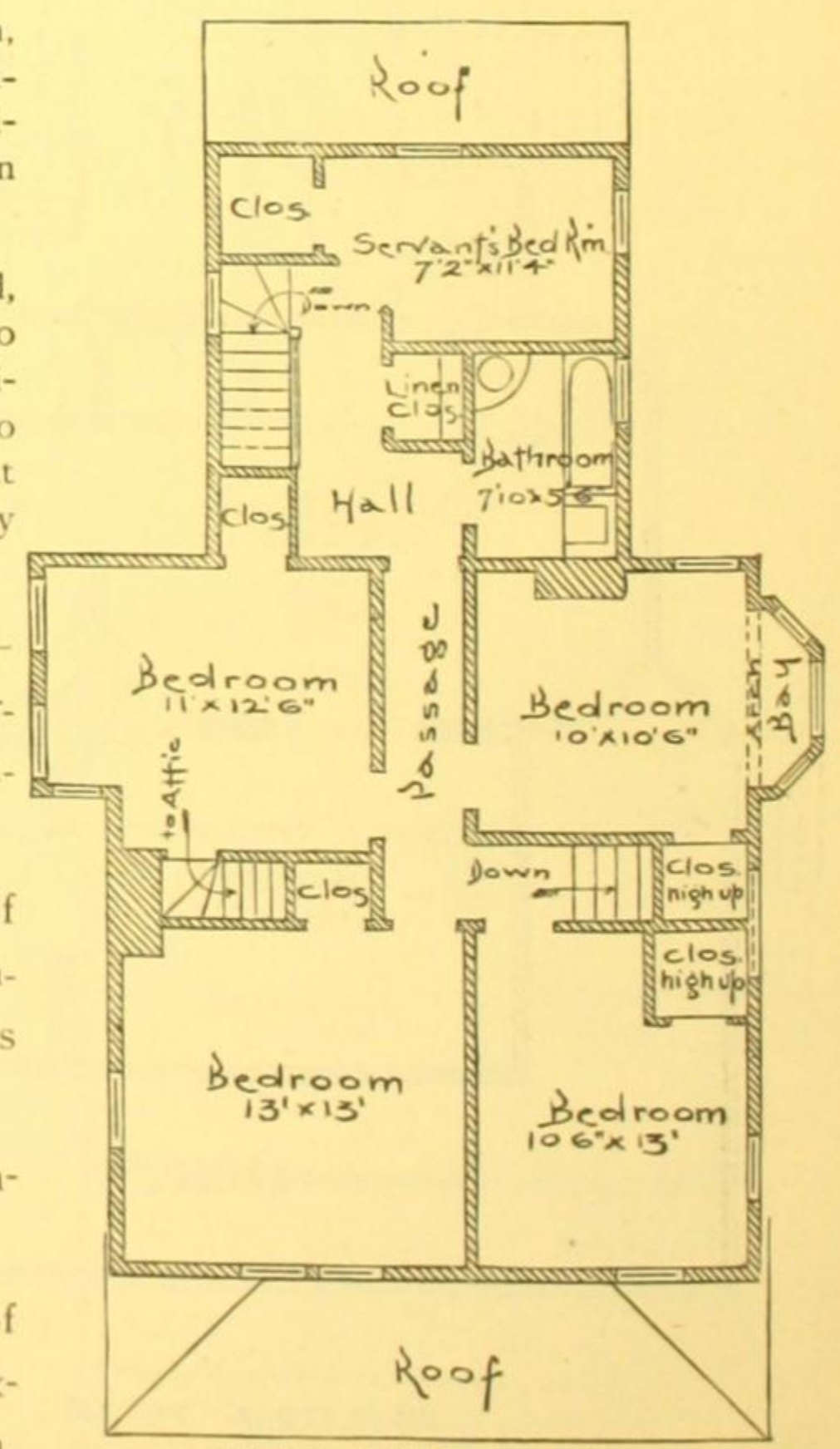
The arrangement of rooms is compact and convenient. Large closets throughout.

Two bedrooms are finished in the attic.

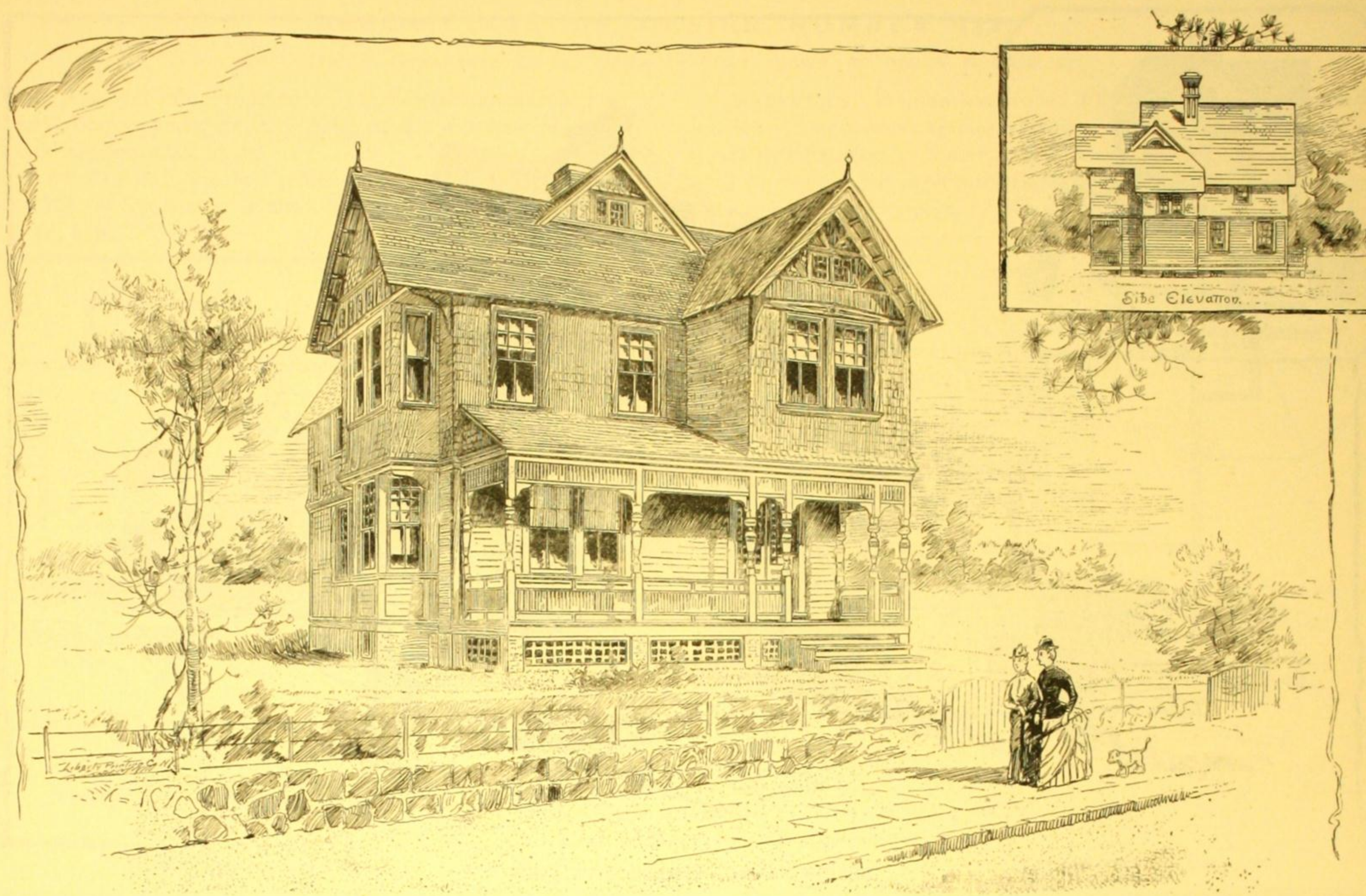
Cellar under the whole of the main house. Not excavated under the kitchen.



FIRST FLOOR, NO. 449



SECOND FLOOR, NO. 449



DESIGN No. 450. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 450

SIZE OF STRUCTURE: Front, 27 ft., 6 in.; extreme width, 34 ft., 9 in. Side, not including veranda, 31 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone wall; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles.

COST: \$2,500, complete, except mantels and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified.

The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

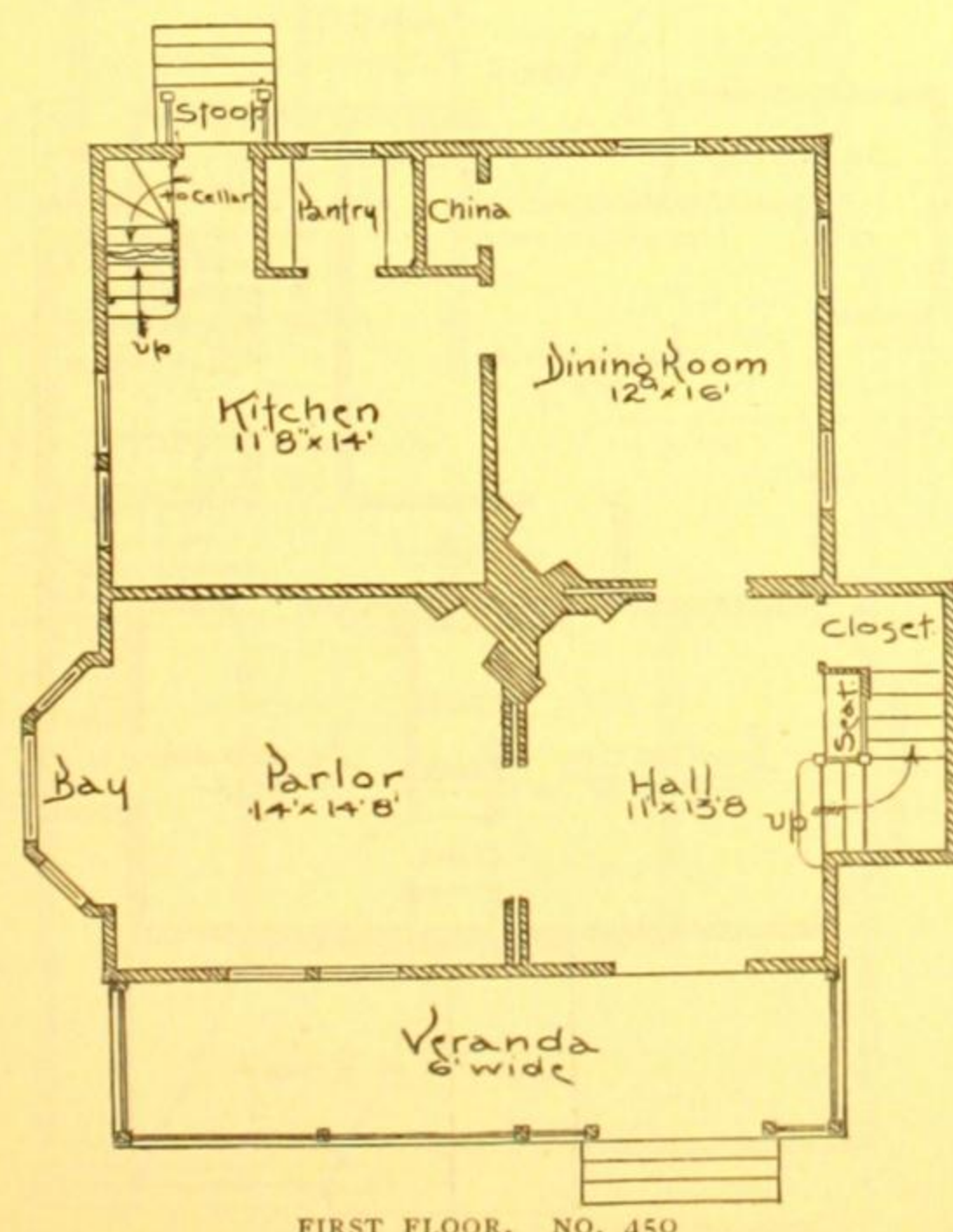
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The hall is large, has an open fire-place, and can be used as a sitting-room or a reception-room. Hall closet for hats, coats, etc., under the stairway.

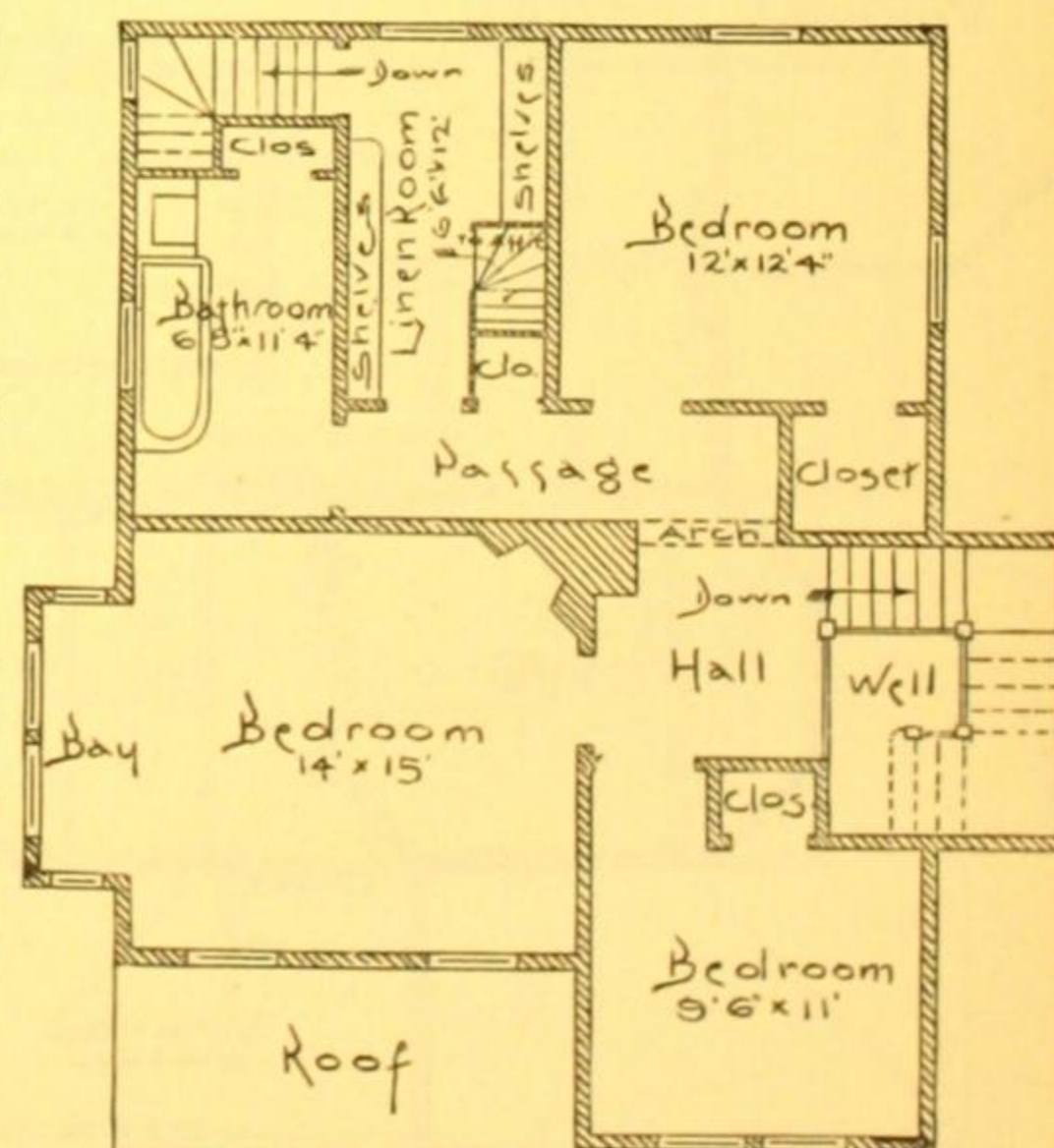
Sliding doors connect the hall with the parlor and the dining-room.

Attic is floored, but not plastered.

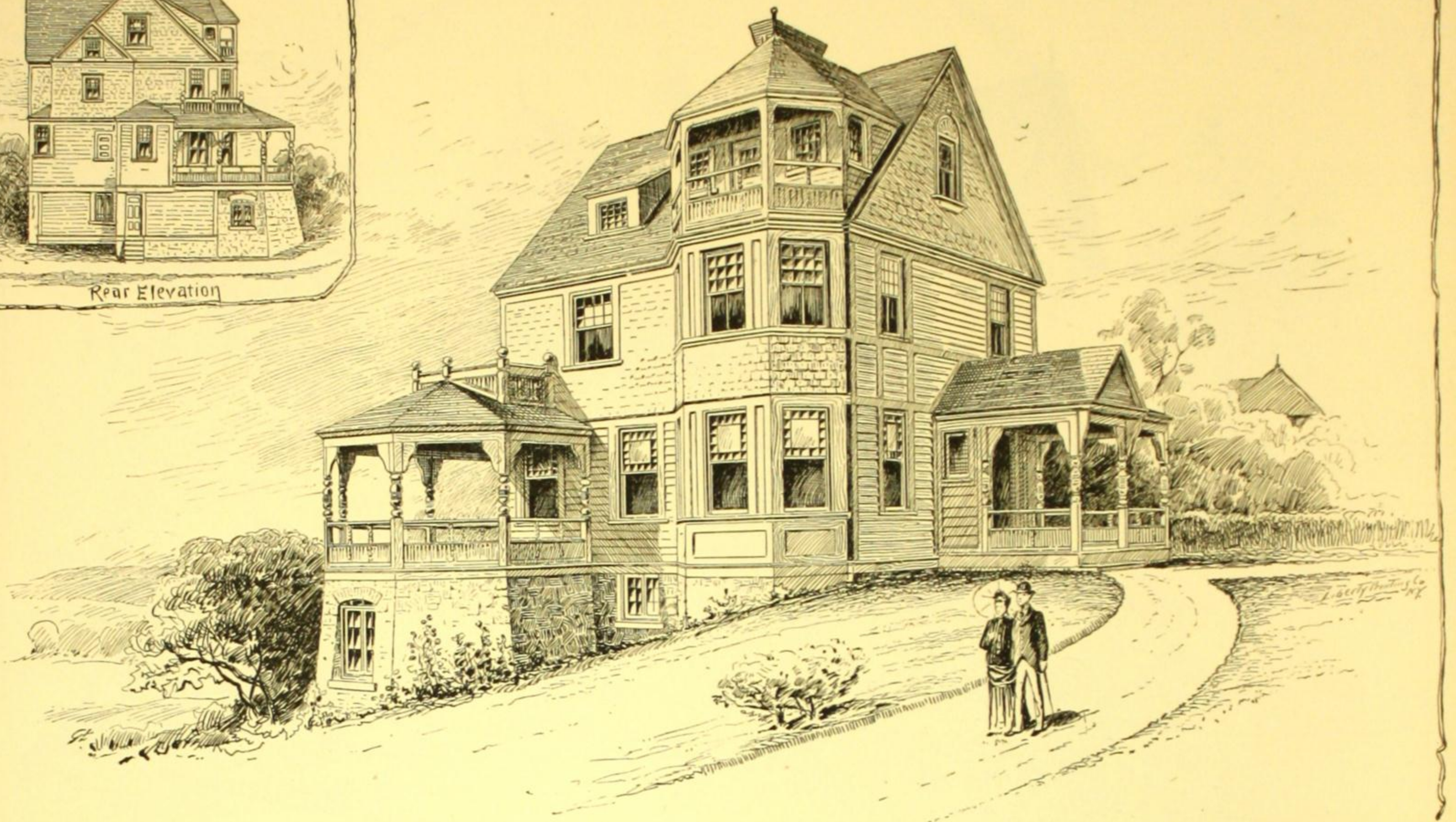
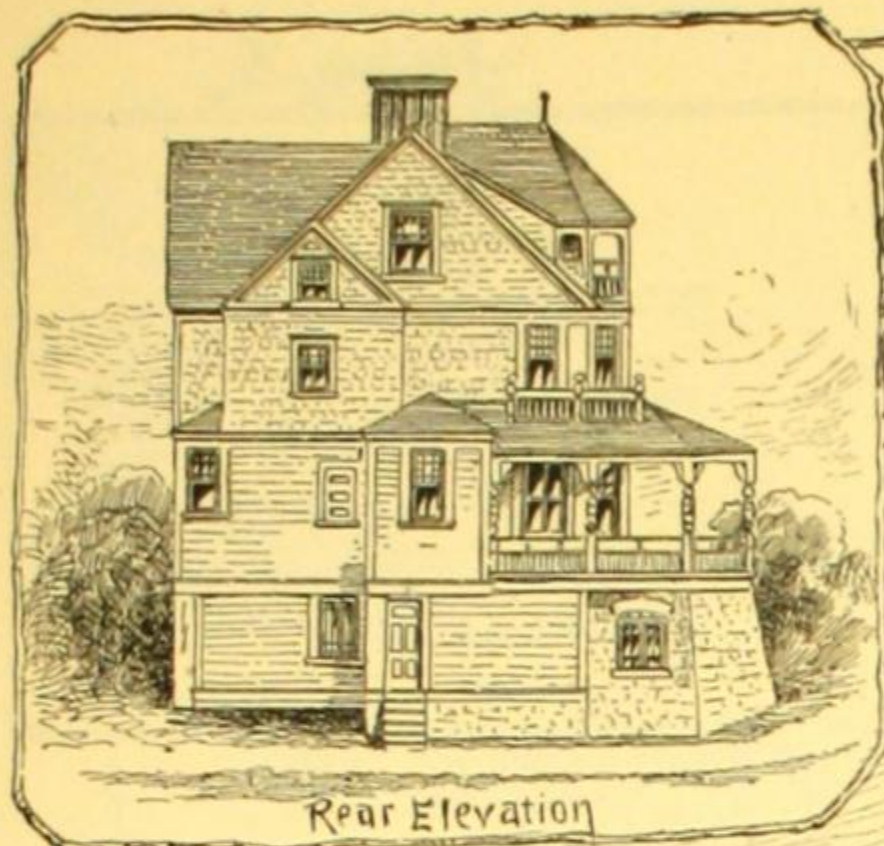
Cellar under the whole house.



FIRST FLOOR. NO. 450



SECOND FLOOR. NO. 450



DESIGN No. 451. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 451

SIZE OF STRUCTURE: Front, 29 ft. Side, 36 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards and shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Designed for a hillside location, where the principal view is toward the rear.

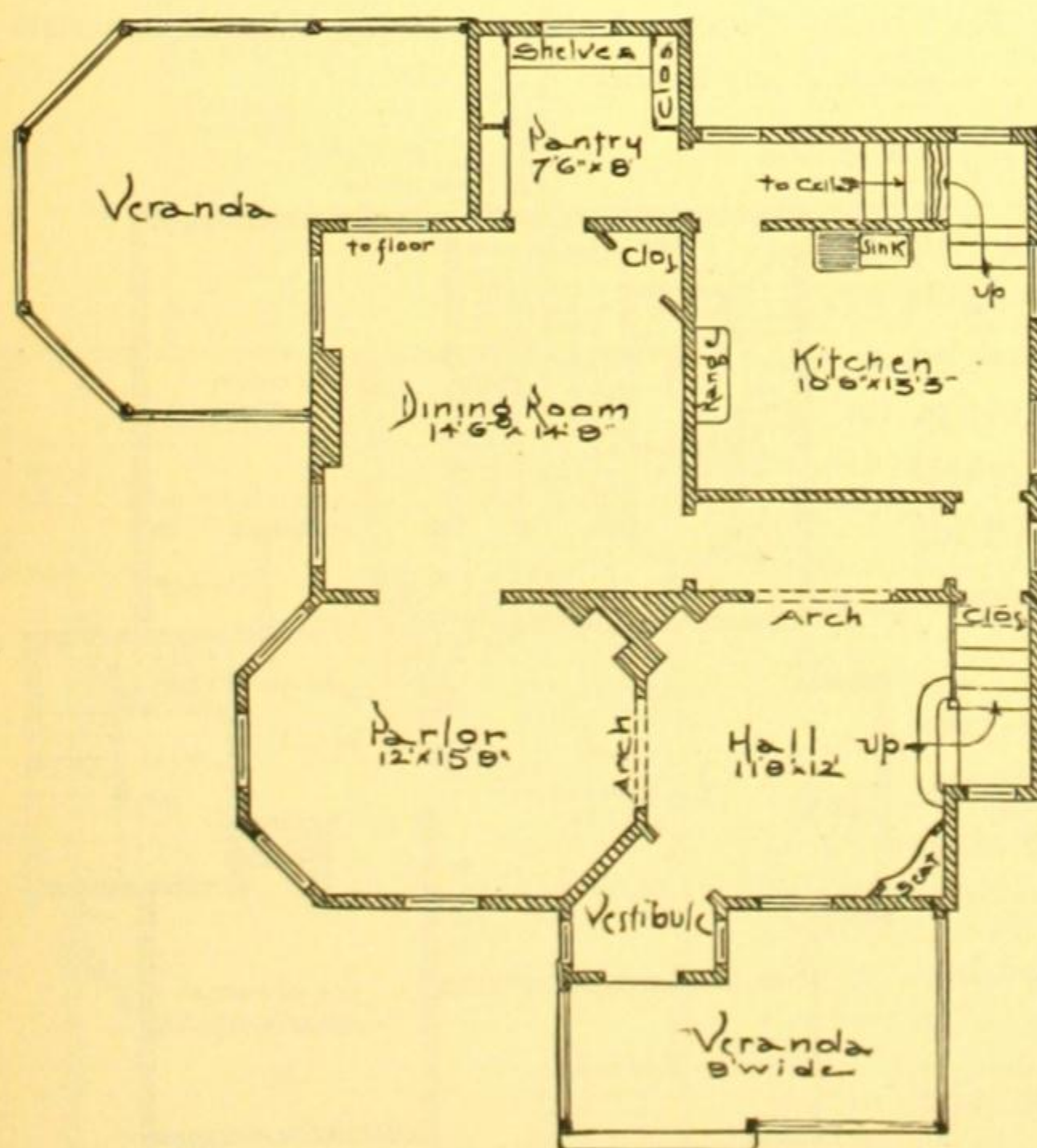
The front hall can be reached directly from the kitchen without passing through any room.

Back stairs from the kitchen to the second story hall.

The large rear bedroom can be divided into two smaller rooms, if preferred.

Three bedrooms are finished in the attic.

Cellar under the rear veranda, dining-room and kitchen.



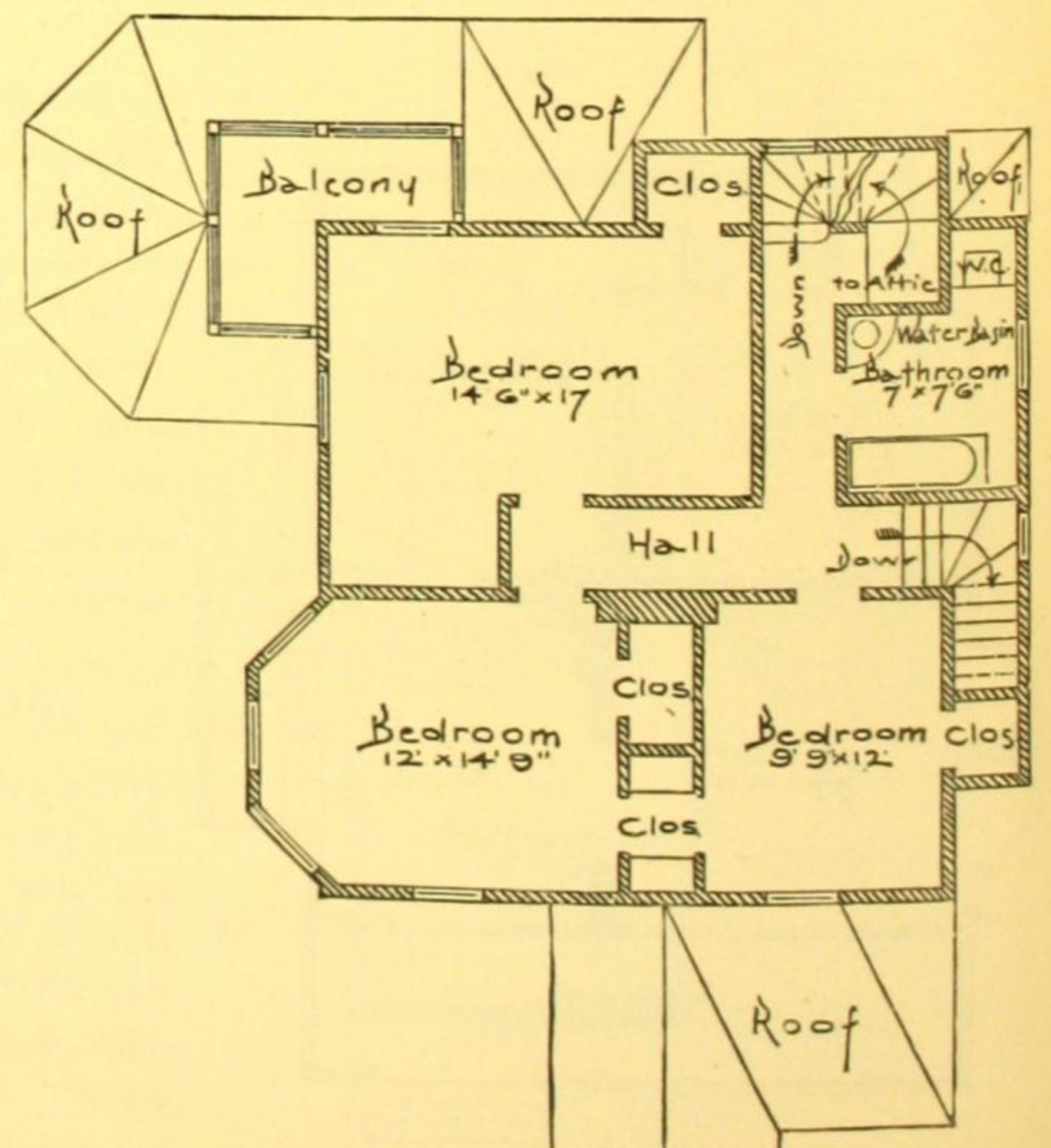
FIRST FLOOR. NO. 451

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



SECOND FLOOR. NO. 451

DESCRIPTION OF DESIGN NUMBER 452

THE EXTERIOR APPEARANCE IS THE SAME AS THAT SHOWN BY DESIGN NUMBER 451

SIZE OF STRUCTURE: Front, 29 ft., 3 in.; extreme width at rear, including veranda, 42 ft. Side, 28 ft.; extreme depth, including verandas, 45 ft.

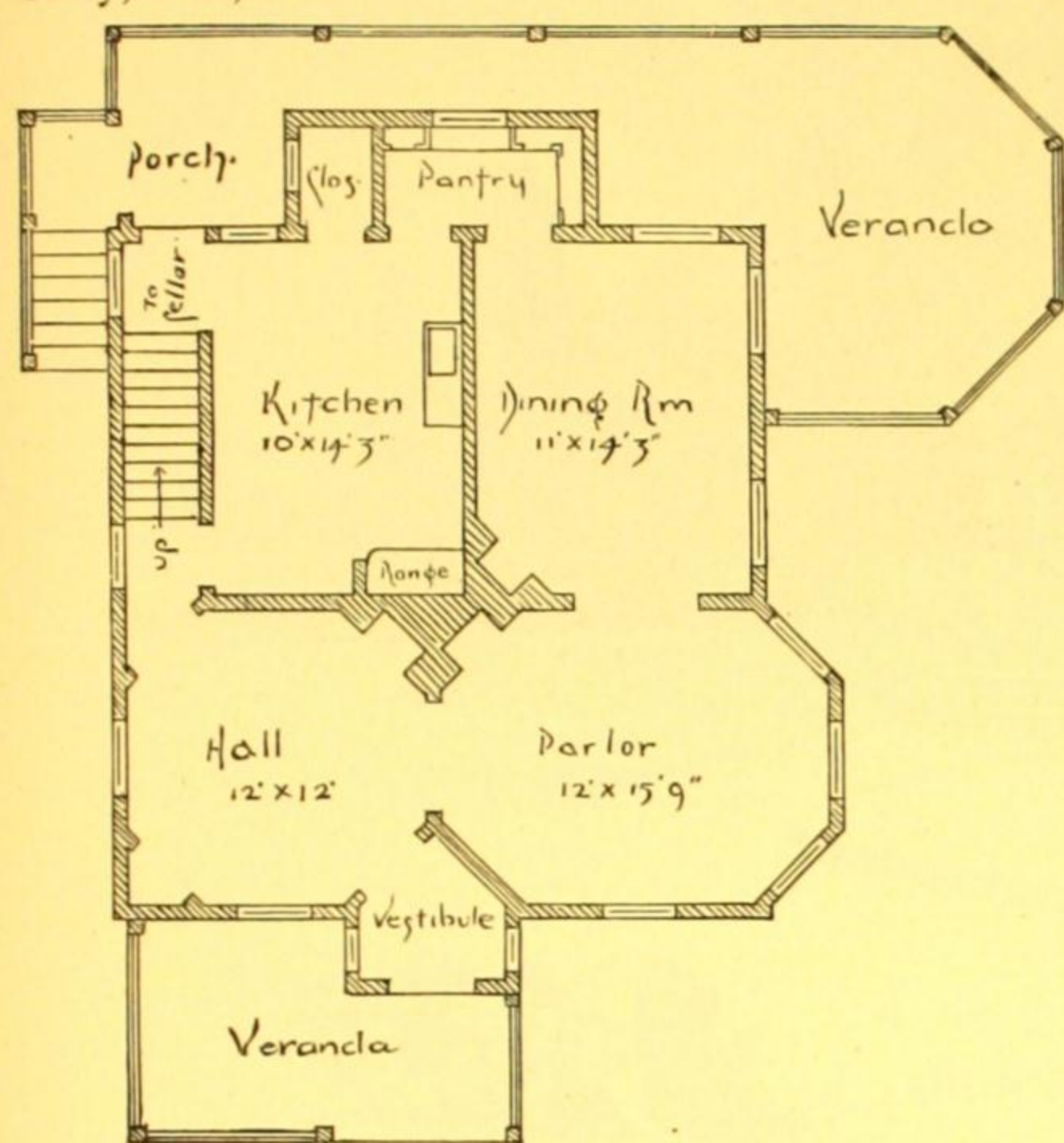
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, clapboards; Gables, shingles; Roof, shingles.

COST: \$2,600, complete, except mantels and kitchen range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]



FIRST FLOOR. NO. 452

SPECIAL FEATURES.—Designed for a side hill location, and where the best view is from the rear. For the latter reason a spacious veranda is placed at the rear.

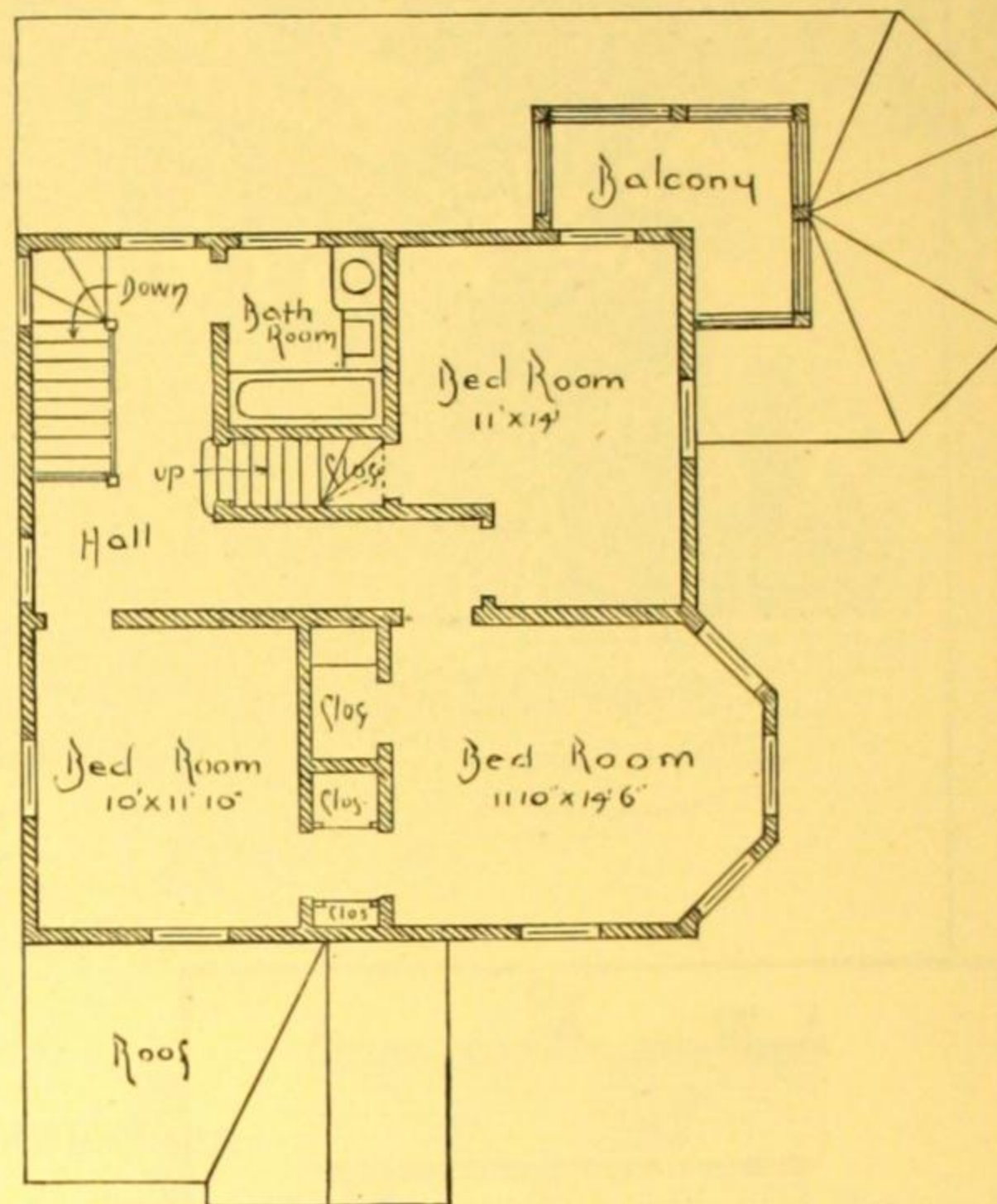
The rear dining-room window is a French casement, going down to the floor, to give access to the veranda.

The hall is, practically, a reception-room. It has a fireplace, and is connected with the parlor by a portiere opening. A curtain should be hung at the entrance to the stairway lobby.

The reception-room and parlor make, practically, one large apartment divided by the curtained opening.

Three bedrooms in second story, and space for three more in the attic if required.

Cellar under the whole house.



SECOND FLOOR. NO. 452

DESCRIPTION OF DESIGN NUMBER 453

THE EXTERIOR IS SIMILAR TO THAT SHOWN BY DESIGN NUMBER 456

SIZE OF STRUCTURE: Front, including veranda, 32 ft. Side, 48 ft.

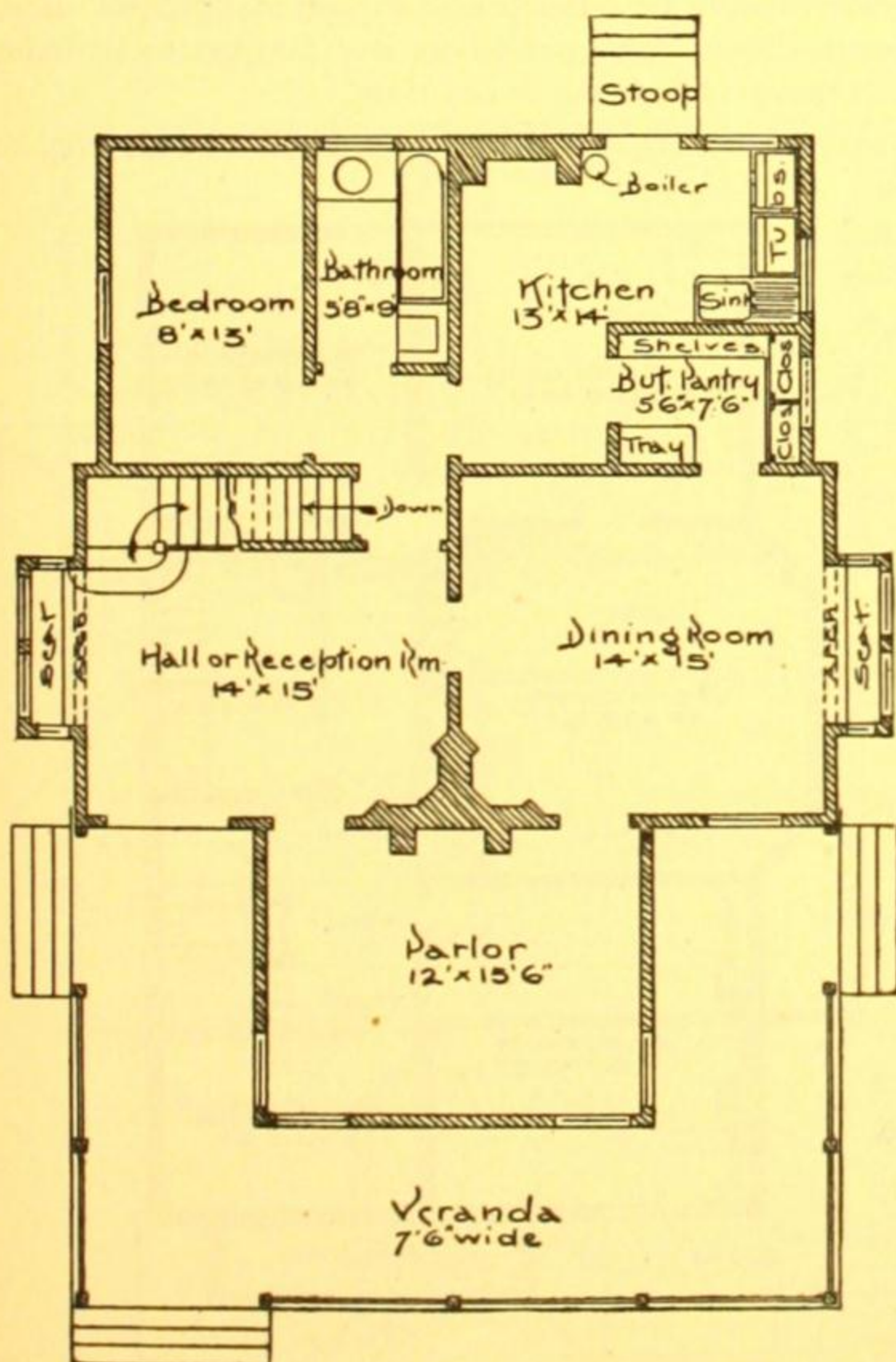
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.

be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.



FIRST FLOOR. NO. 453

MATERIALS: Foundation, brick walls and piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,000, complete, except mantels and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

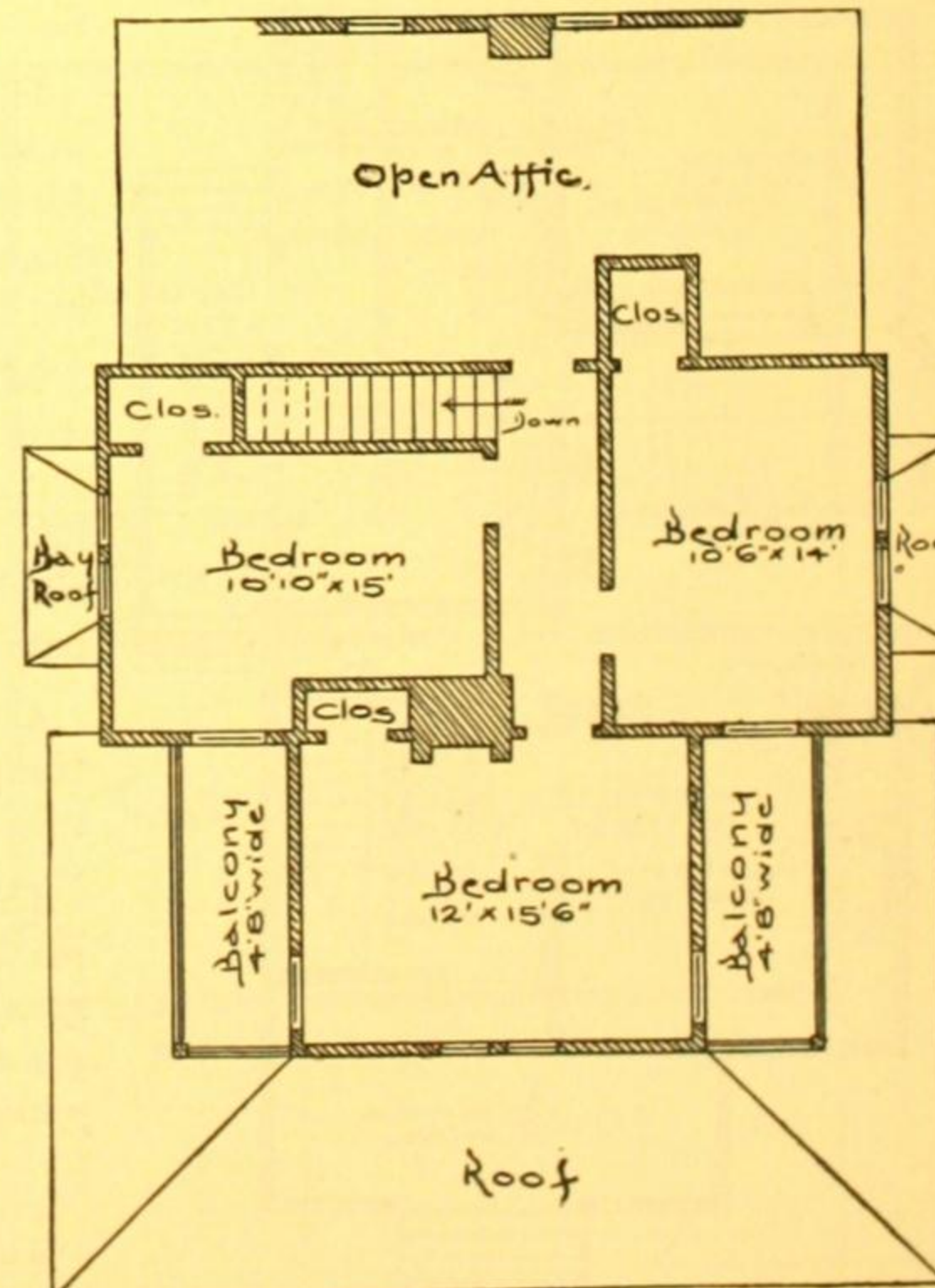
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will

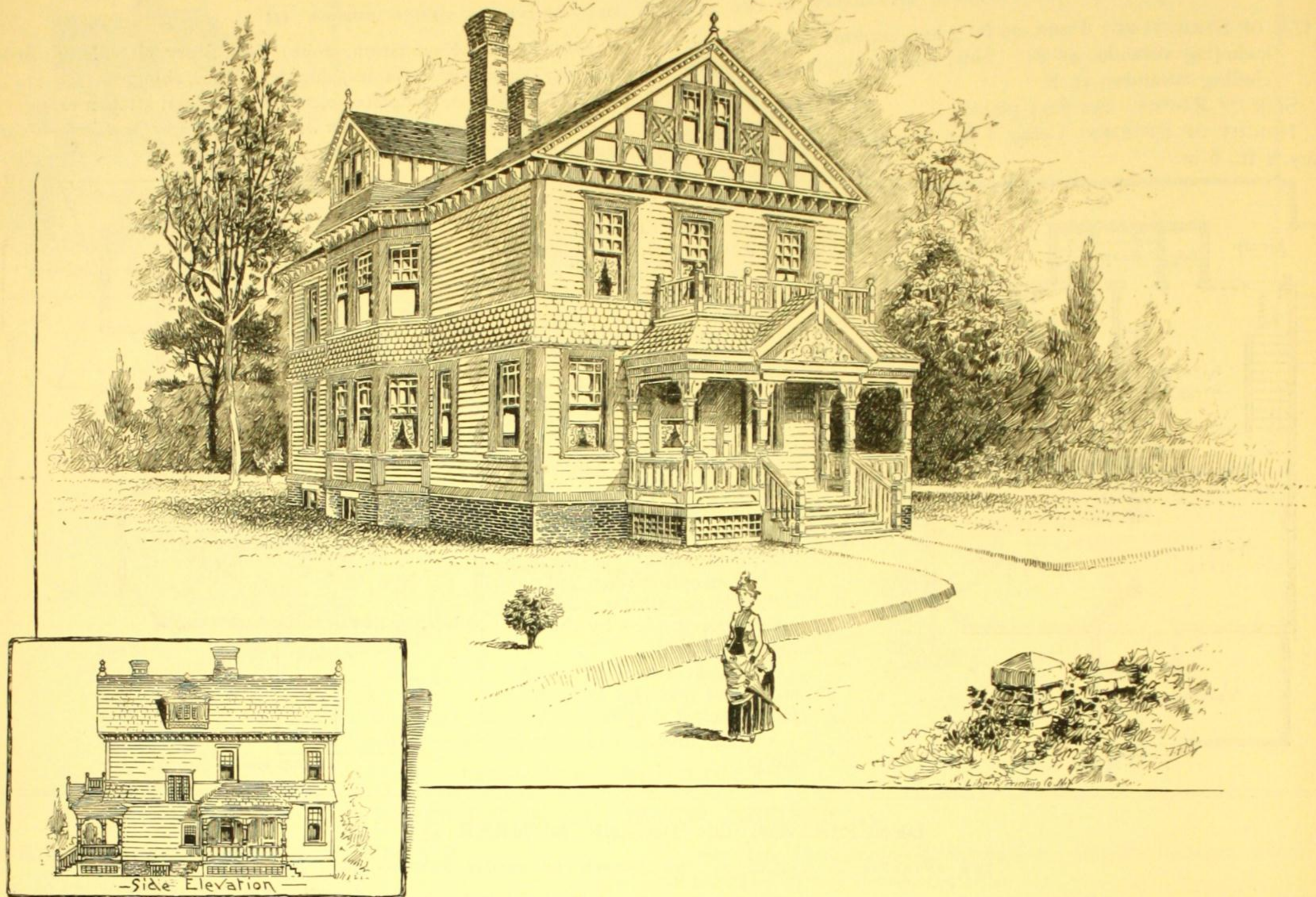
SPECIAL FEATURES.—A bedroom and a bathroom on ground floor.

The space marked "open attic," on the second floor plan, can be finished as two bedrooms if desired; the ceiling is of full height, the same as the front part of the house.

Cellar under the hall or reception-room.



SECOND FLOOR. NO. 453



DESIGN No. 454. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 454

SIZE OF STRUCTURE: Front, 25 ft. Side, not including front veranda, 41 ft.

SIZE OF ROOMS:
See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Attic Story, 8 ft.

MATERIALS: Foundation, stone walls; First Story, clapboards; Second Story, clapboards; Gables, panels; Roof, slate.

COST: \$3,400, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood

of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Sliding doors between the hall, parlor and dining-room. Open fire-places in the parlor, dining-room, and two bedrooms.

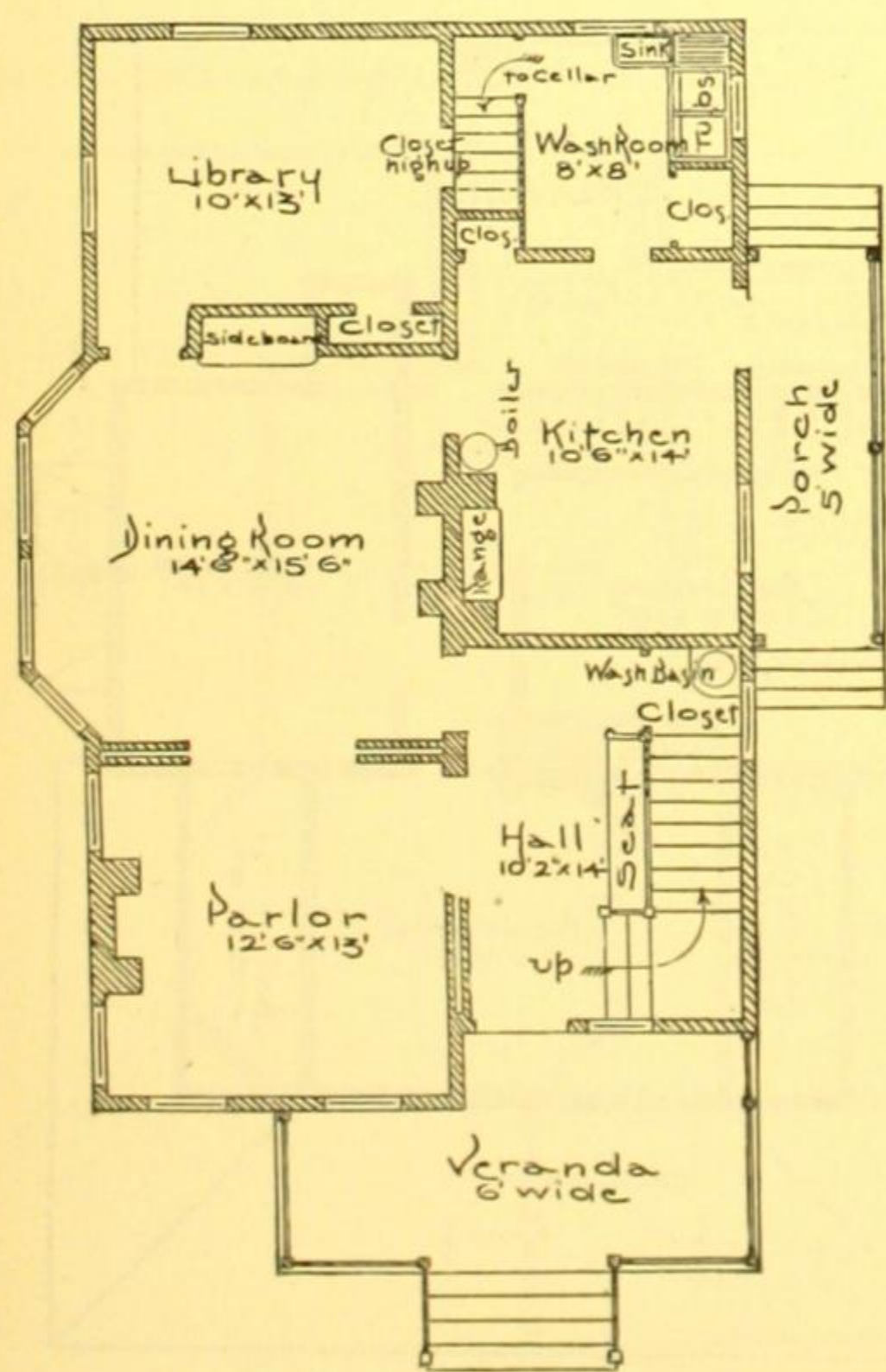
Lavatory under the main stairway.

Library to be heated from the furnace.

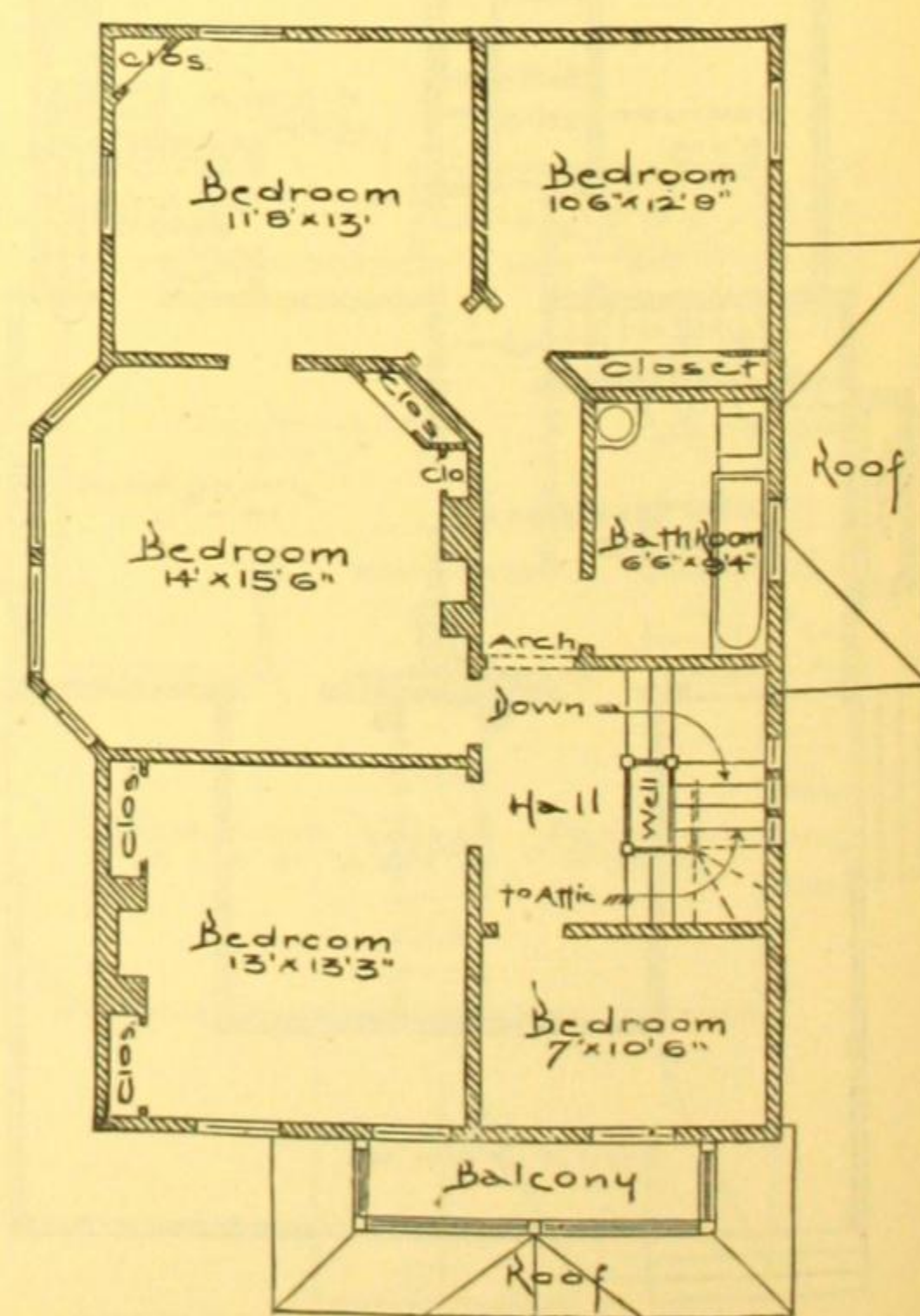
A door can be made between the kitchen and the hall, if required.

Two bedrooms and a hallway are finished in the attic.

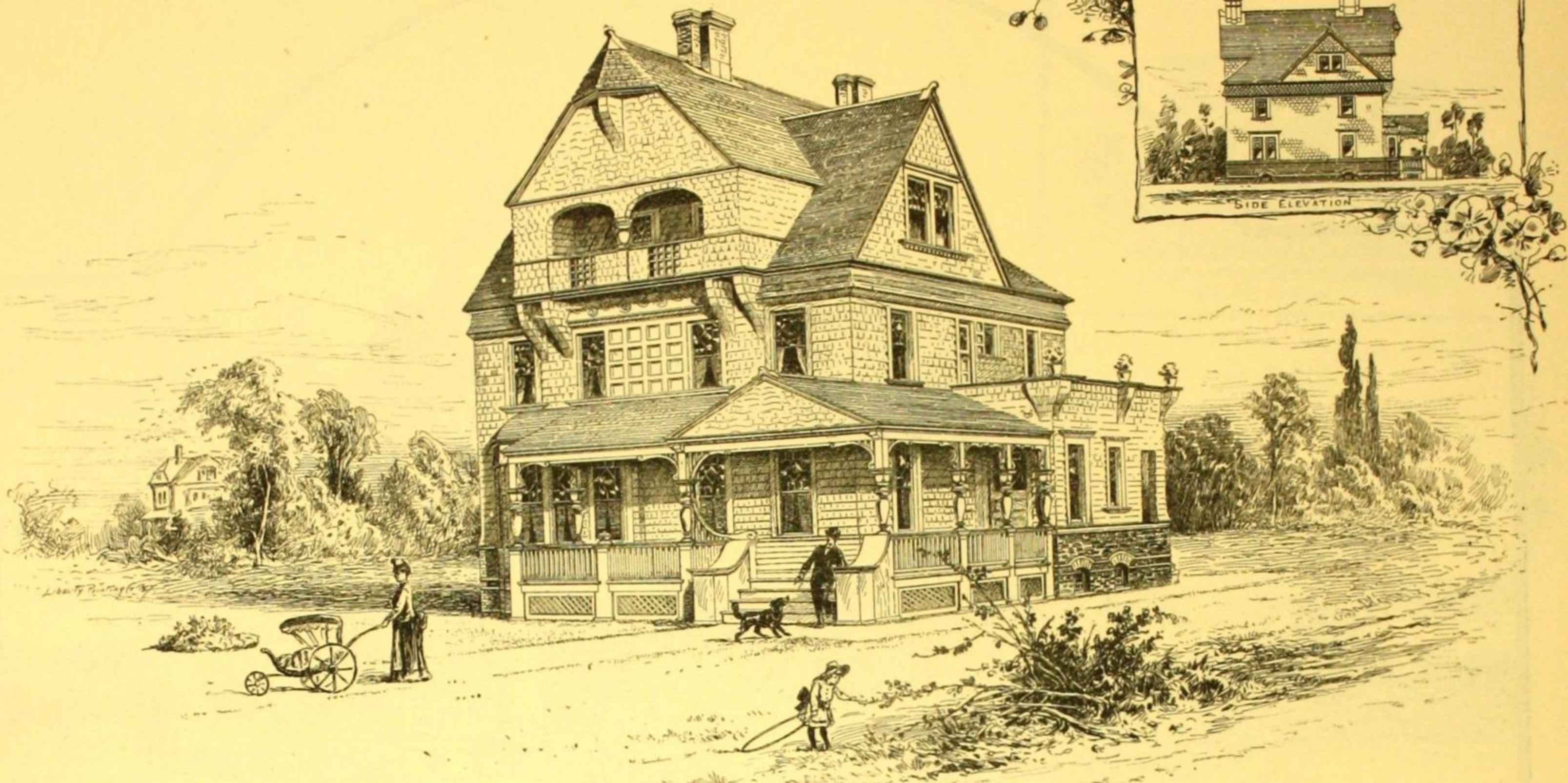
Cellar under the whole house.



FIRST FLOOR, NO. 454



SECOND FLOOR, NO. 454



DESIGN No. 455. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 455

SIZE OF STRUCTURE: Front, including veranda, 40 ft. Side, including veranda, 47 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft., 4 in.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone and brick; First and Second Stories, brickwork up to sills of first story windows; shingles above that point; Gables, shingles; Roof, shingles.

COST: \$3,500, complete, except mantels, heater and range.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

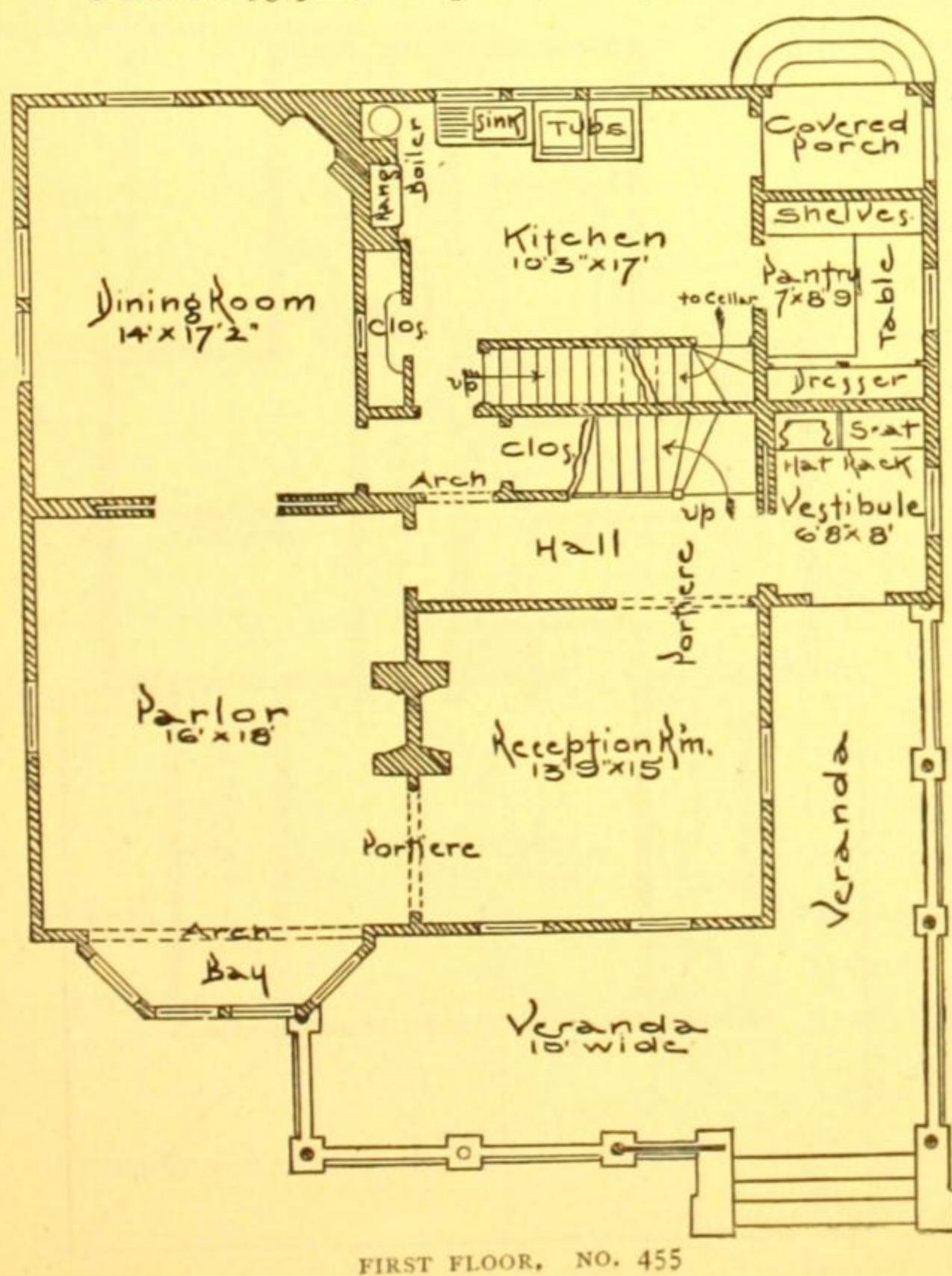
SPECIAL FEATURES.—Wide verandas, a compact arrangement of rooms, and an attractive exterior.

Three large bedrooms with closets are finished in the attic.

The bathroom being directly over the kitchen, the plumbing is all on one line; there is no danger of the water freezing in the pipes.

Open fireplaces in the reception-room, parlor, dining-room and one bedroom.

Cellar under the whole house.

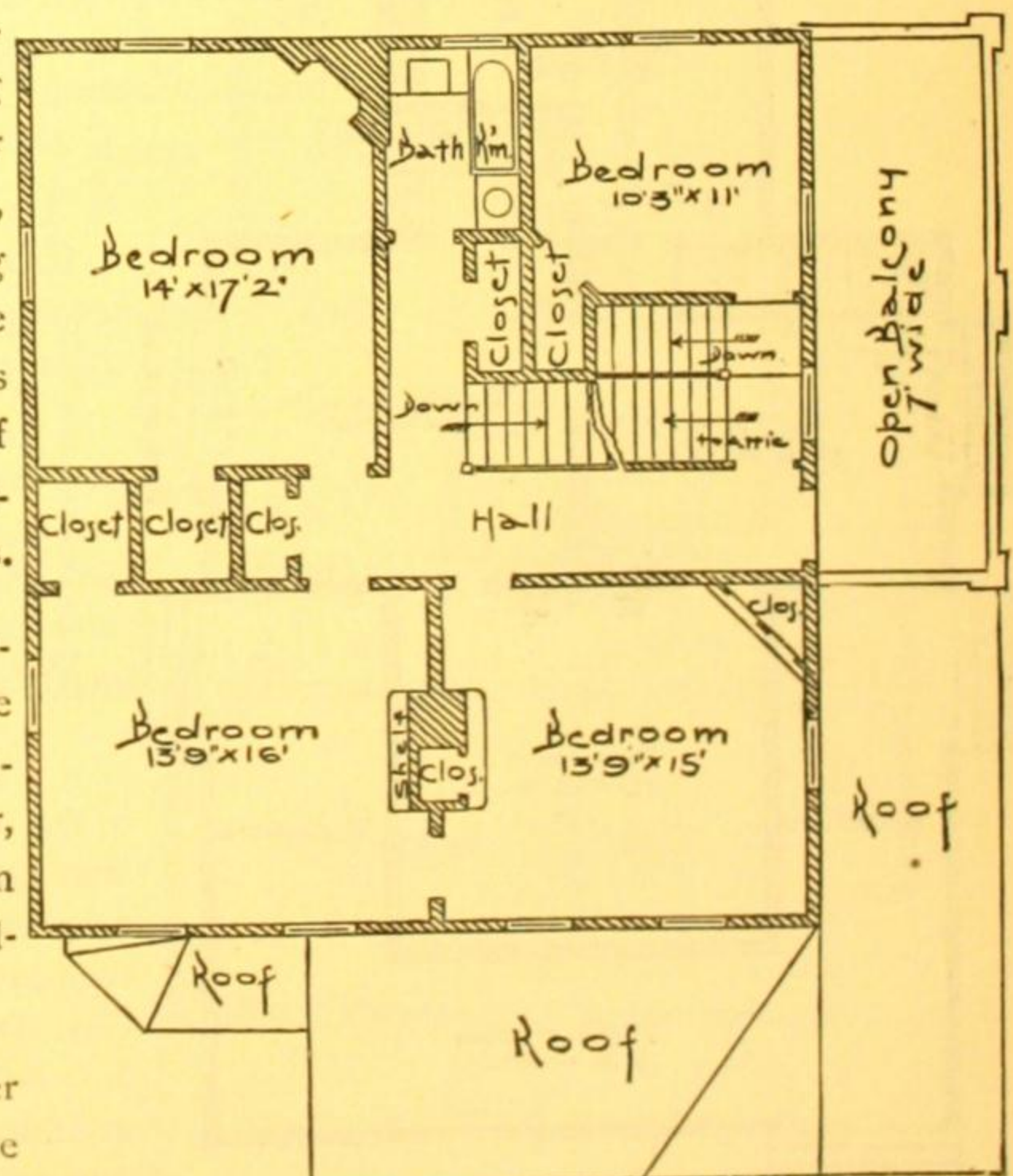


FIRST FLOOR, NO. 455

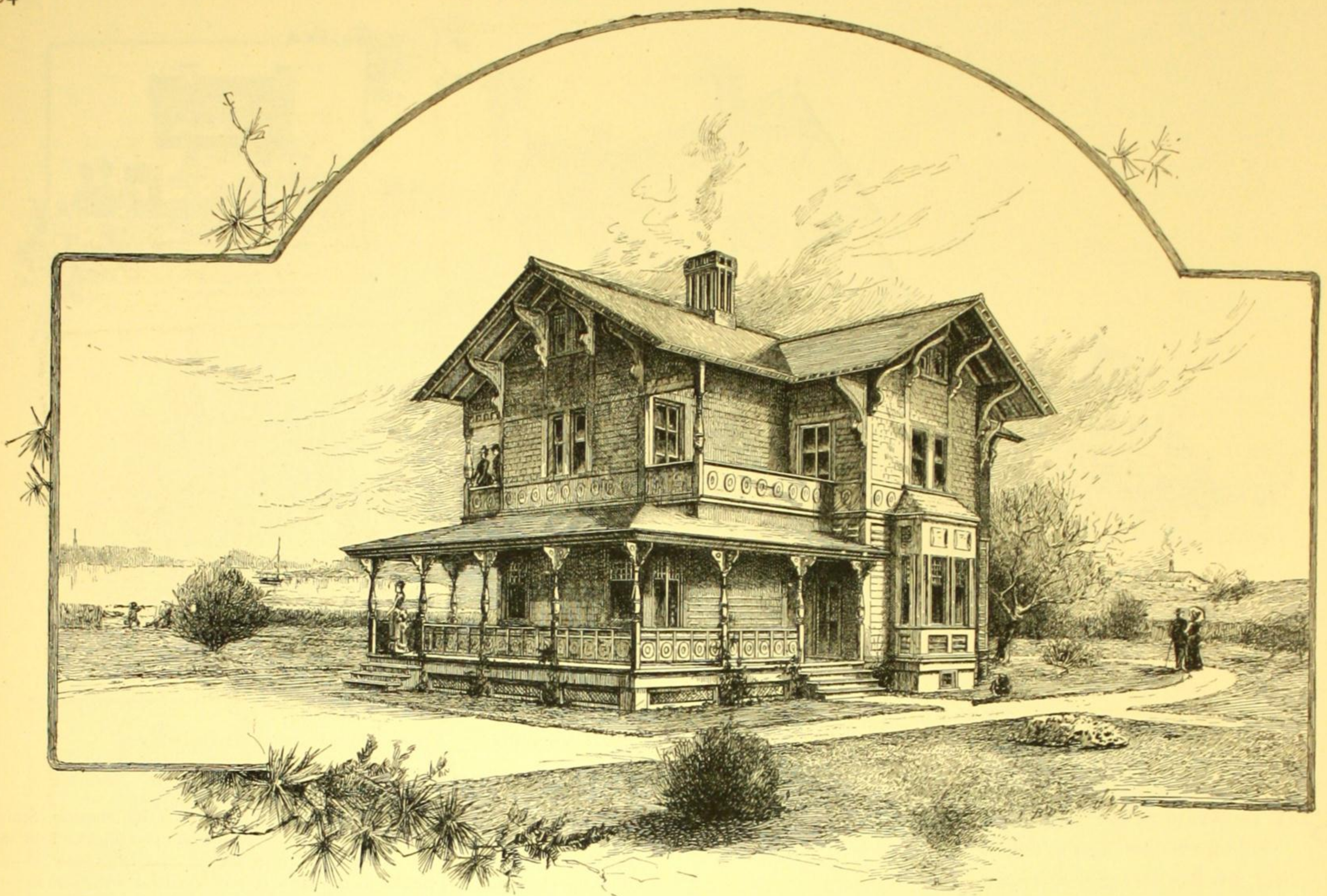
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.



SECOND FLOOR, NO. 455



DESIGN No. 456. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 456

SIZE OF STRUCTURE: Front, including verandas, 32 ft. Side, 51 ft.
 SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft., 4 in.; Second Story, 9 ft.

MATERIALS: Foundation, brick walls; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$3,200, complete, except mantels and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The pub-

lishers will be glad to acquaint the intending builder with this modified cost at any time.

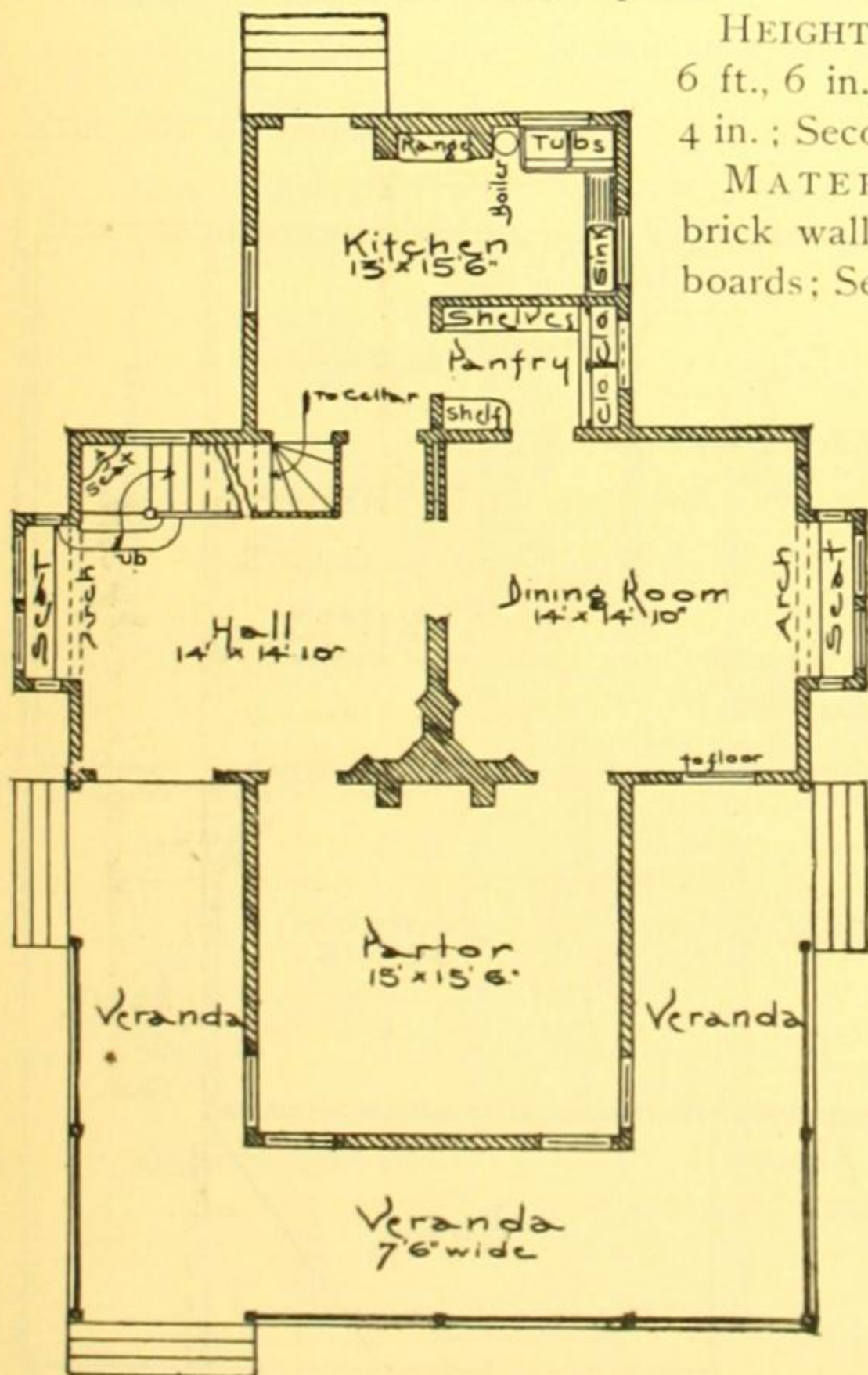
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—The large hall is used as a sitting or reception room.

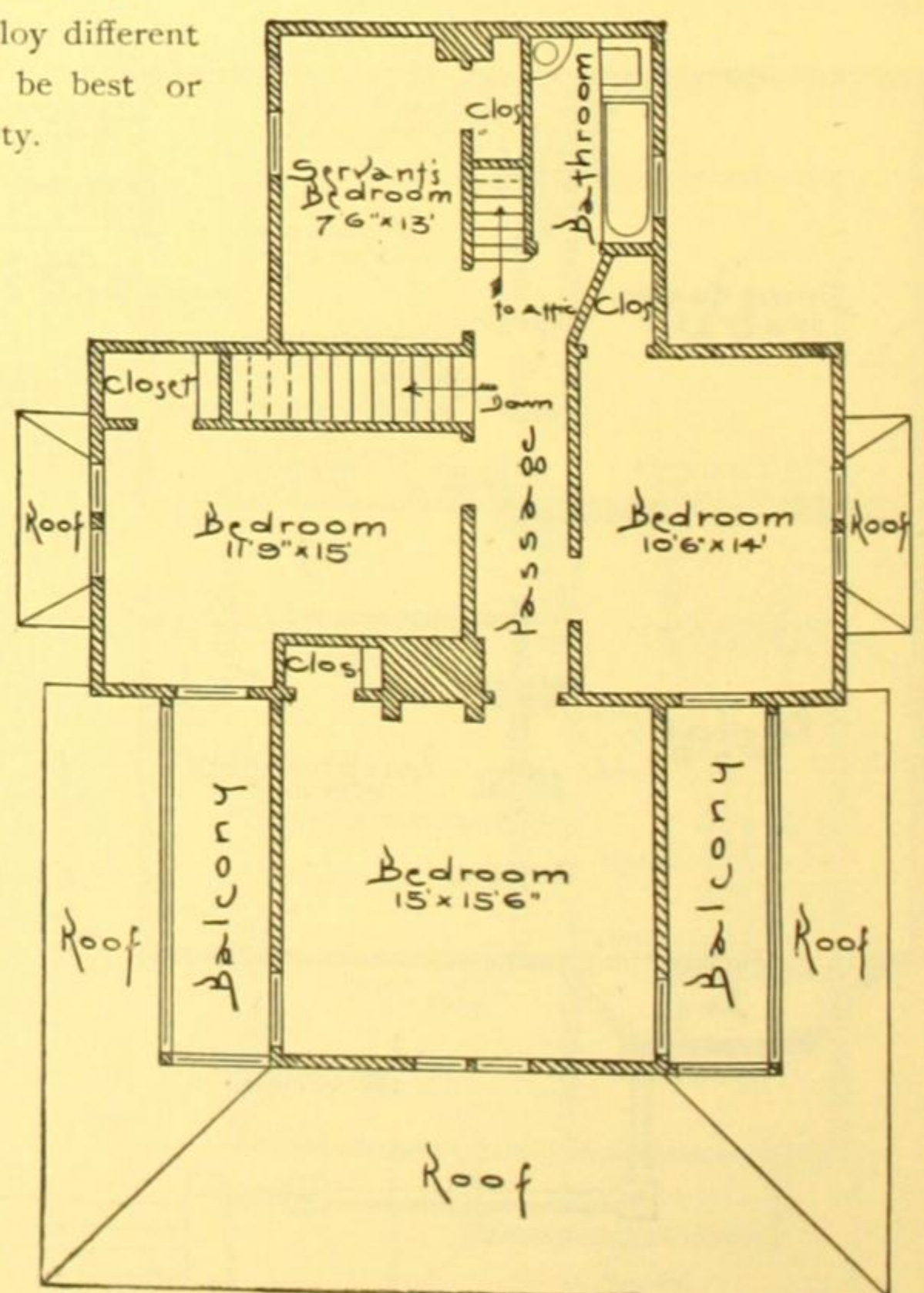
Open fire-places in the parlor, hall, dining-room and the front chamber. A fire-place heater in the parlor or the dining-room will heat two bedrooms up stairs.

Three good bedrooms in attic.

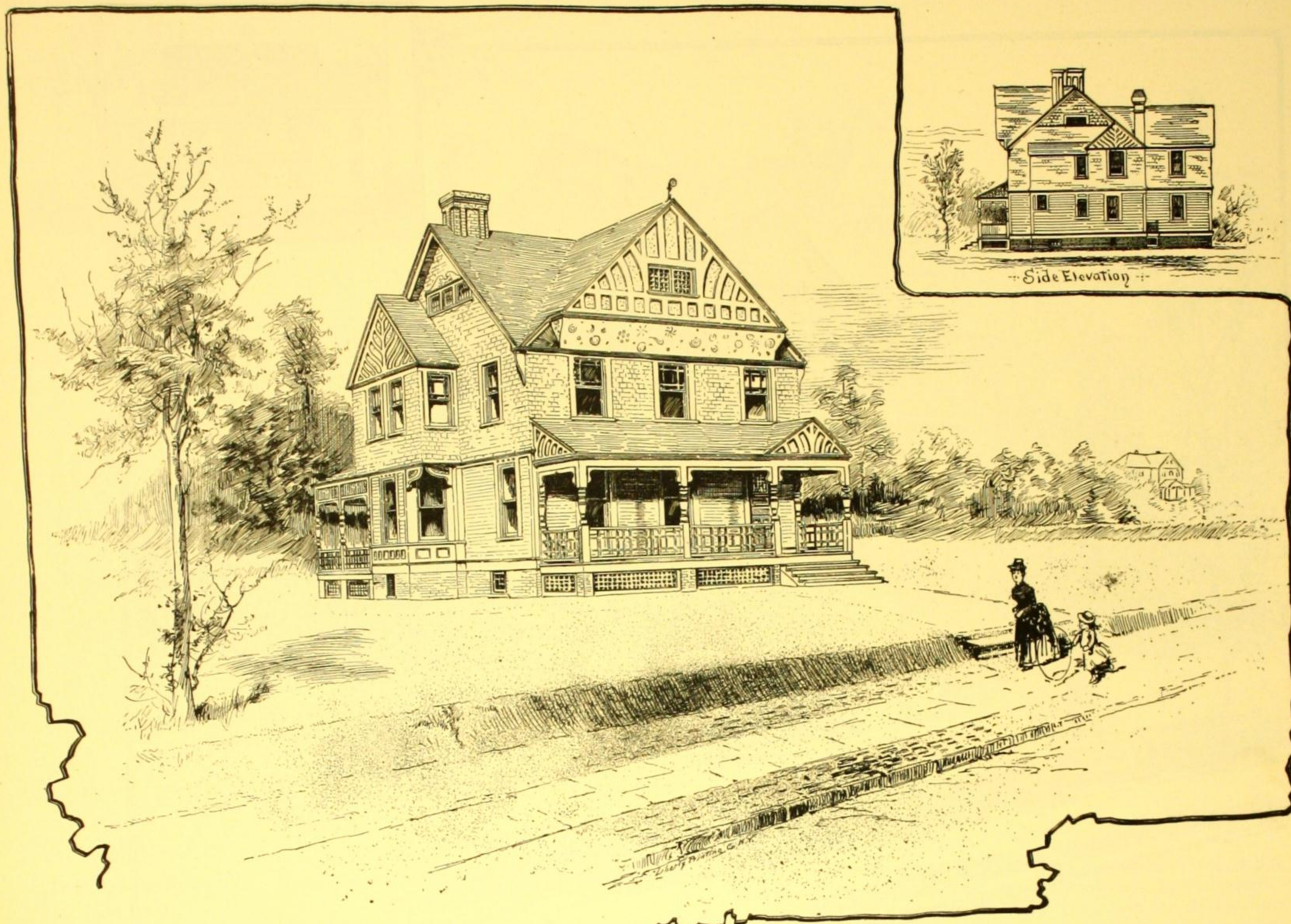
Cellar under kitchen and hall.



FIRST FLOOR. NO. 456



SECOND FLOOR. NO. 456



DESIGN No. 457. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 457

SIZE OF STRUCTURE: Front, 27 ft., 6 in.; width through dining-room and kitchen, 35 ft. Side, 43 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, brick wall; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$3,300, complete, except mantels, range and heater.

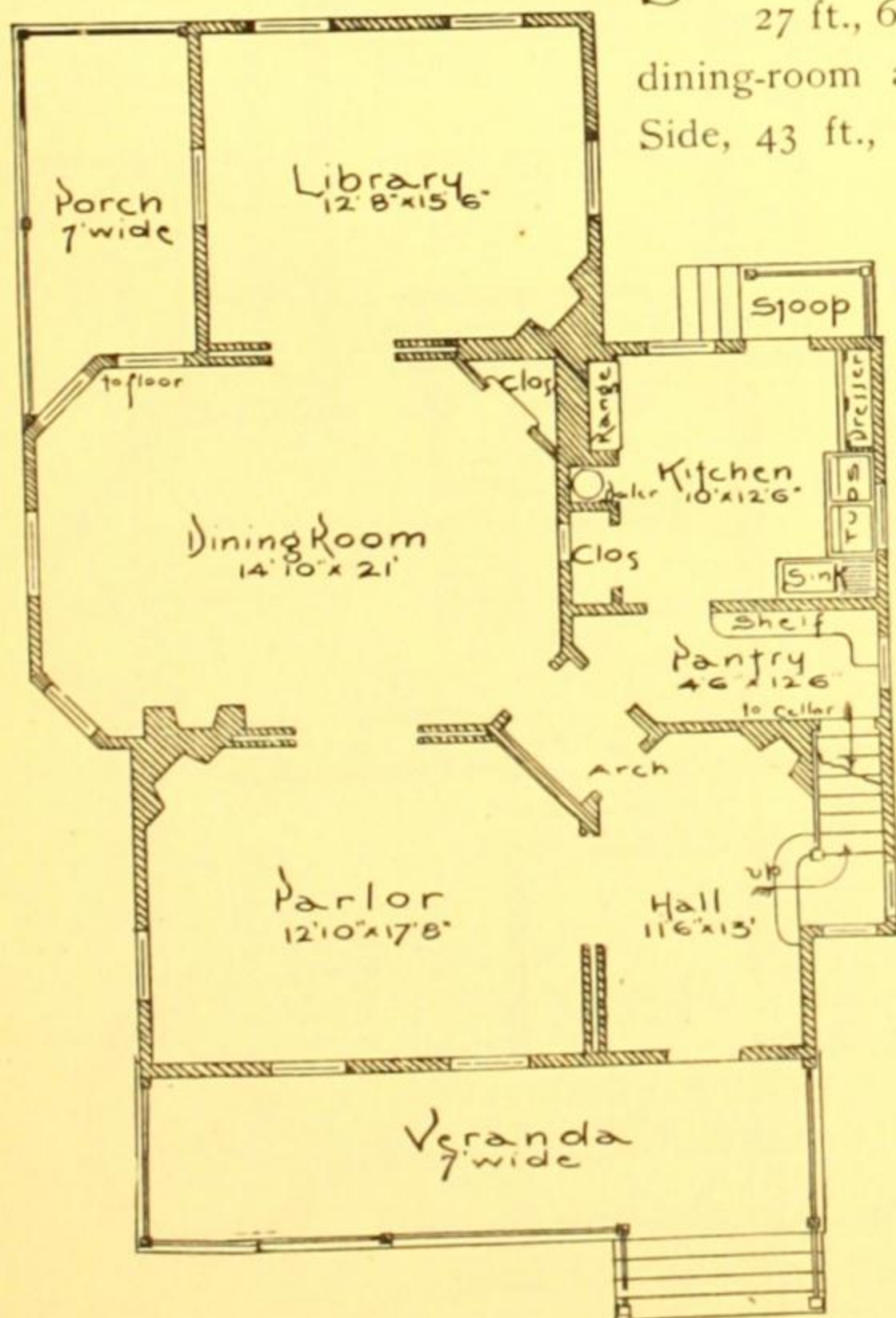
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Parlor, dining-room and library arranged *en suite* and connected by double sliding doors. This arrangement gives all the living rooms the most favorable exposure.

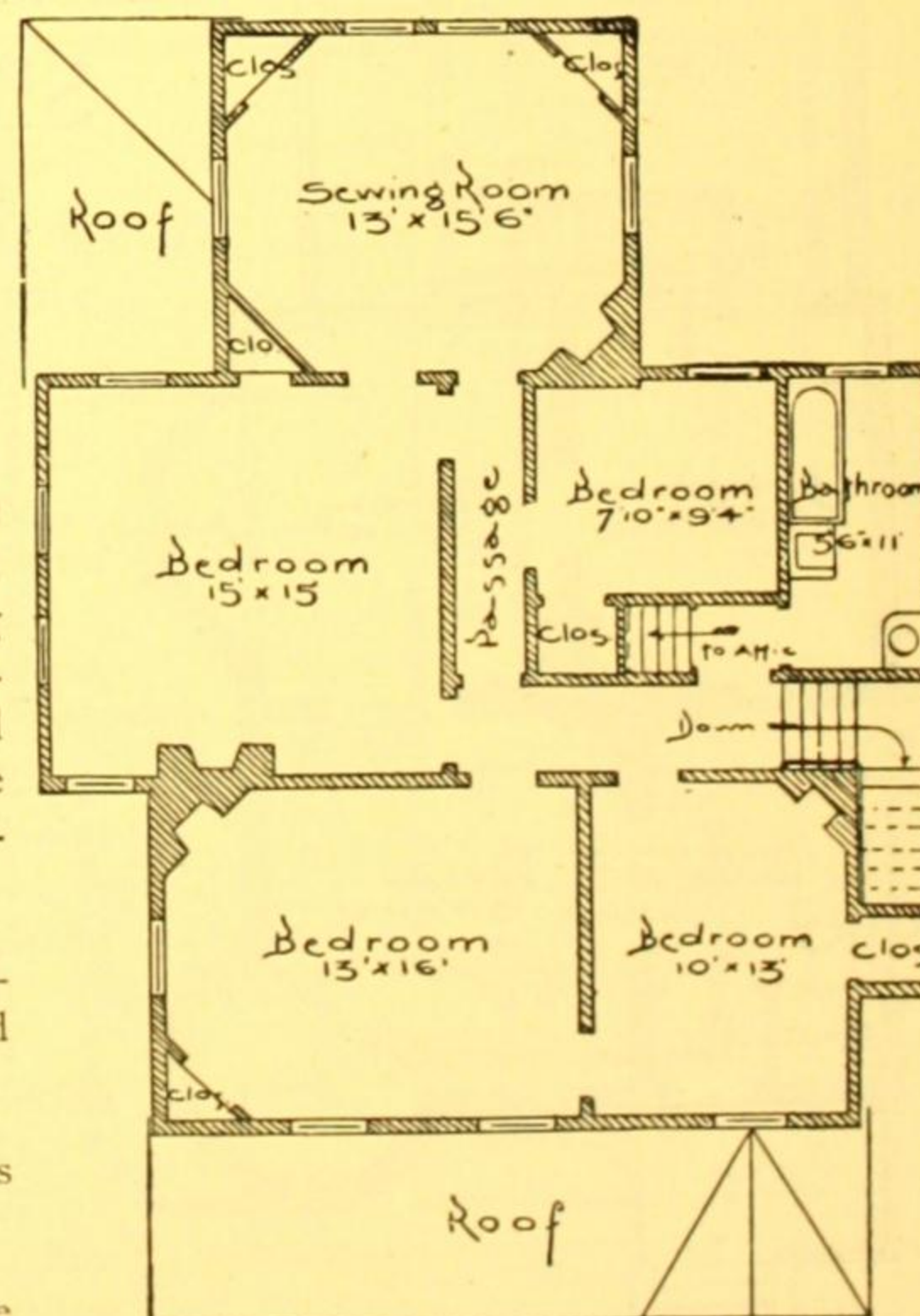
Five large bedrooms in the second story.

Two bedrooms finished in attic.

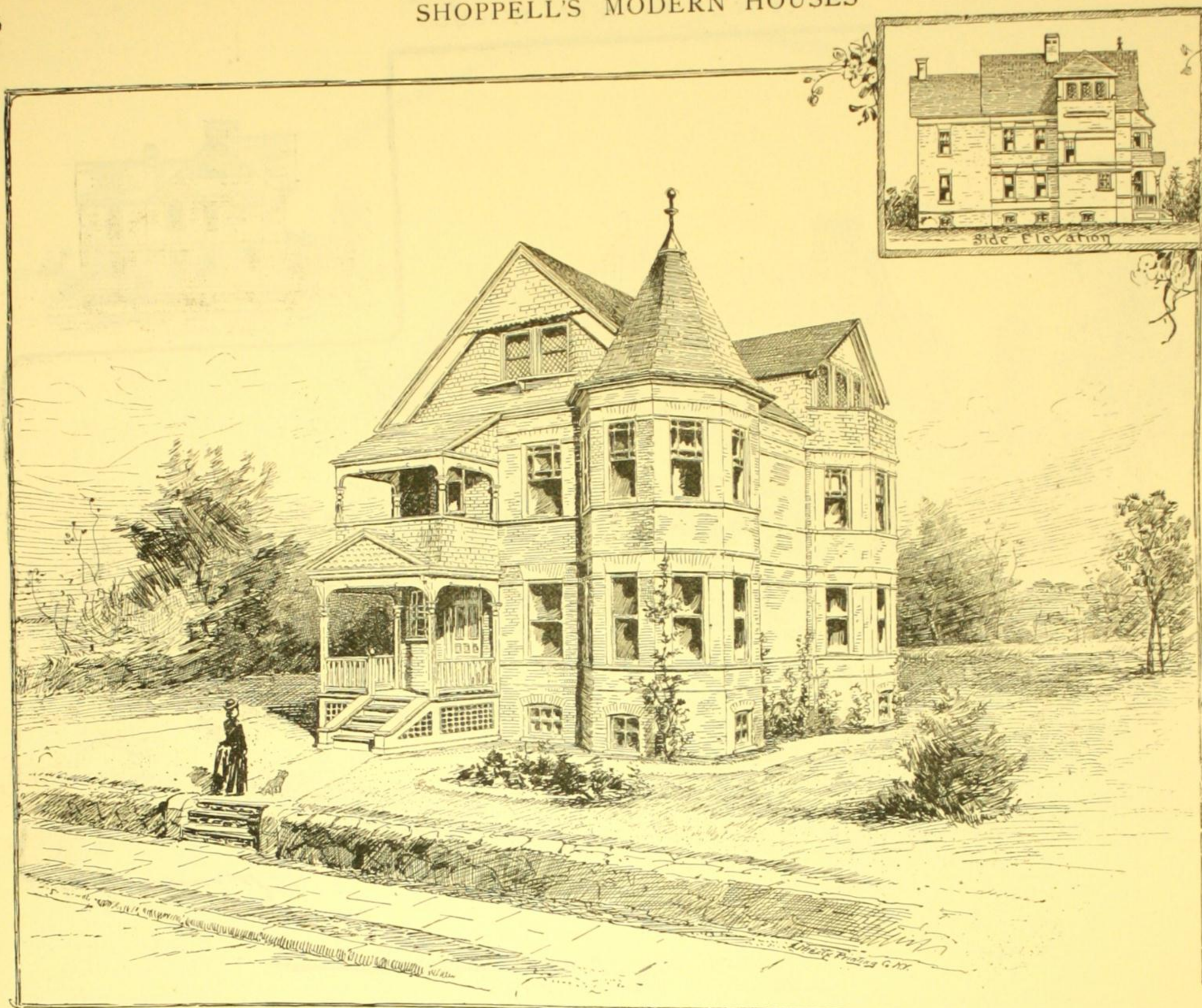
Cellar under the whole house.



FIRST FLOOR. NO. 457



SECOND FLOOR. NO. 457



DESIGN No. 458. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 458

SIZE OF STRUCTURE: Front, 31 ft., 4 in. Side, 51 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Gables, shingles; Roof, shingles.

COST: \$4,200, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

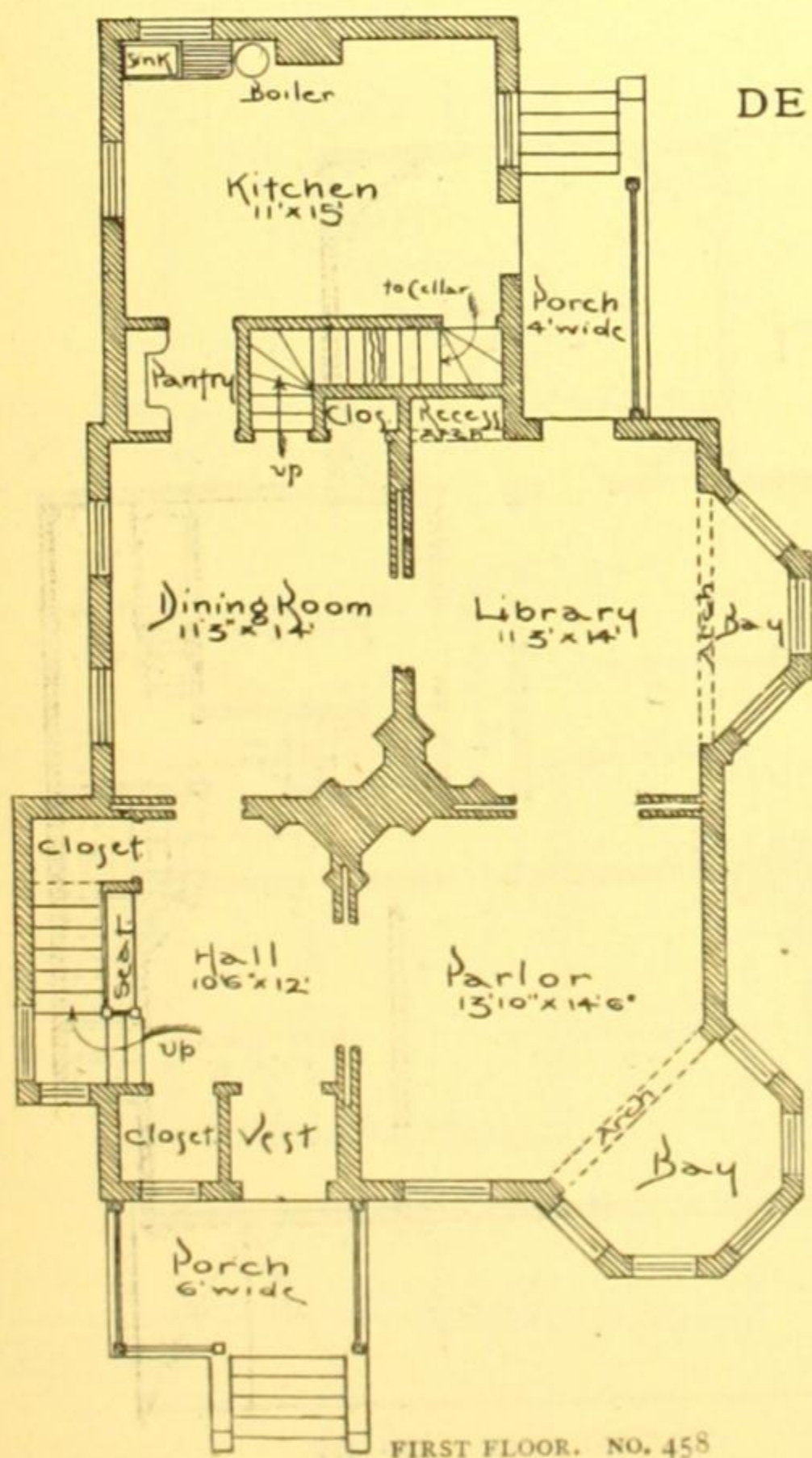
SPECIAL FEATURES.—Sliding doors connect the principal rooms of first story.

Heater pipes are carried to all the rooms; open fire-places also are provided for the first story rooms.

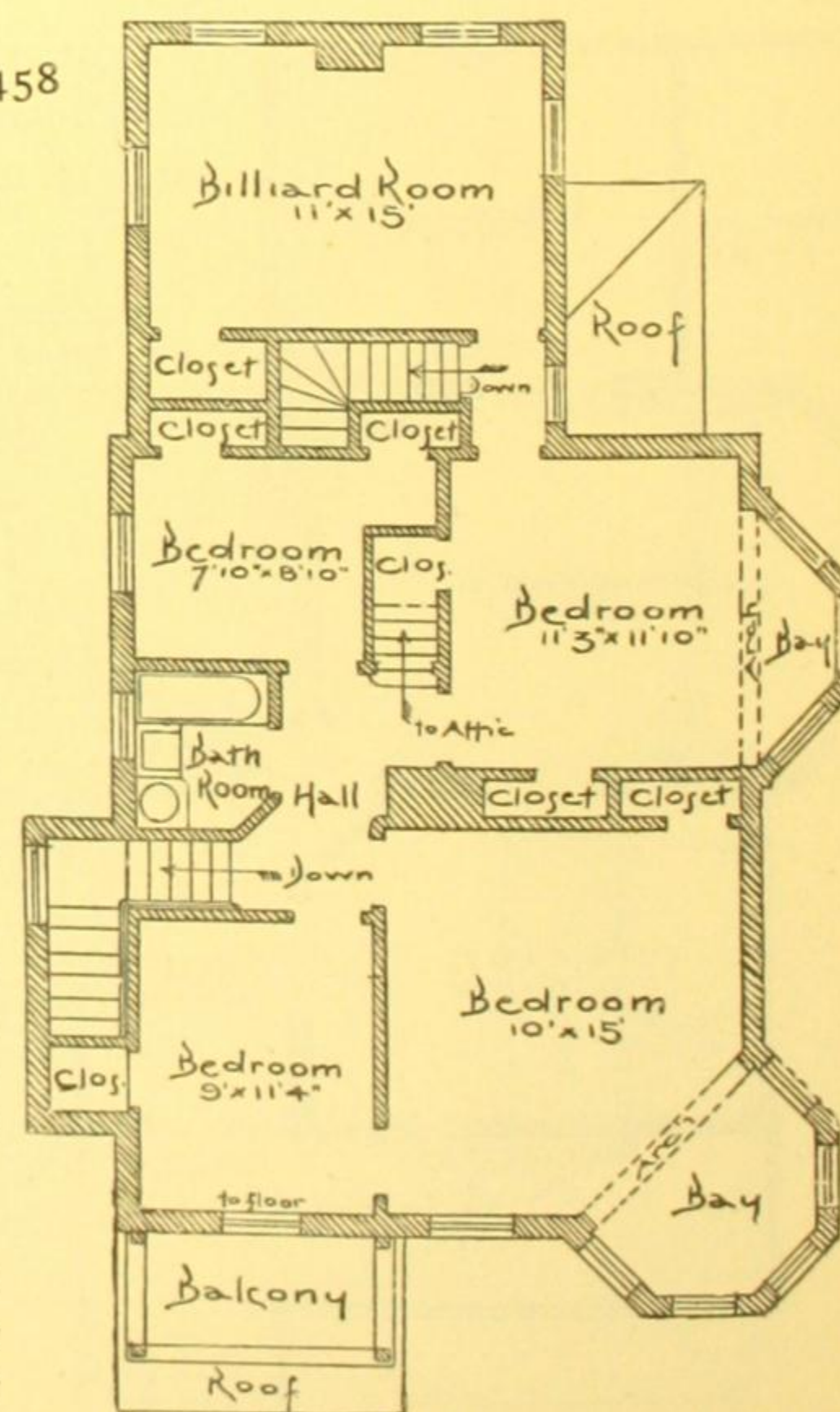
The staircase is hardwood and striking in design. Two bedrooms, a store-room and a hallway are finished in the attic.

Cellar under the whole house.

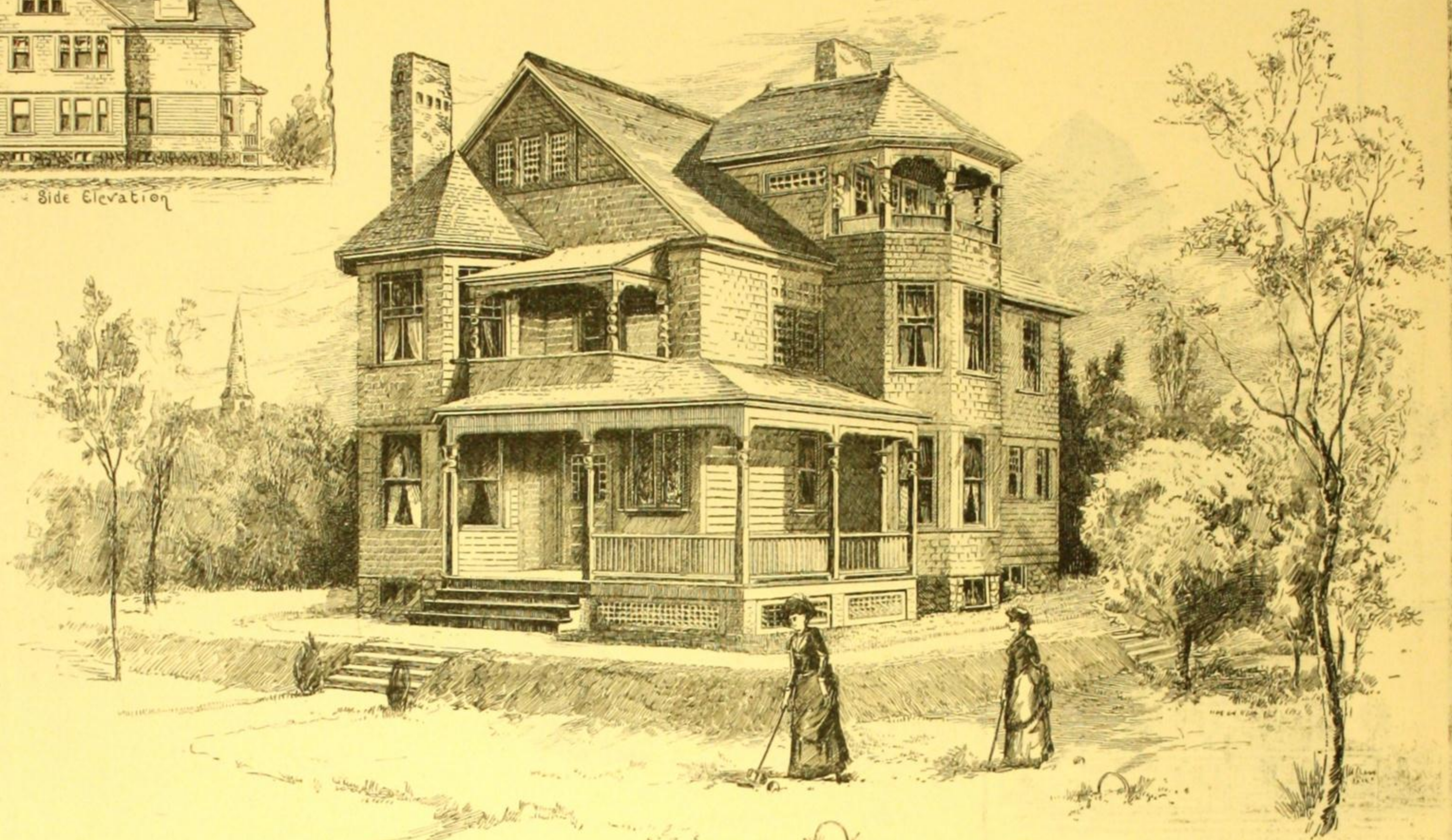
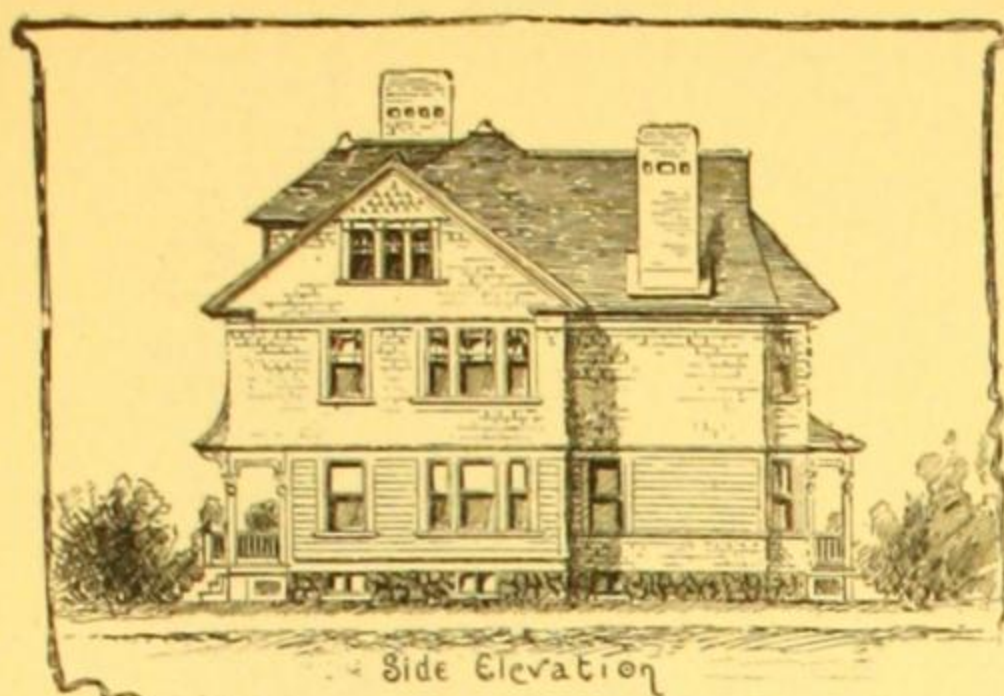
A course of asphalt laid in the foundation walls prevents dampness from rising through the walls. The outside of the walls below ground line is coated with asphalt also, to keep the cellar dry.



FIRST FLOOR. NO. 458



SECOND FLOOR. NO. 458



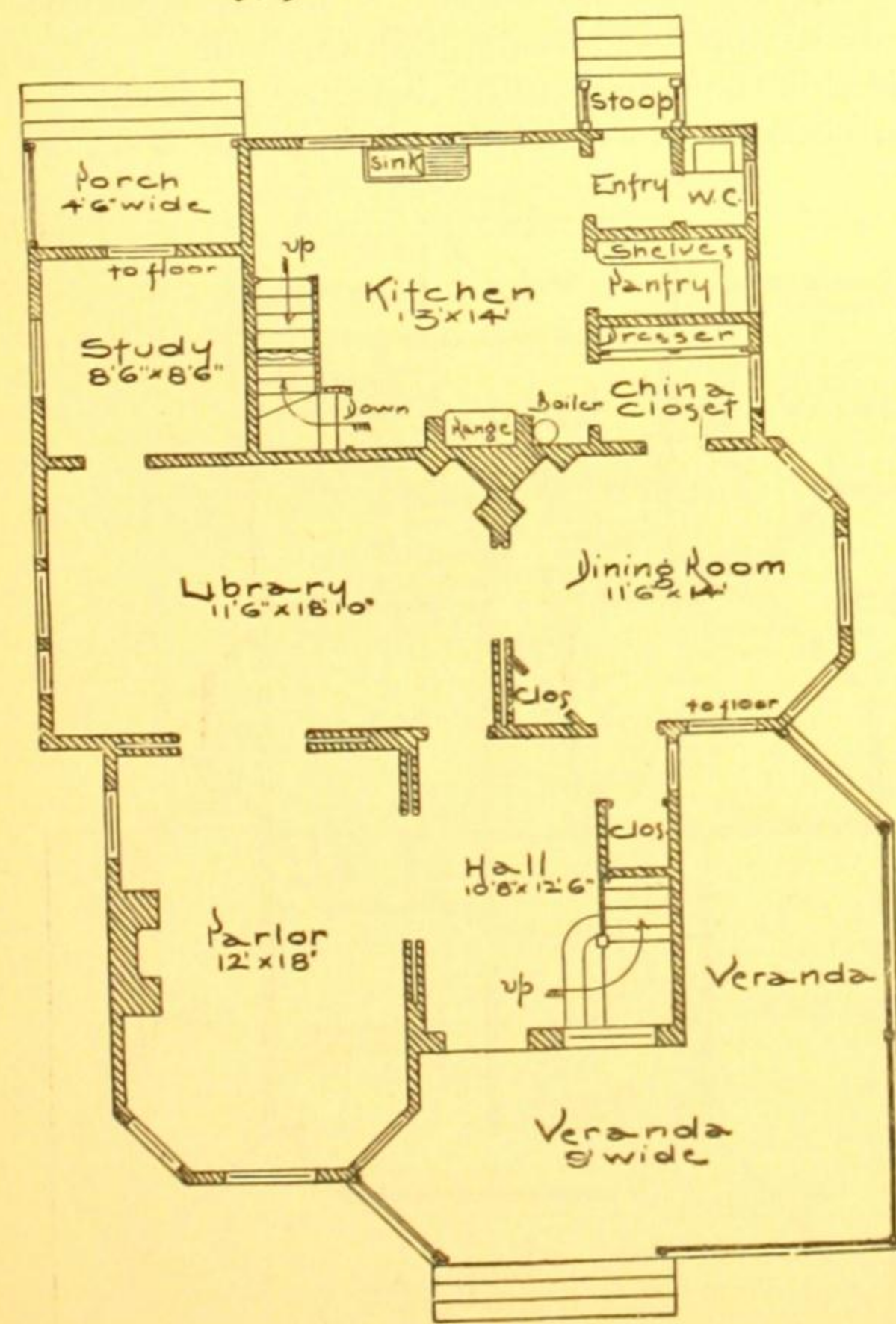
DESIGN No. 459. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 459

SIZE OF STRUCTURE: Front, including veranda, 33 ft., 8 in. Side, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic Story, 8 ft.



FIRST FLOOR. NO. 459

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$4,500, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will

be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

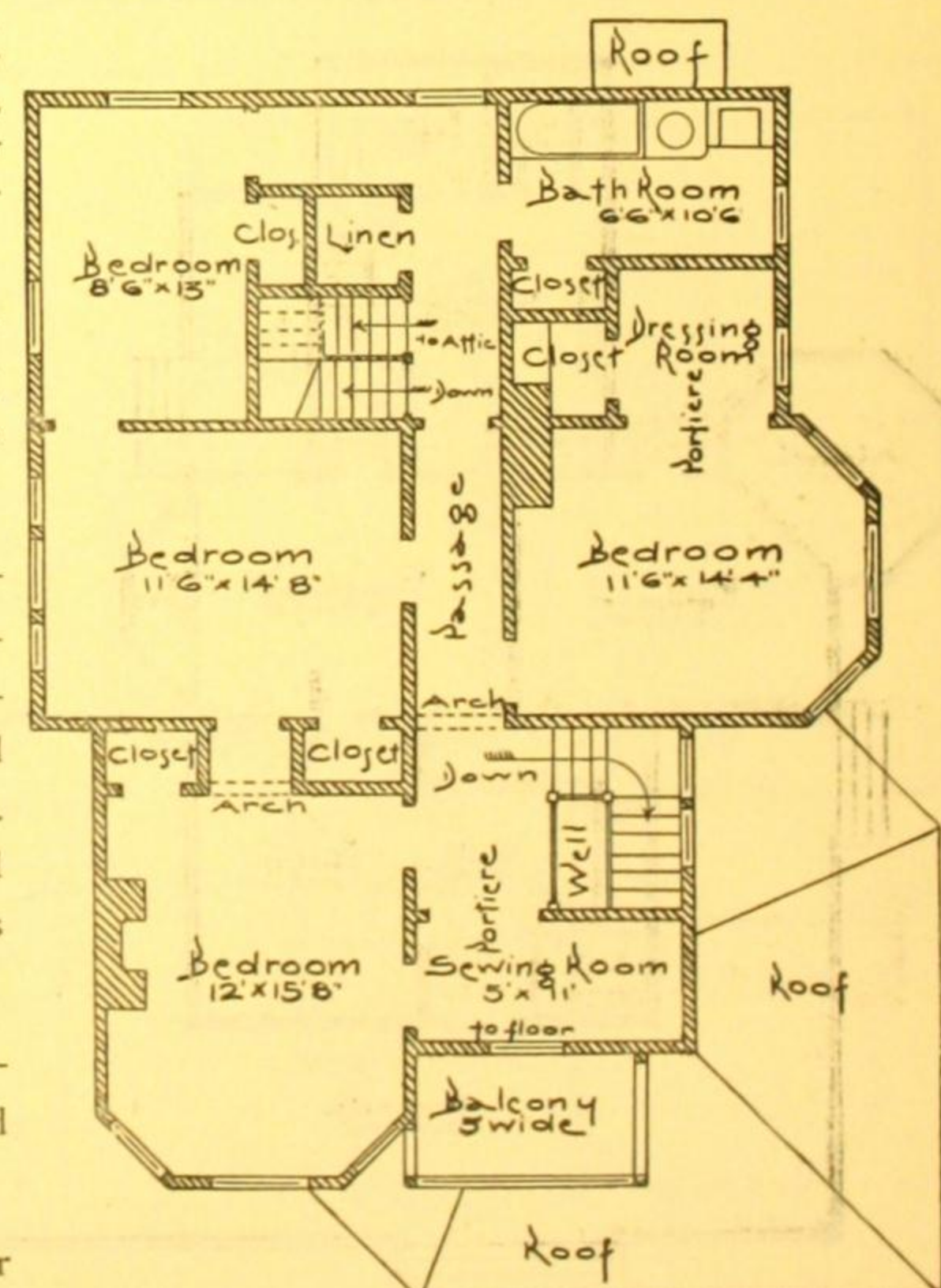
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES. — Sliding doors connect the principal rooms.

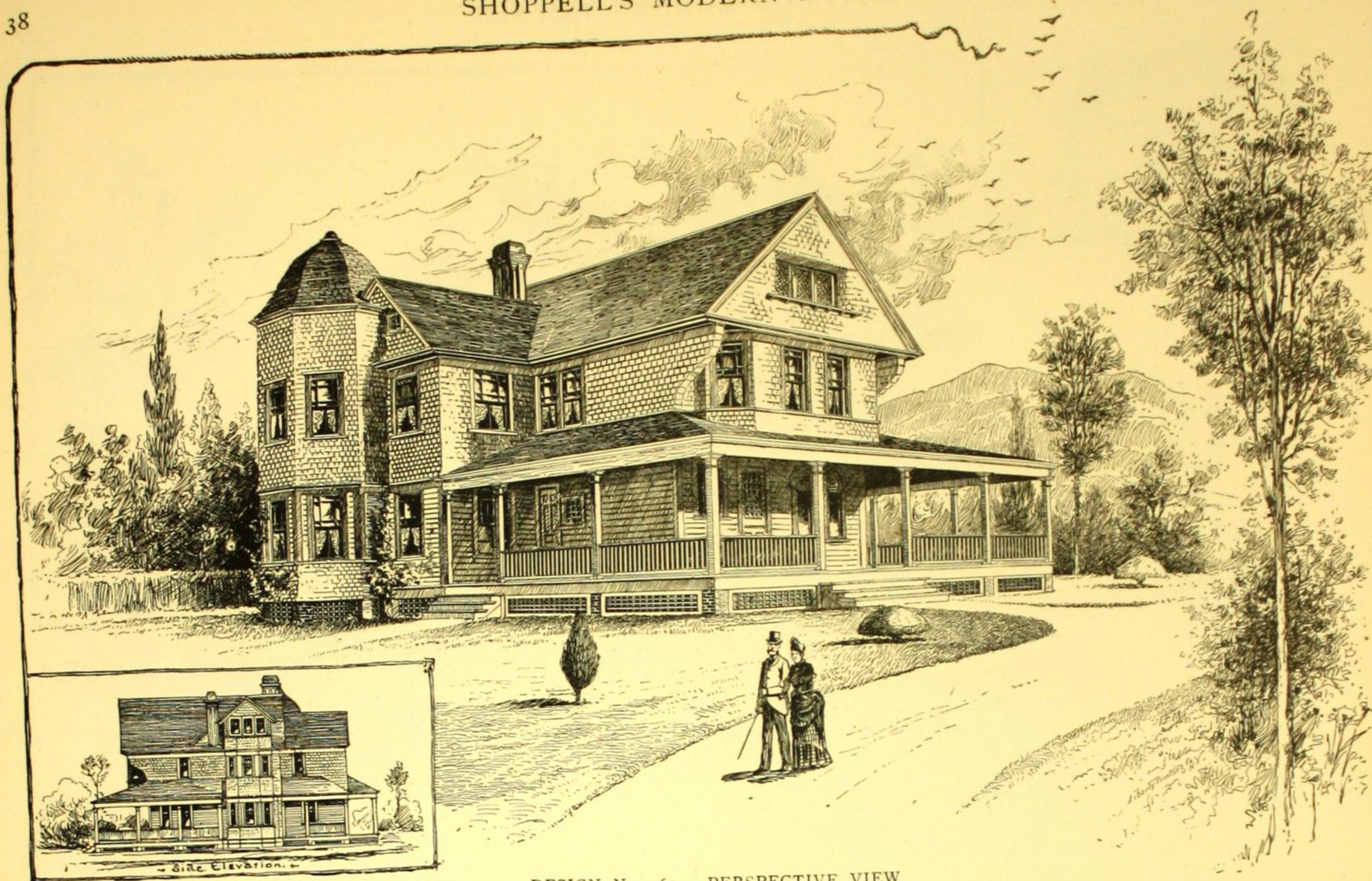
Open fireplaces in the parlor, library, dining-room and front bedroom. Numerous and large closets throughout.

Three bedrooms are finished in the attic.

Cellar under the whole house.



SECOND FLOOR. NO. 459



DESIGN No. 460. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 460

SIZE OF STRUCTURE: Front, including verandas, 48 ft. Side, including veranda, 65 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Attic Story, 8 ft.

MATERIALS: Foundation, brick walls and piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$4,000, complete.

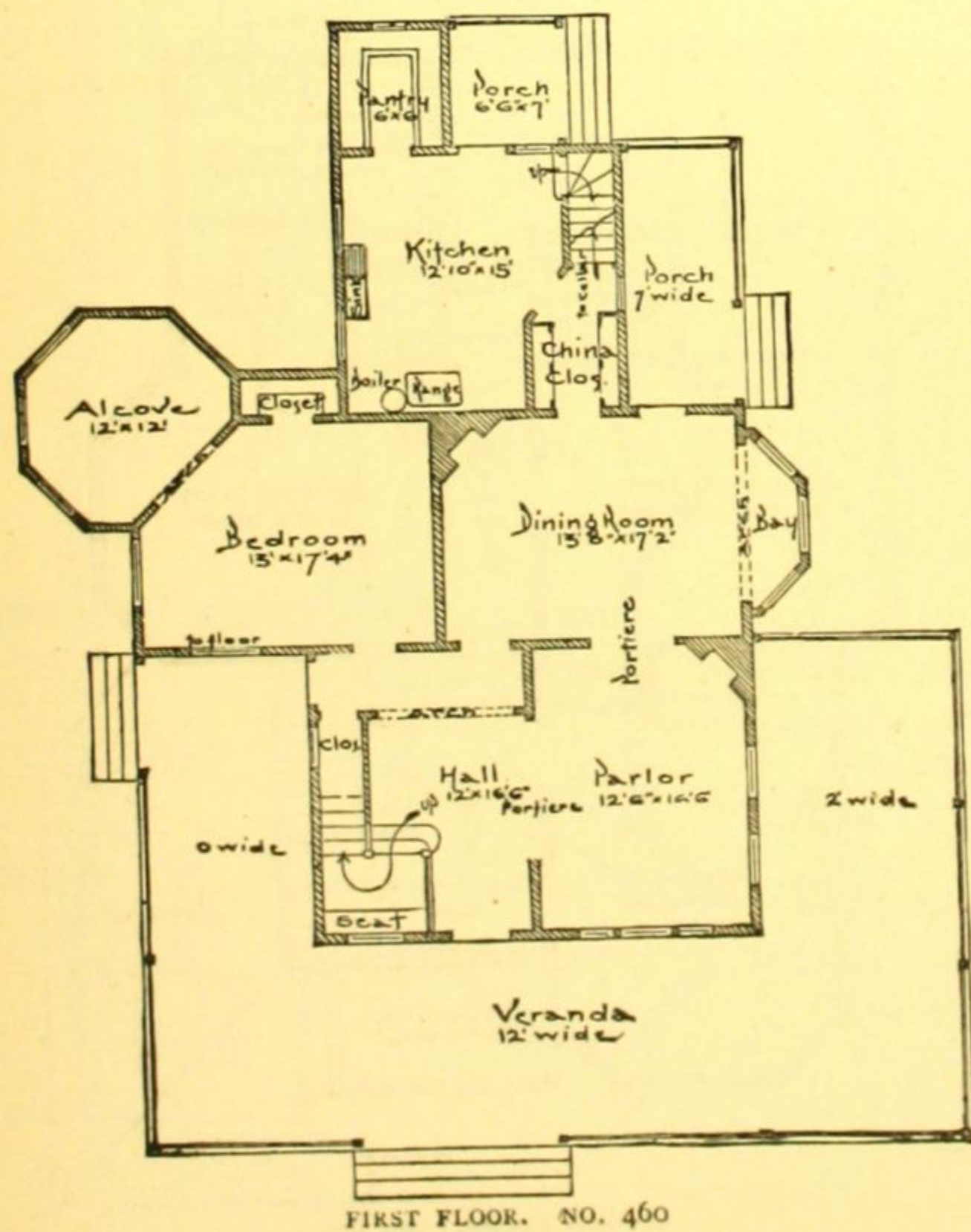
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—Large rooms and ample veranda.

If the bedroom on the ground floor is not required it should be connected with the dining-room and used as a sitting-room.

A tank is provided in the upper part of the octagon tower.

Cellar under the kitchen; the remainder of the house is set on brick piers.

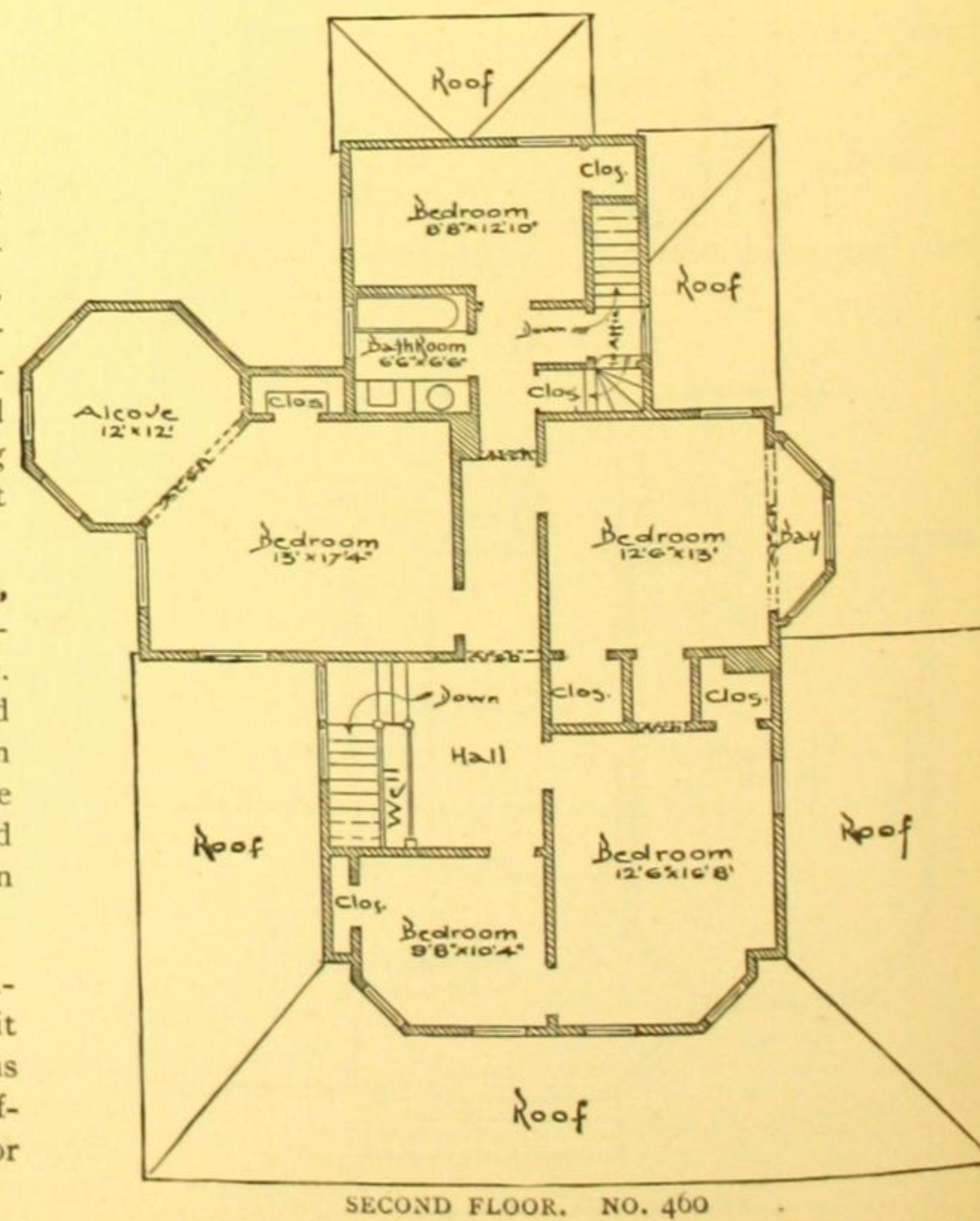


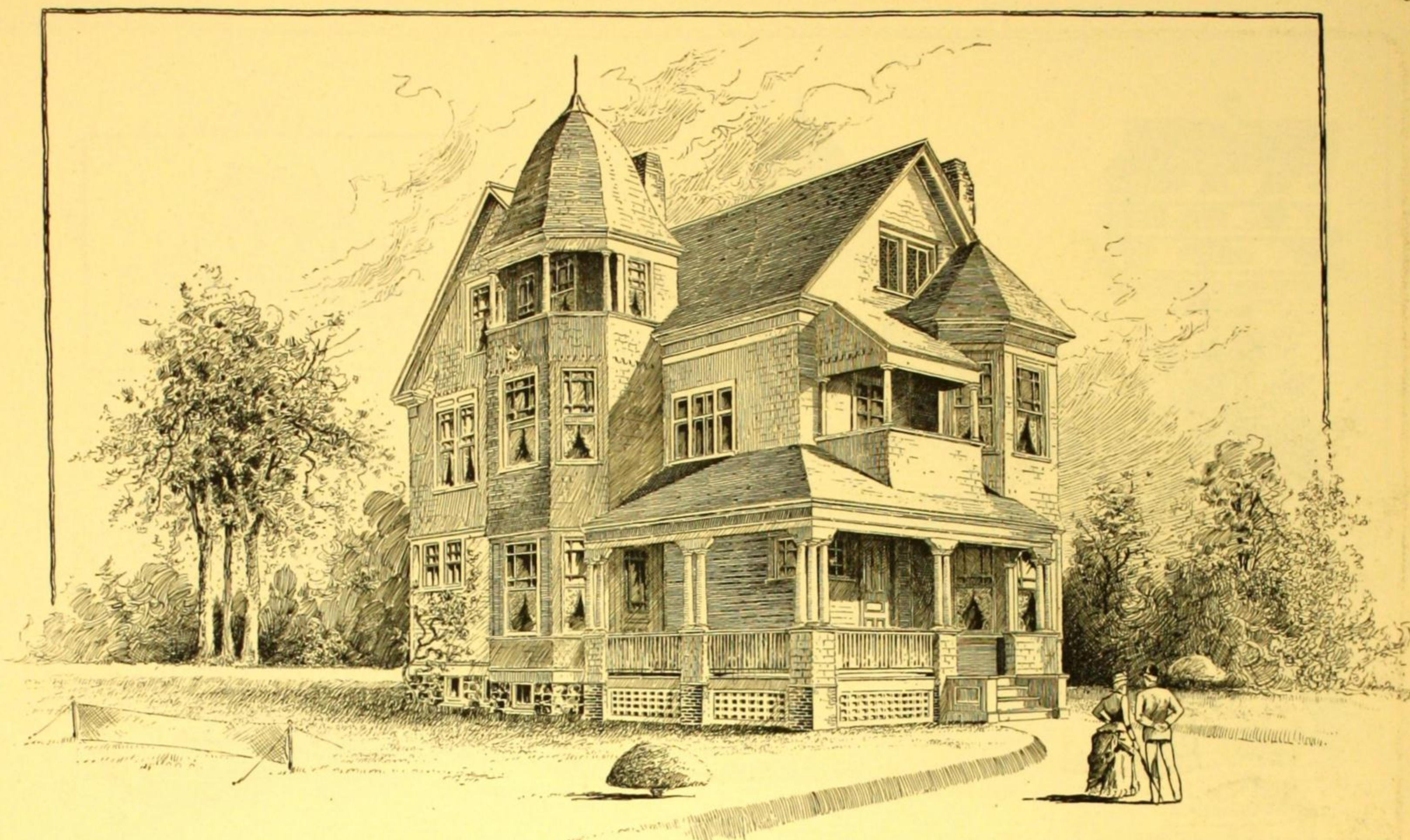
NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.





DESIGN No. 461. PERSPECTIVE VIEW
DESCRIPTION OF DESIGN NUMBER 461

SIZE OF STRUCTURE: Front, including veranda, 34 ft. Side, 48 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.
MATERIALS: Foundation, stone wall; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, slate.
COST \$4,600, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES: Double sliding doors connect the principal rooms of the first story.

Back stairway to the second story.

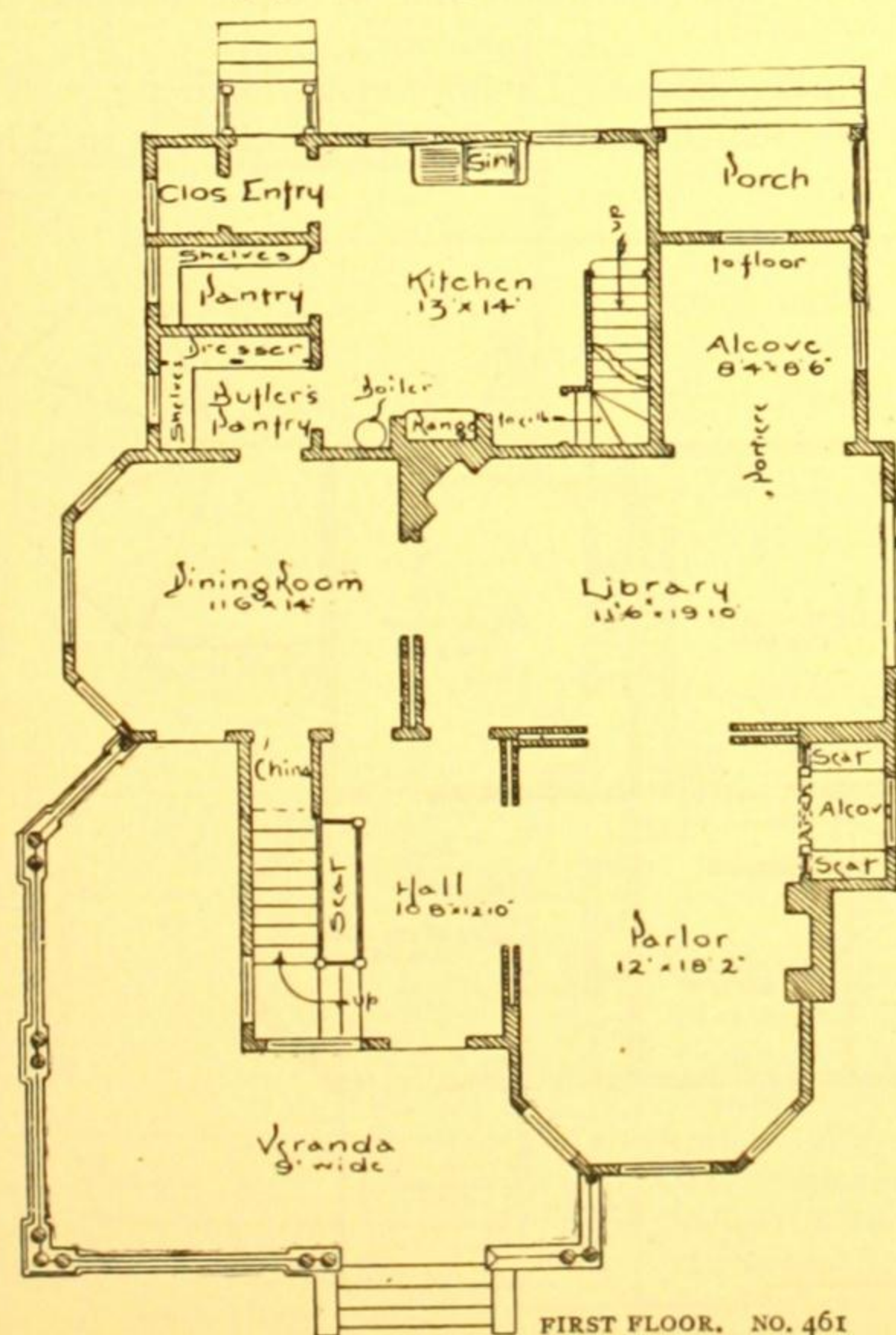
Open fire-places in the parlor, the library and the front bedroom.

Heater pipes and registers are provided throughout the house.

The dining-room door to the veranda is a Dutch jib door.

Cellar under the whole house. Laundry, with three stationary tubs, under the kitchen.

Large billiard-room, a bedroom and a store-room in the attic.



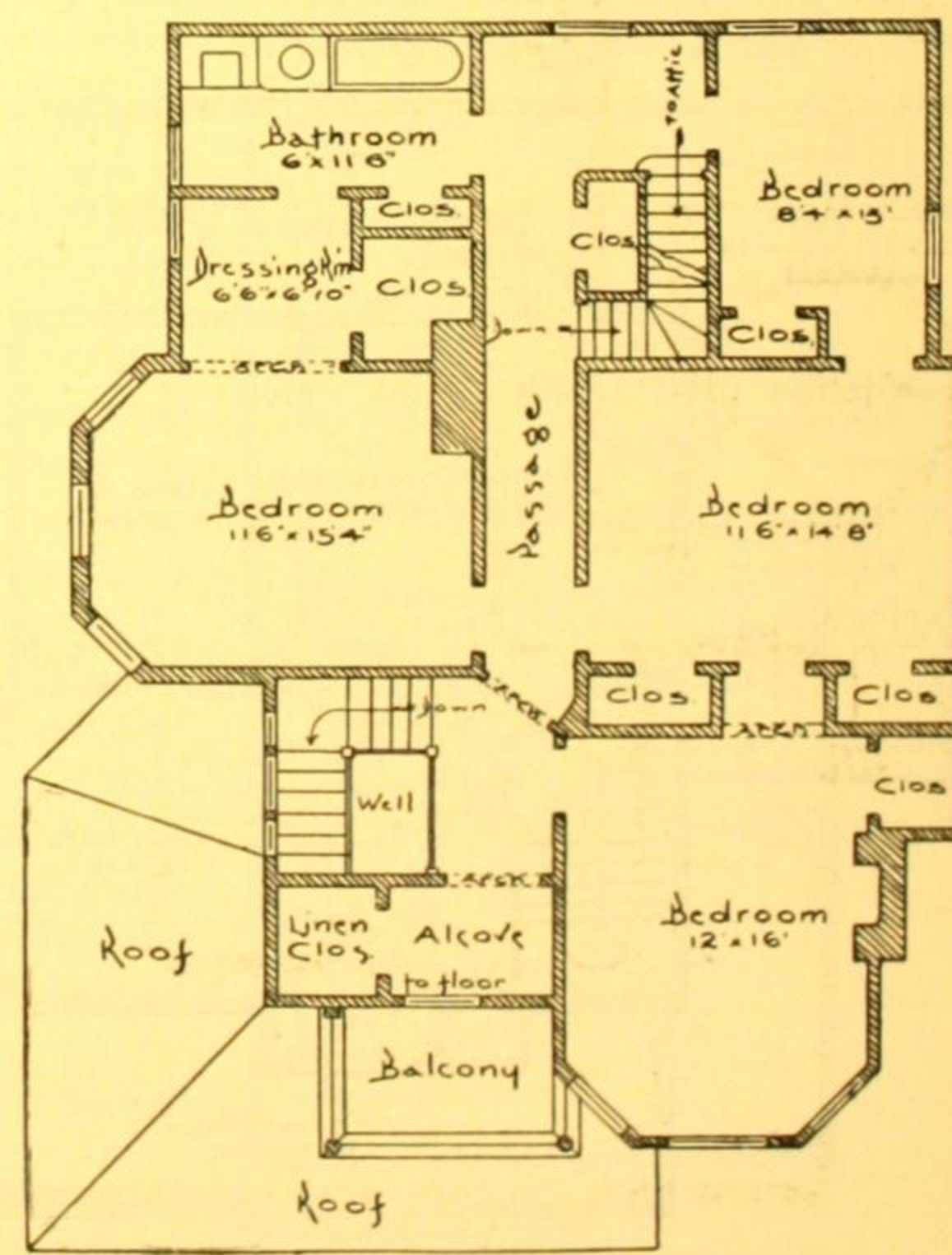
FIRST FLOOR. NO. 461

NOTES

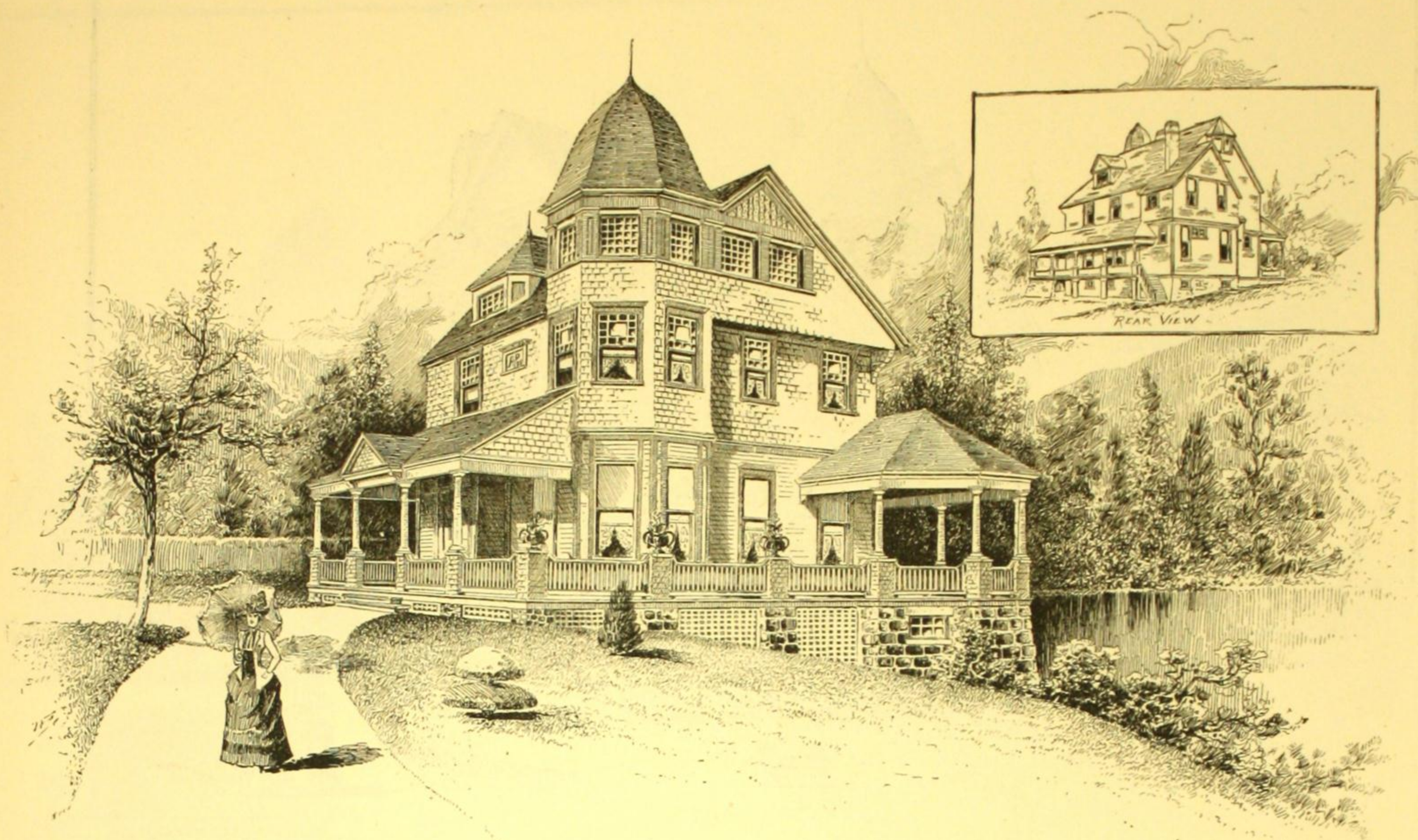
The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

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SECOND FLOOR. NO. 461



DESIGN No. 462. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 462

SIZE OF STRUCTURE: Front, including kitchen and parlor bay, 41 ft. Side, not including verandas, 31 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.

MATERIALS: Foundation, stone walls; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof of house, slate; of verandas, shingles.

COST: \$4,600, complete, except mantels, range and heater.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—A compact arrangement of rooms.

All the rooms of the first floor communicate.

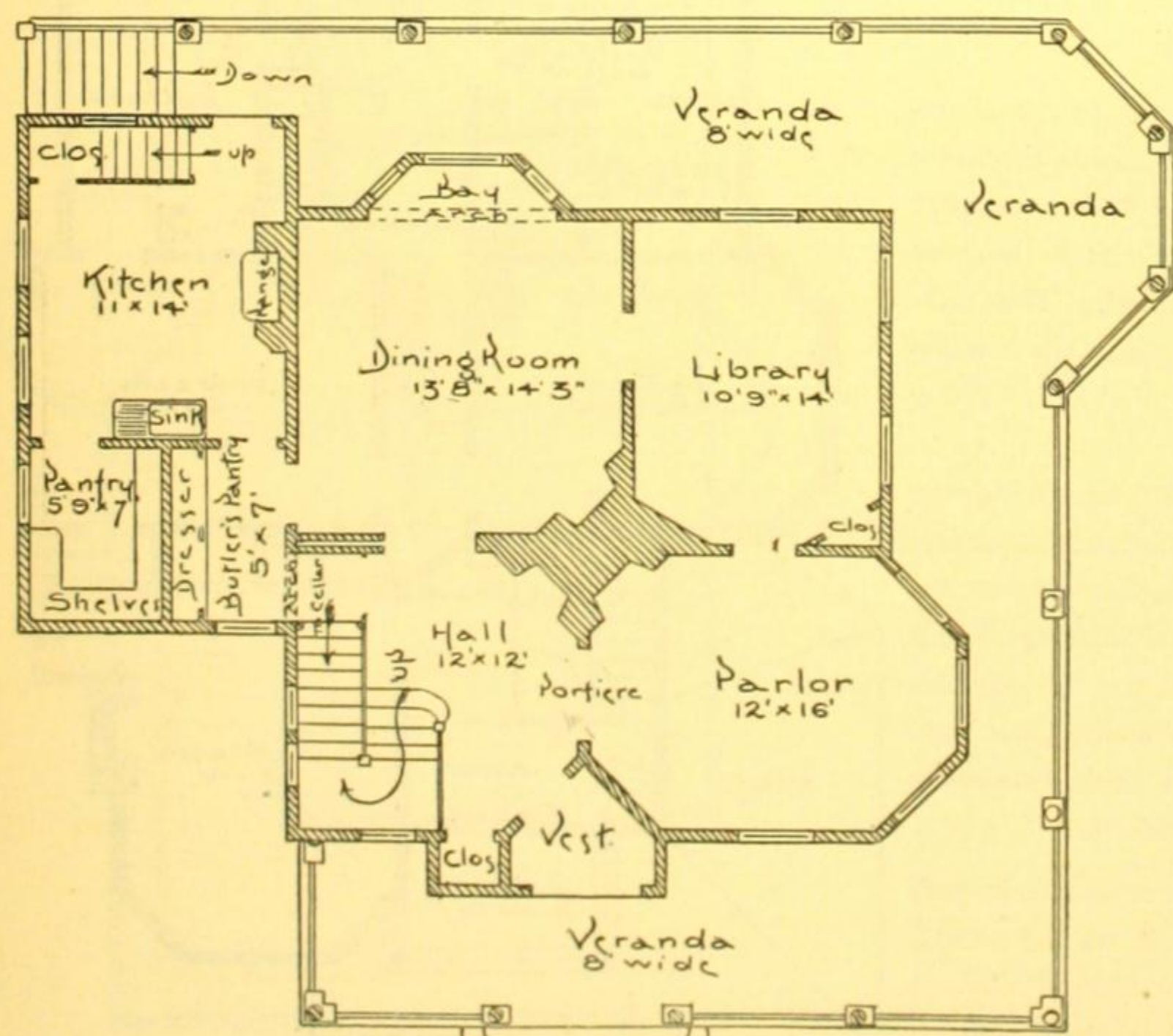
Direct access to the front hall from the kitchen without passing through a living room.

Heater pipes and registers are provided in all the rooms.

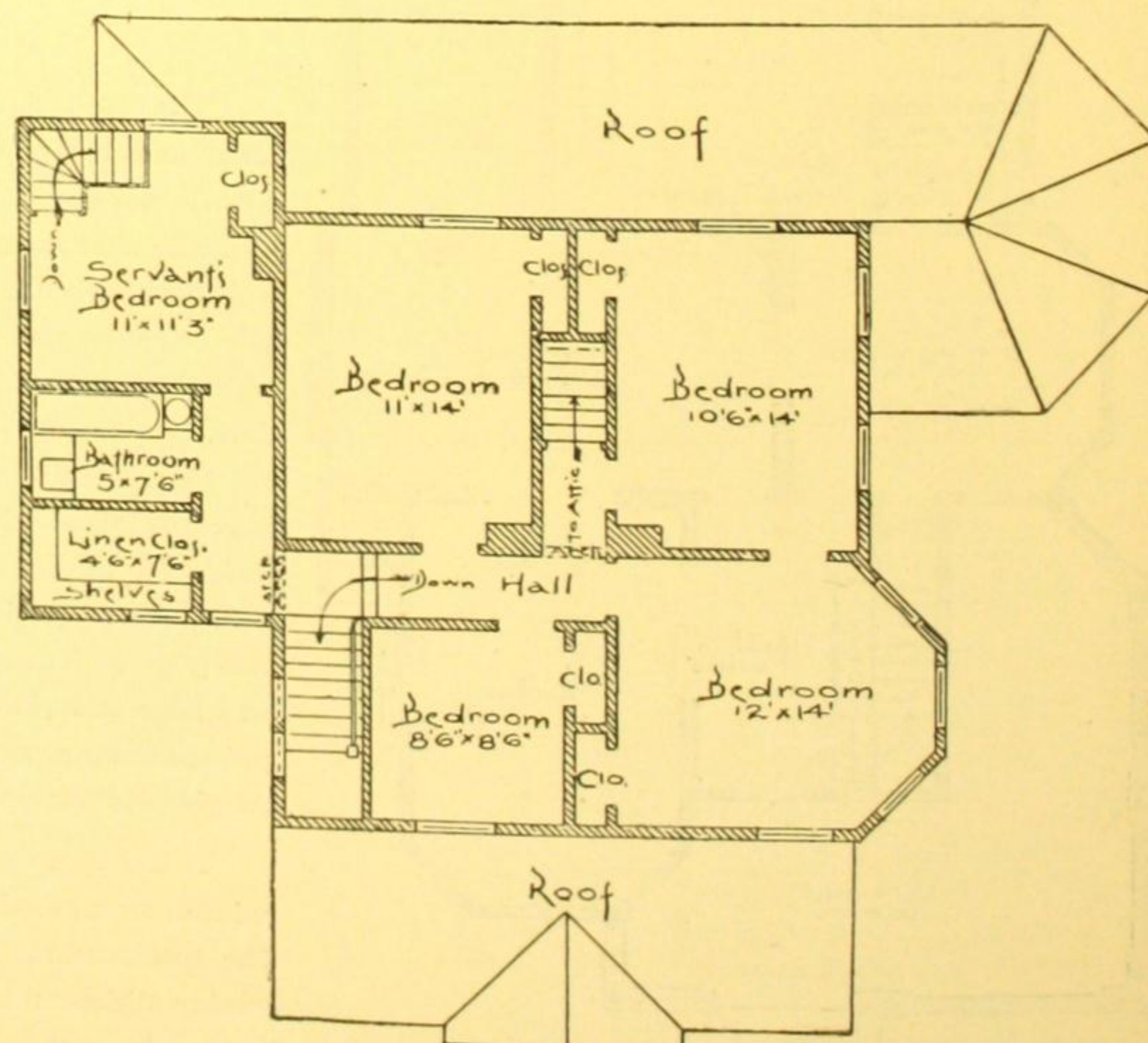
The attic is plastered and finished in one large play-room for children; three or four bedrooms can be made instead, if preferred.

Cellar under the whole house. Laundry under library.

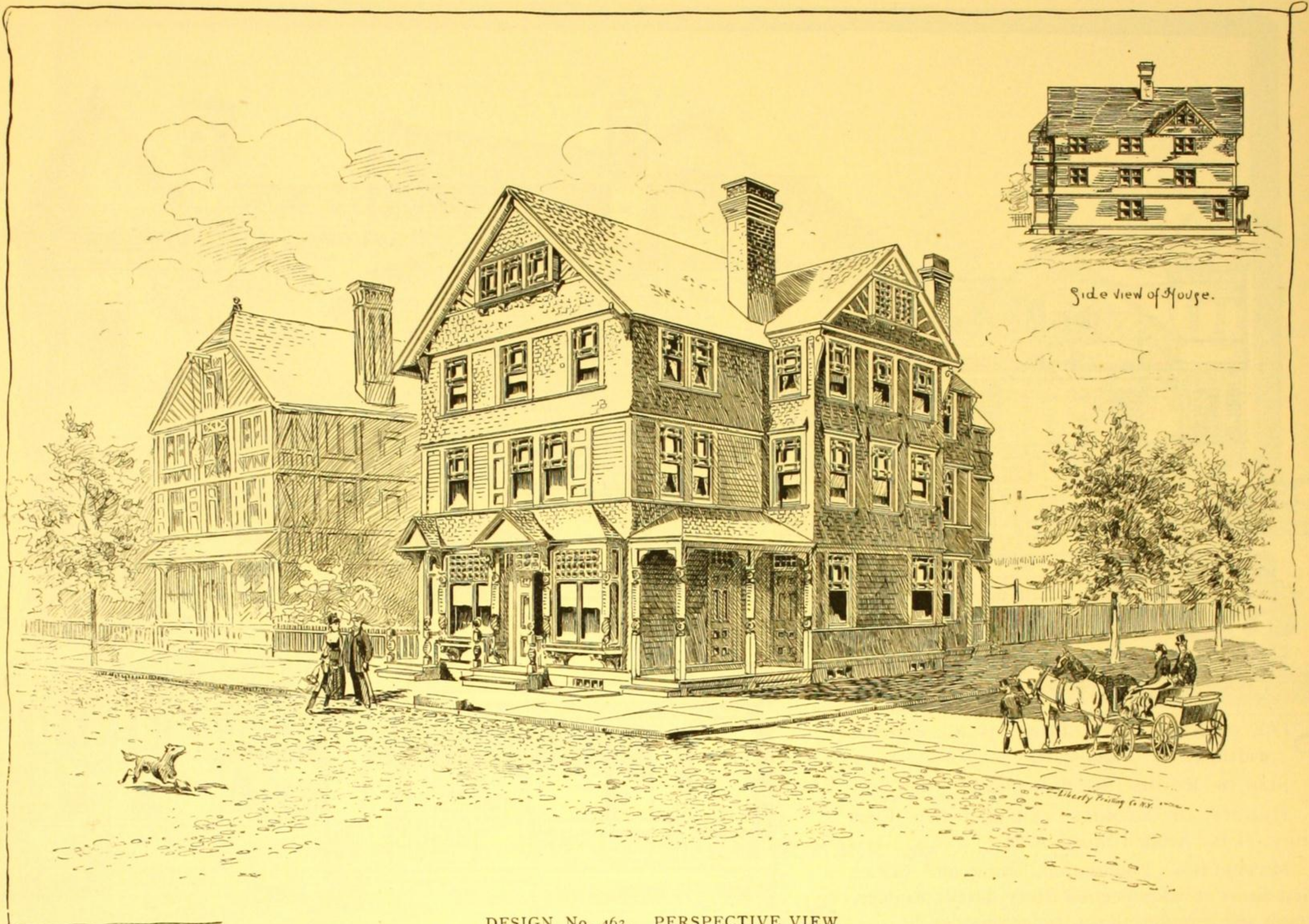
This design is represented in colors by the frontispiece to this book.



FIRST FLOOR. NO. 462



SECOND FLOOR. NO. 462



DESIGN No. 463. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 463

SIZE OF STRUCTURE: Front, including porch, 31 ft. Side, 57 ft.
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: First Story, clapboards; Second Story, clapboards; Third Story, shingles; Roof, shingles.

COST: \$5,800, complete, except mantels and ranges.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

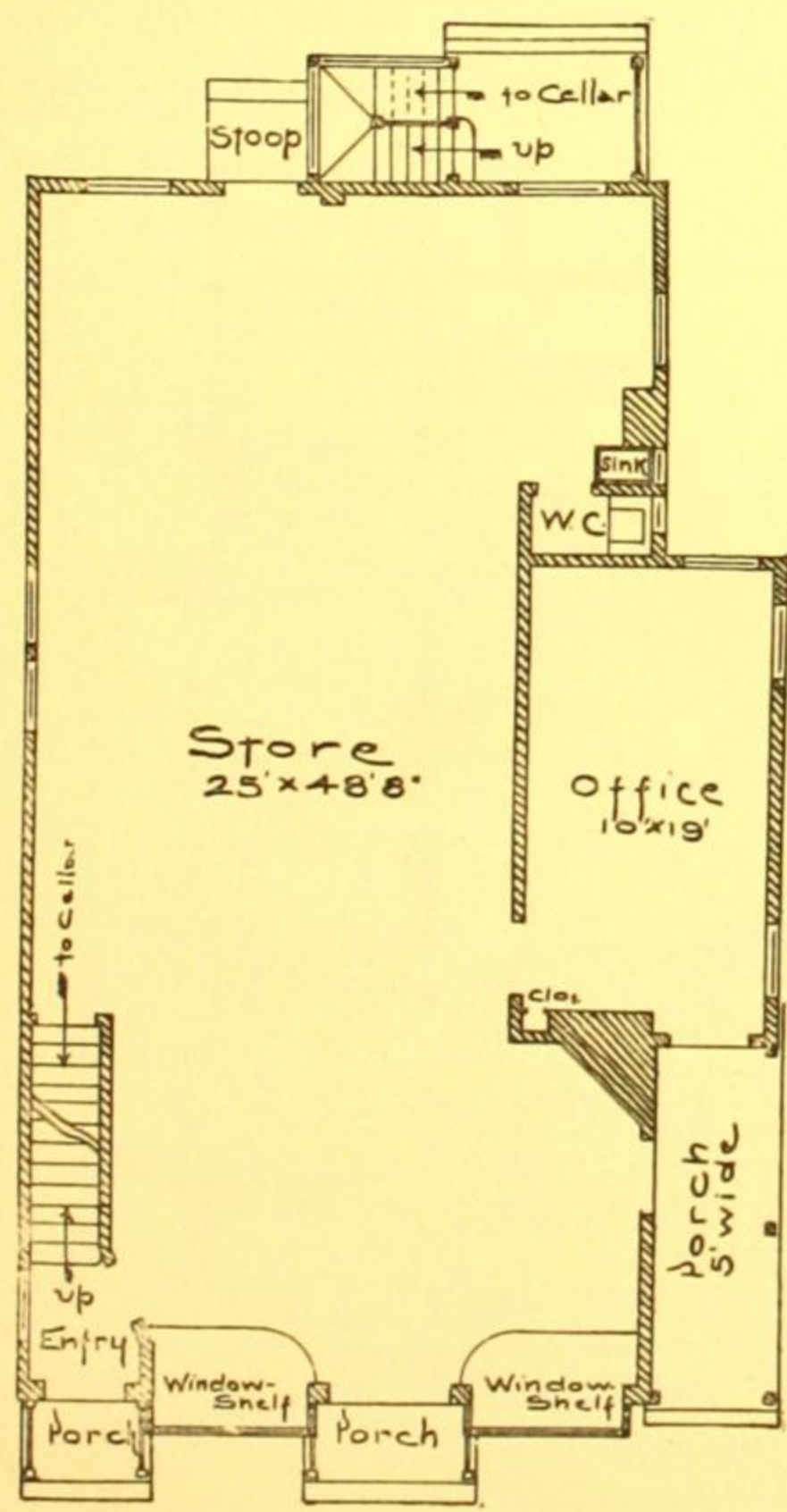
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Designed for a store and flats. The office can be used in connection with the store, or it can be let to a physician, lawyer, etc.

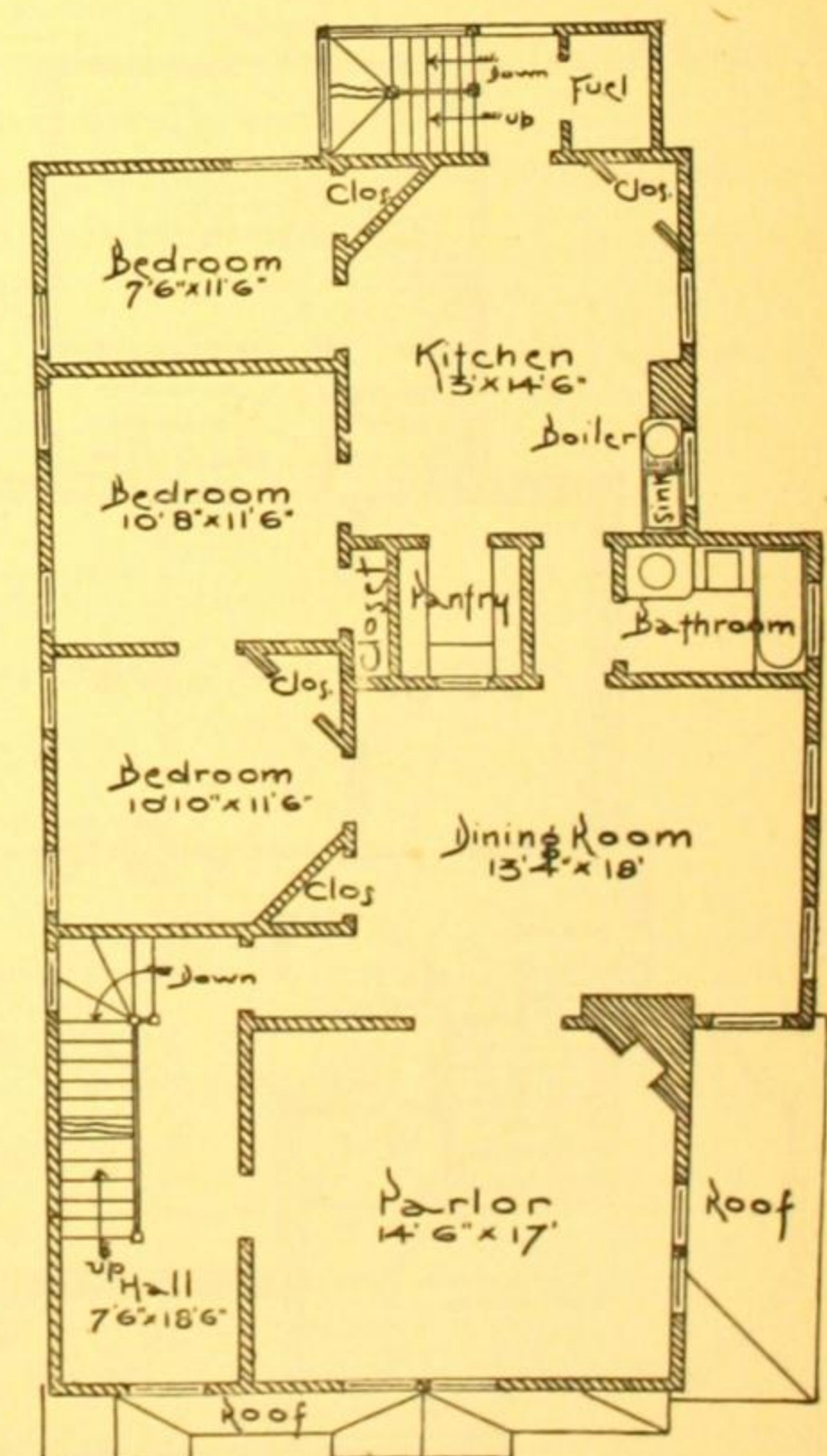
The third floor duplicates the second, with the exception that an additional bedroom, 7 ft., 6 in. x 8 ft., is obtained in the front; this bedroom is directly over the front part of the second story hall.

The large attic is floored but not finished.

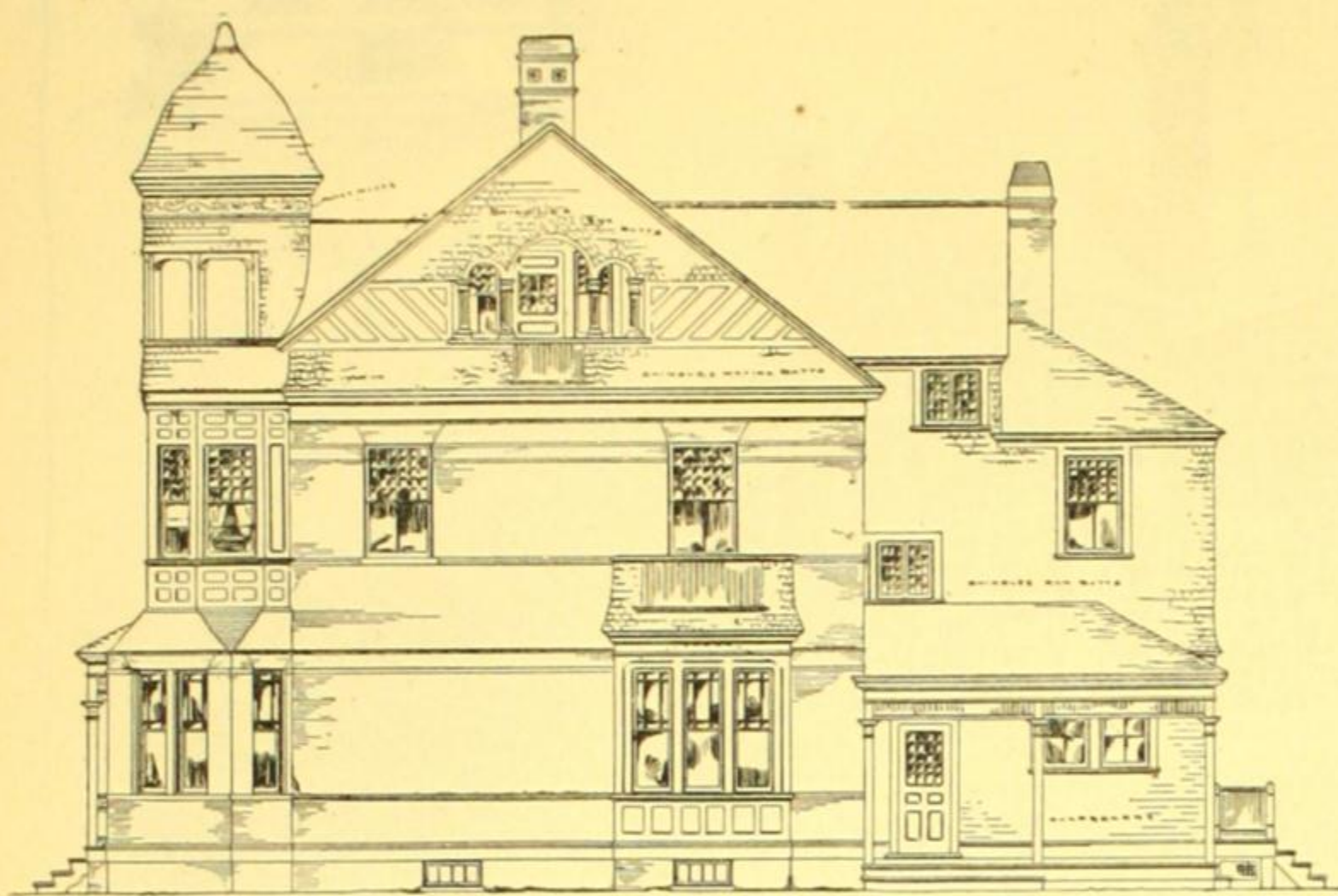
Cellar under the whole house.



FIRST FLOOR, NO. 463



SECOND FLOOR, NO. 463



SIDE ELEVATION

DESCRIPTION OF DESIGN NUMBER 464

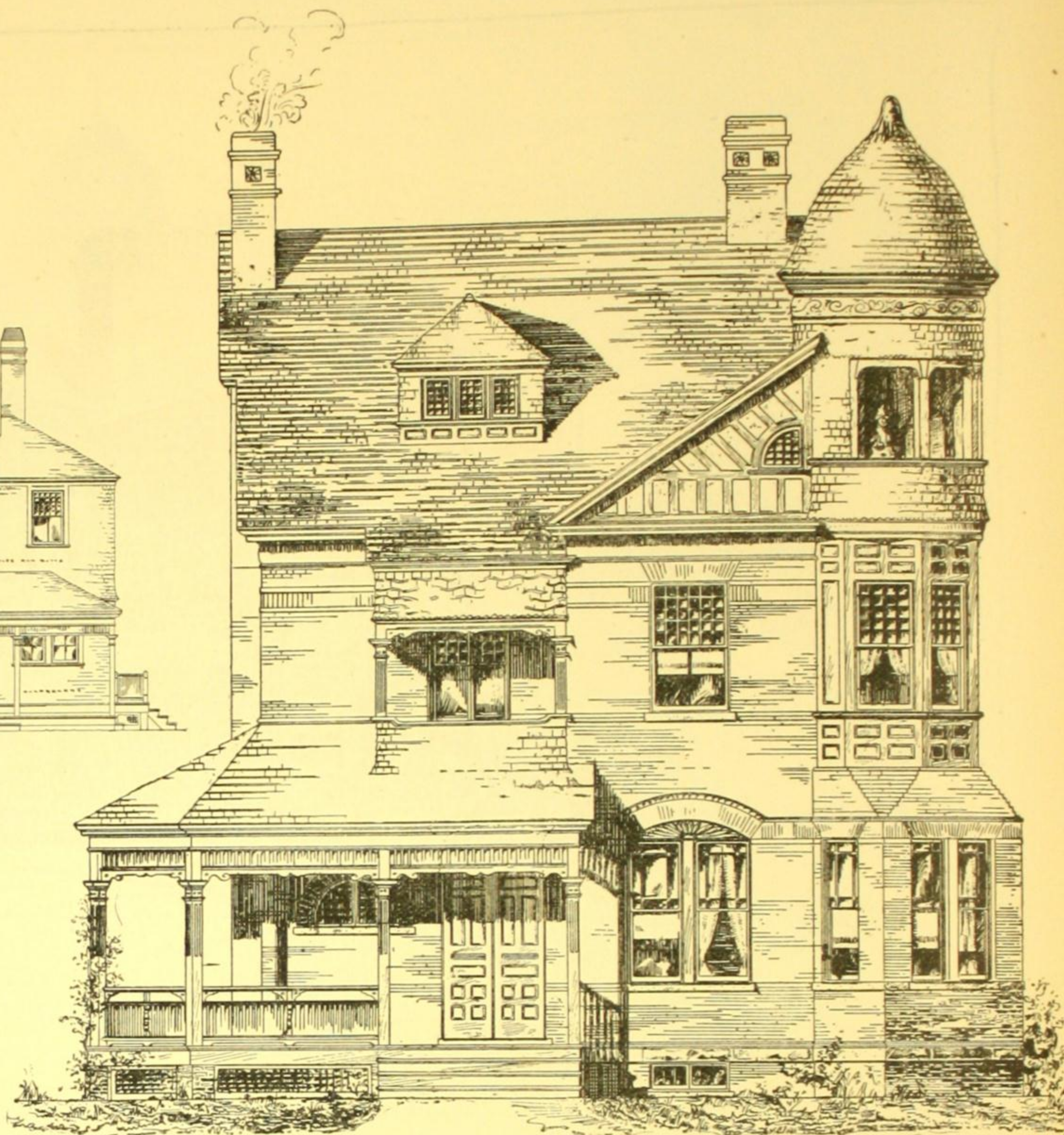
SIZE OF STRUCTURE: Front, 31 ft.; extreme width, 42 ft. Side, 57 ft.

SIZE OF ROOMS: See floor plans.

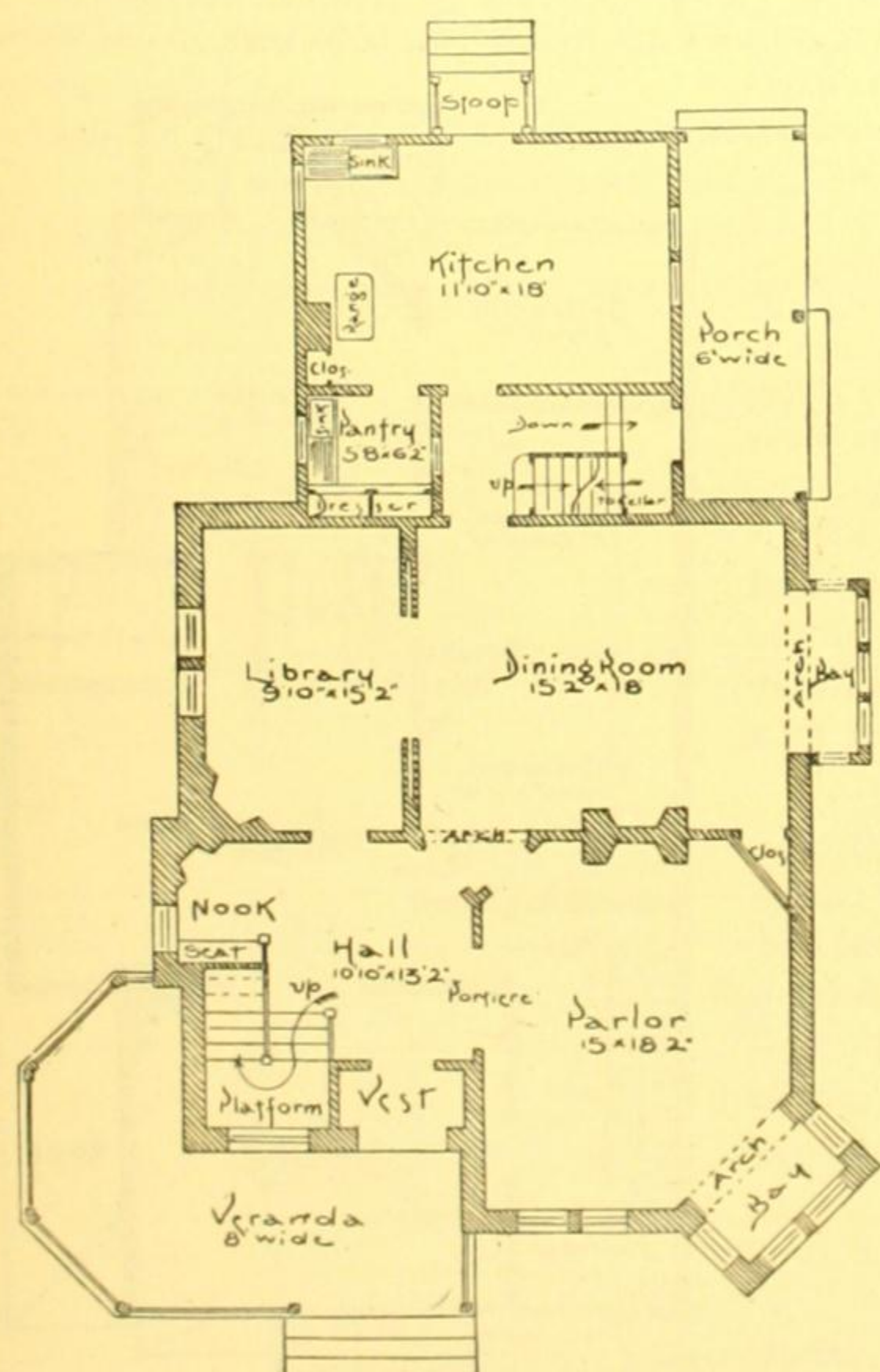
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft.; Second Story, 10 ft.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Gables, panels and shingles; Roof, cedar shingles.

COST: \$5,500, complete, except mantels, range and heating apparatus.



DESIGN 464. FRONT ELEVATION



FIRST FLOOR. NO. 464

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—Open fireplaces in all the principal rooms of the first and second stories.

Chimney nook under the stairway with a seat and a window. Sliding double doors between the library and the dining-room.

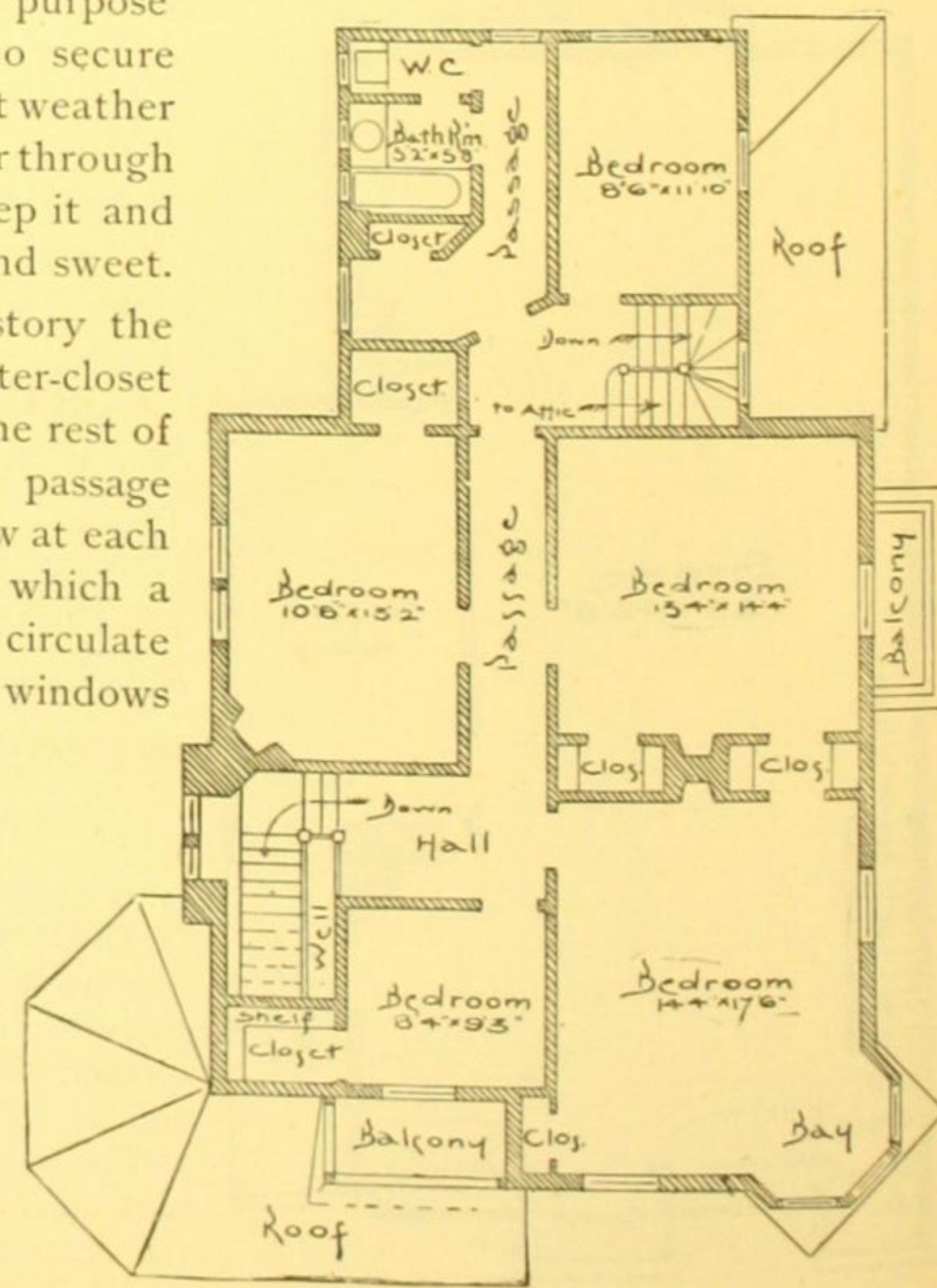
The pantry has two windows, one in the outside wall and one in the partition; the purpose of the latter is to secure ventilation. In hot weather a brisk current of air through the pantry will keep it and its contents cool and sweet.

In the second story the bath-room and water-closet are isolated from the rest of the house by a passage which has a window at each end and through which a current of air will circulate when the passage windows are left open.

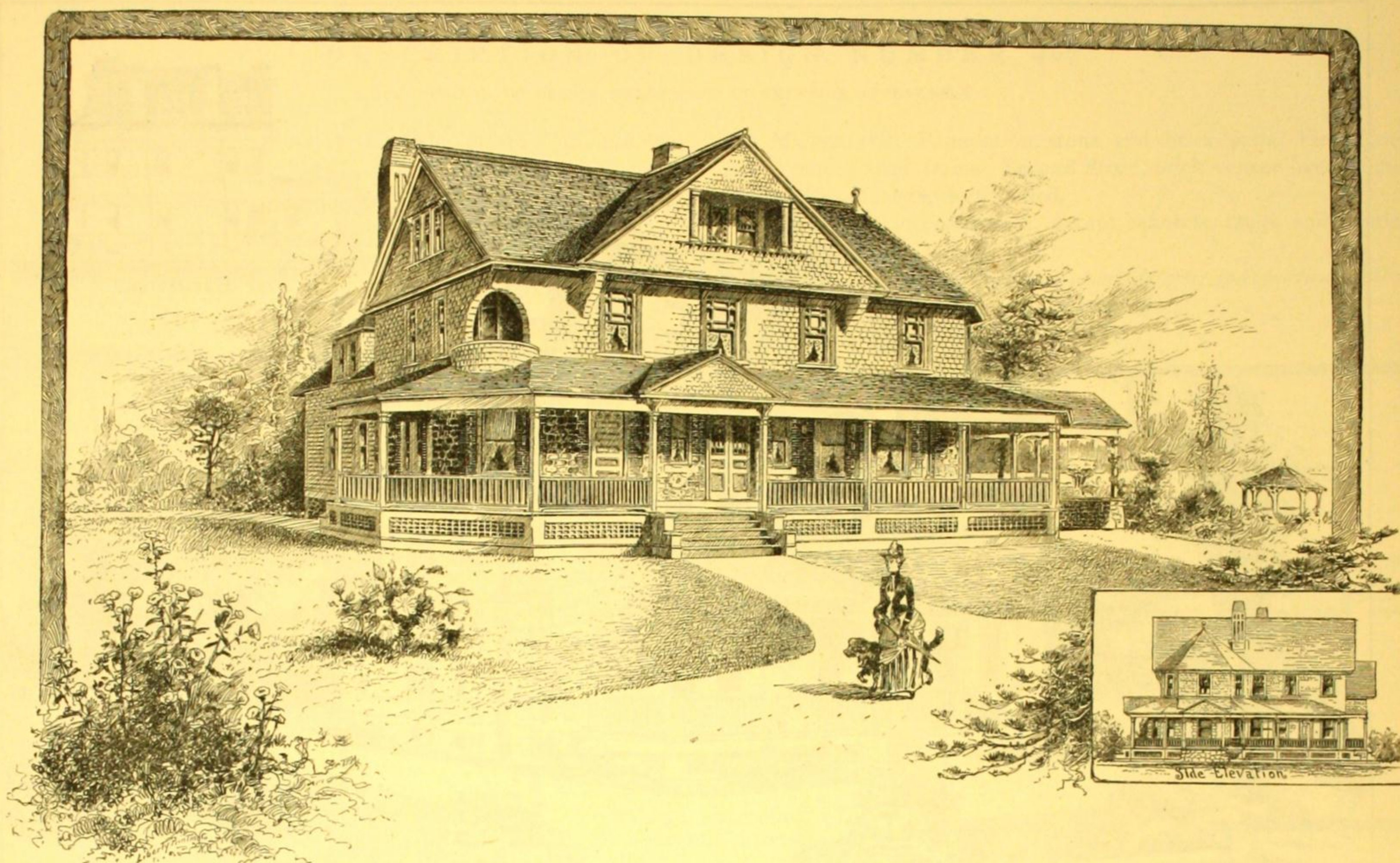
Four bedrooms, a hallway, and a store-room are finished in the attic.

Cellar under the main house.

The walls are faced with select stock brick laid up in red mortar.



SECOND FLOOR. NO. 464



DESIGN No. 465. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 465

SIZE OF STRUCTURE: Front, not including veranda, 51 ft. Side, 52 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 9 in.; First Story, 9 ft., 10 in.; Second Story, 8 ft., 8 in.

MATERIALS: Foundation, stone; First Story, quarry face stone work; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$6,000, complete, except mantels, range and heating apparatus.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

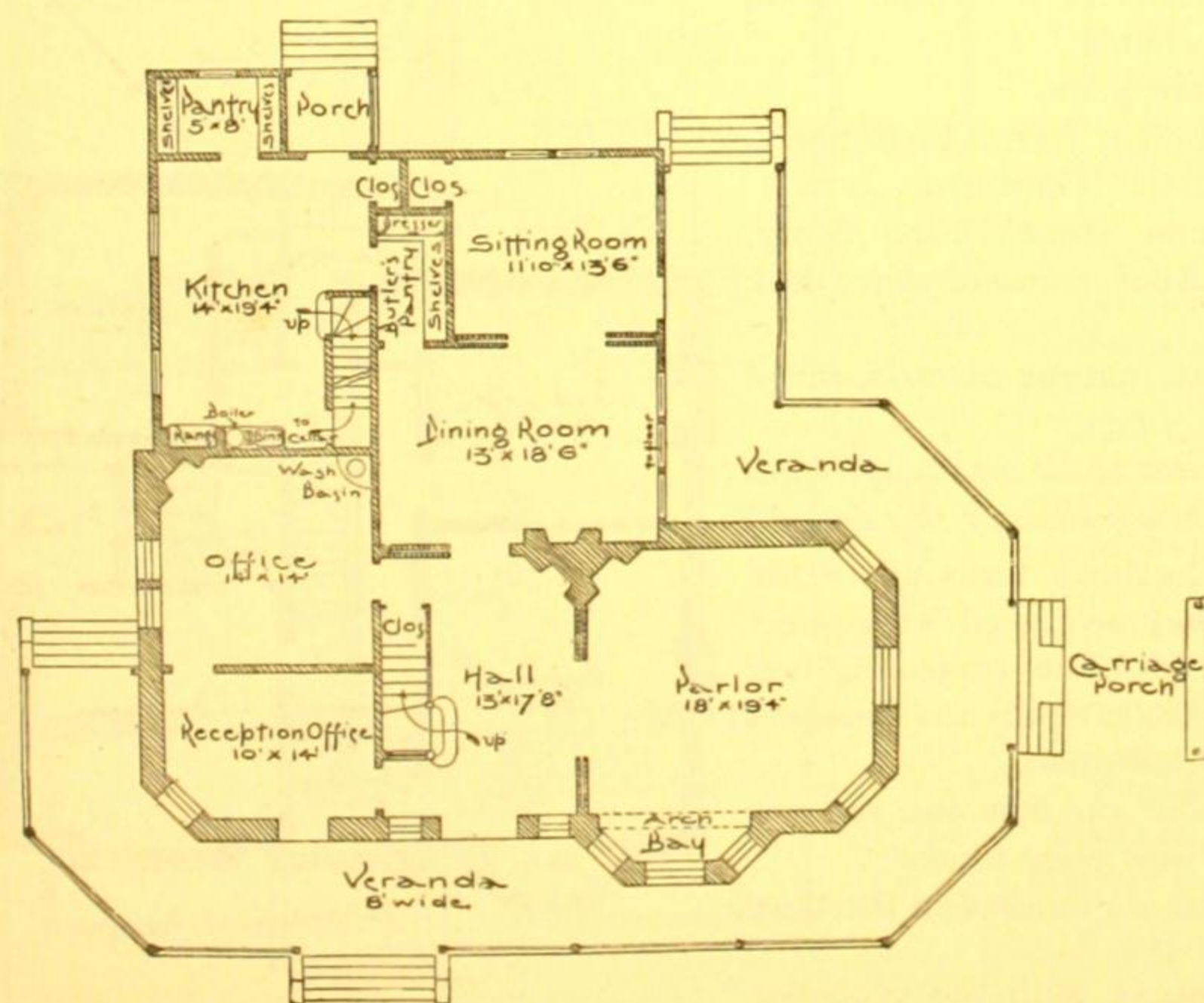
SPECIAL FEATURES.—Designed for a physician's residence, having a suite of two offices, with a separate entrance from the veranda. Open fire-places in all the principal rooms, and sliding doors connect with the hall.

The attic is floored but not finished. Four rooms can be finished there, if desired.

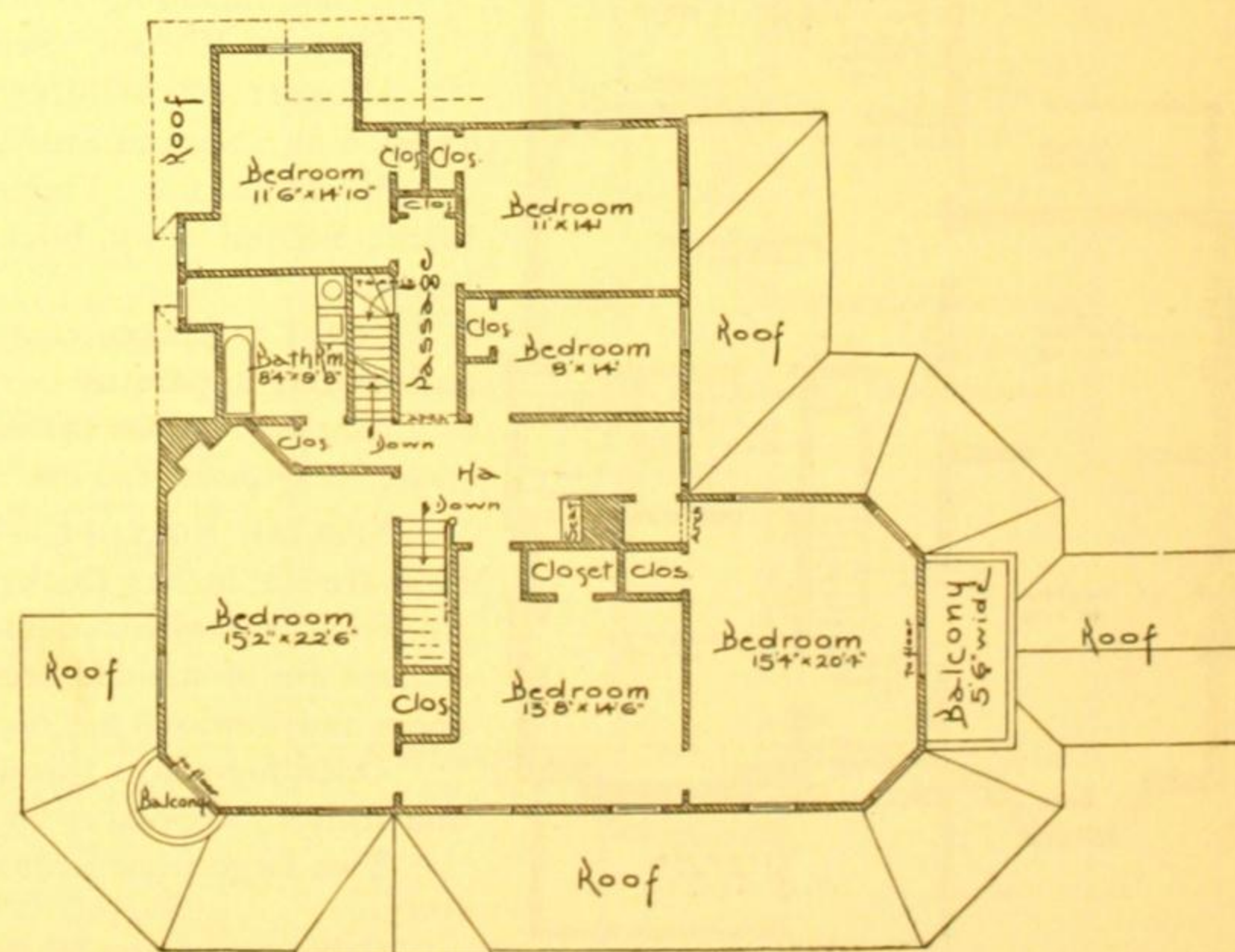
Cellar under the whole house.

In a locality where stone-work and other materials and labor are cheap, the cost of this house is greatly reduced.

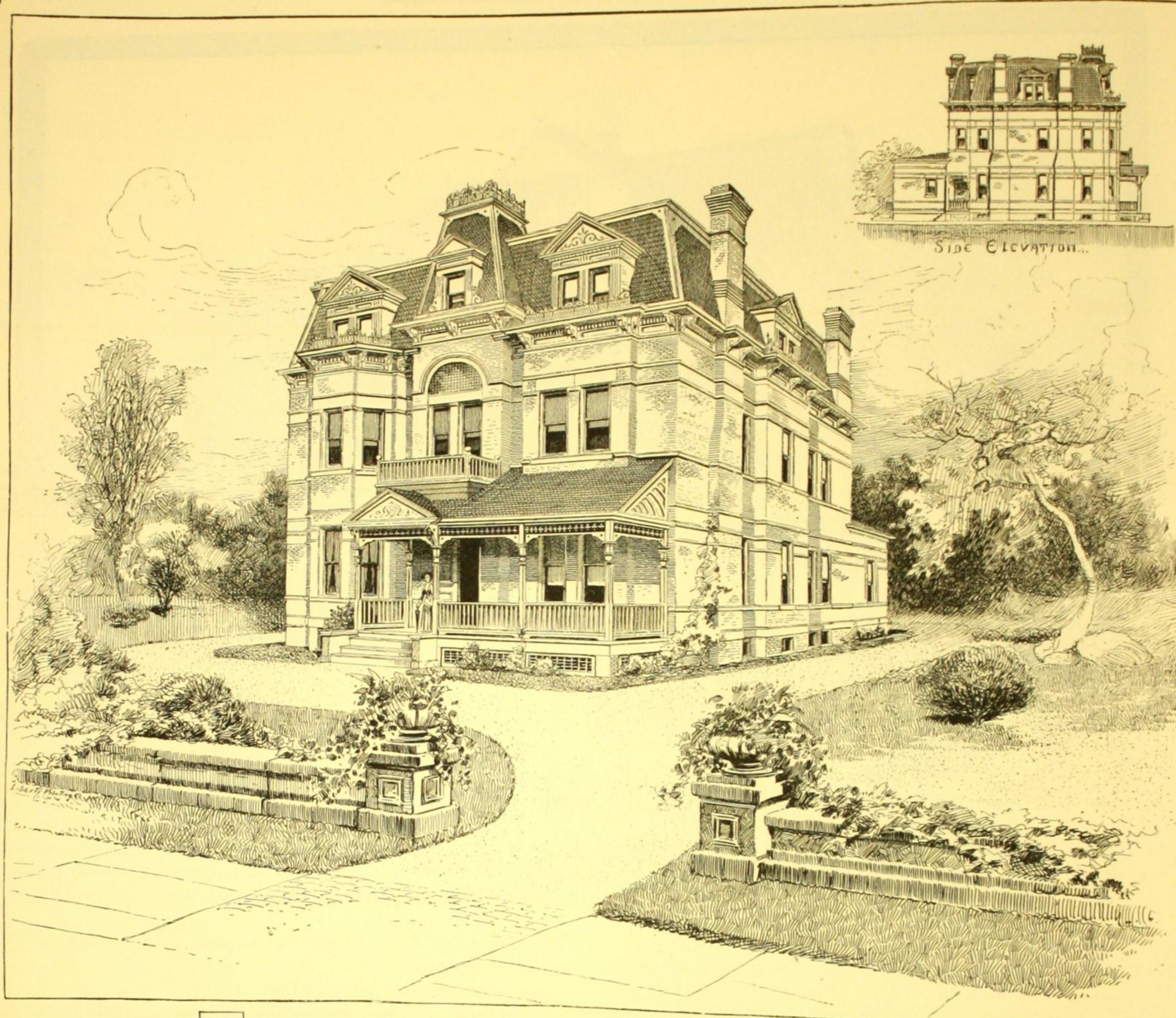
The plans give liberal accommodations. The two offices can be made into one large library or sitting-room.



FIRST FLOOR. NO. 465



SECOND FLOOR. NO. 465



DESIGN No. 466. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 466

SIZE OF STRUCTURE: Front, 41 ft. Side, 54 ft., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 11 ft., 6 in.; Second Story, 10 ft.; Third Story, 9 ft.

MATERIALS: Foundation, stone; First Story, brick; Second Story, brick; Roof, mansard slate, deck tinned.

COST: \$8,000, complete, except mantels, range and heating apparatus.

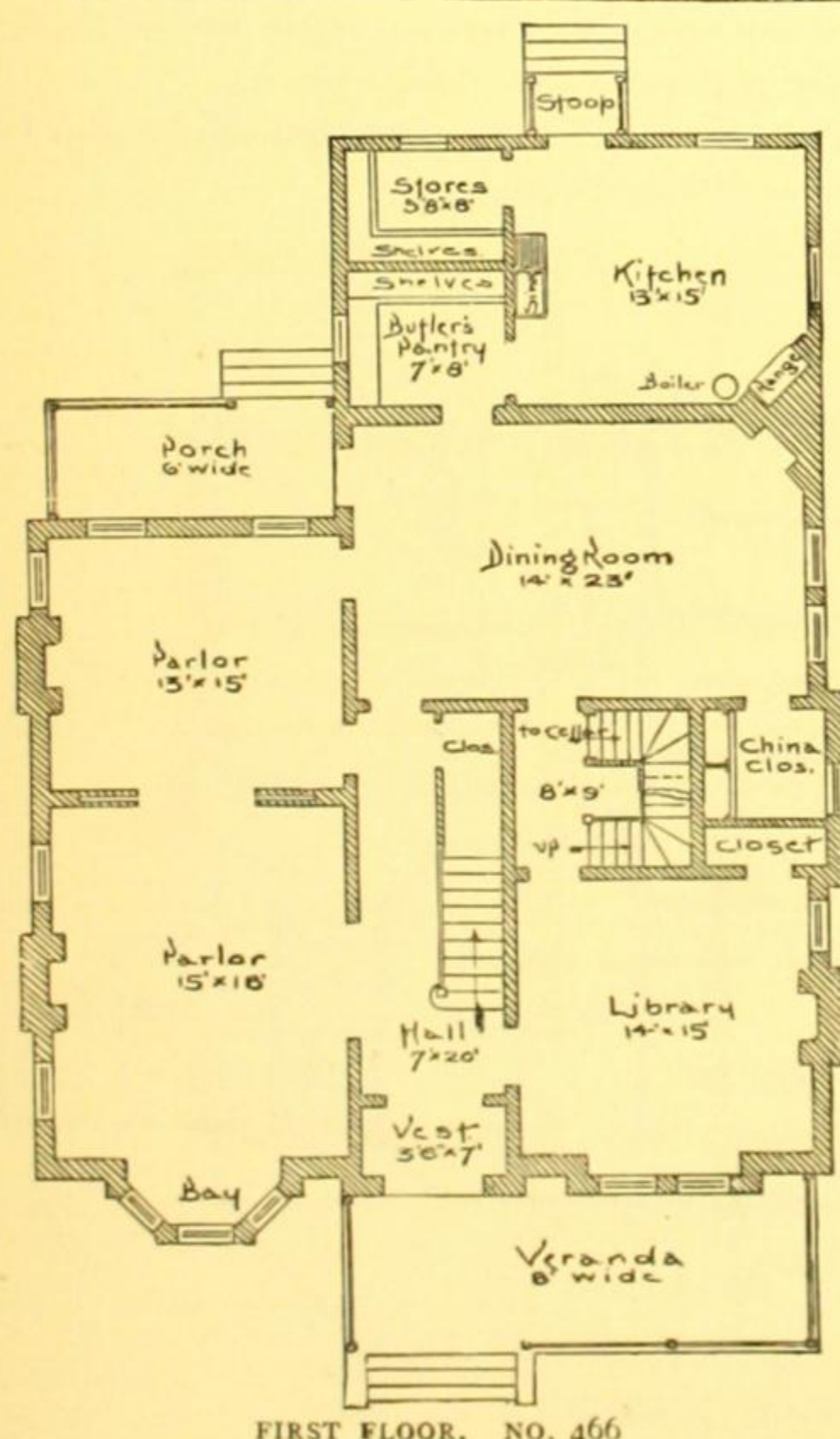
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The brick walls up to the roof are 12 inches thick; they are faced with select stock laid up with red mortar. The projecting belt courses are of molded press brick. Sills and lintels of doors and windows are of tooled stone.

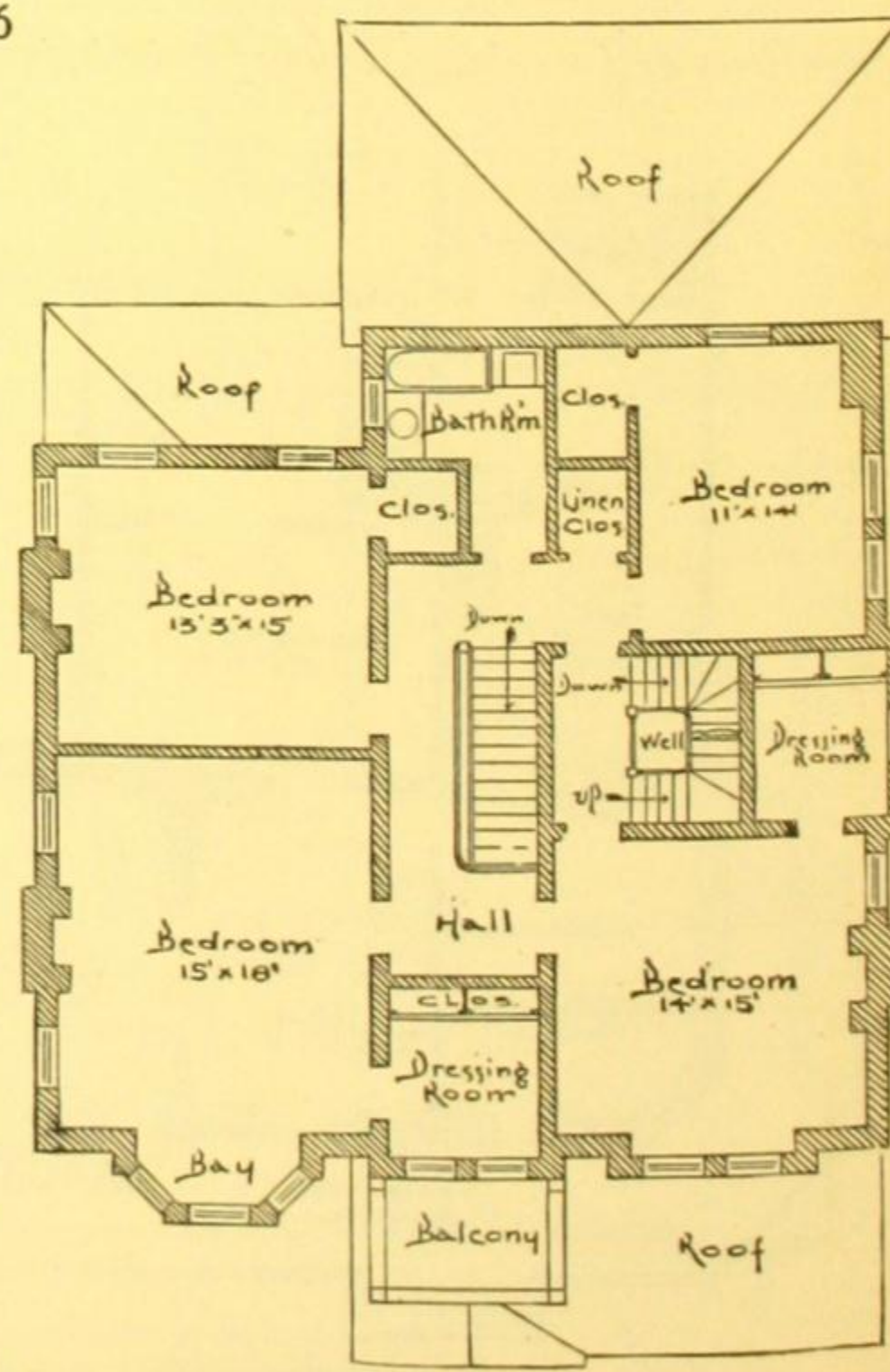
Open fire-places throughout the first and the second stories; fire-places lined with press brick.

Two large front bedrooms are finished in the third story.

Cellar under the whole house, with the exception of the kitchen part.



FIRST FLOOR. NO. 466



SECOND FLOOR. NO. 466

DESCRIPTION OF DESIGN NUMBER 467

SIMILAR TO DESIGN NUMBER 466 IN EXTERIOR APPEARANCE

SIZE OF STRUCTURE: Front, 43 ft. Side, 41 ft., 6 in., not including front veranda.

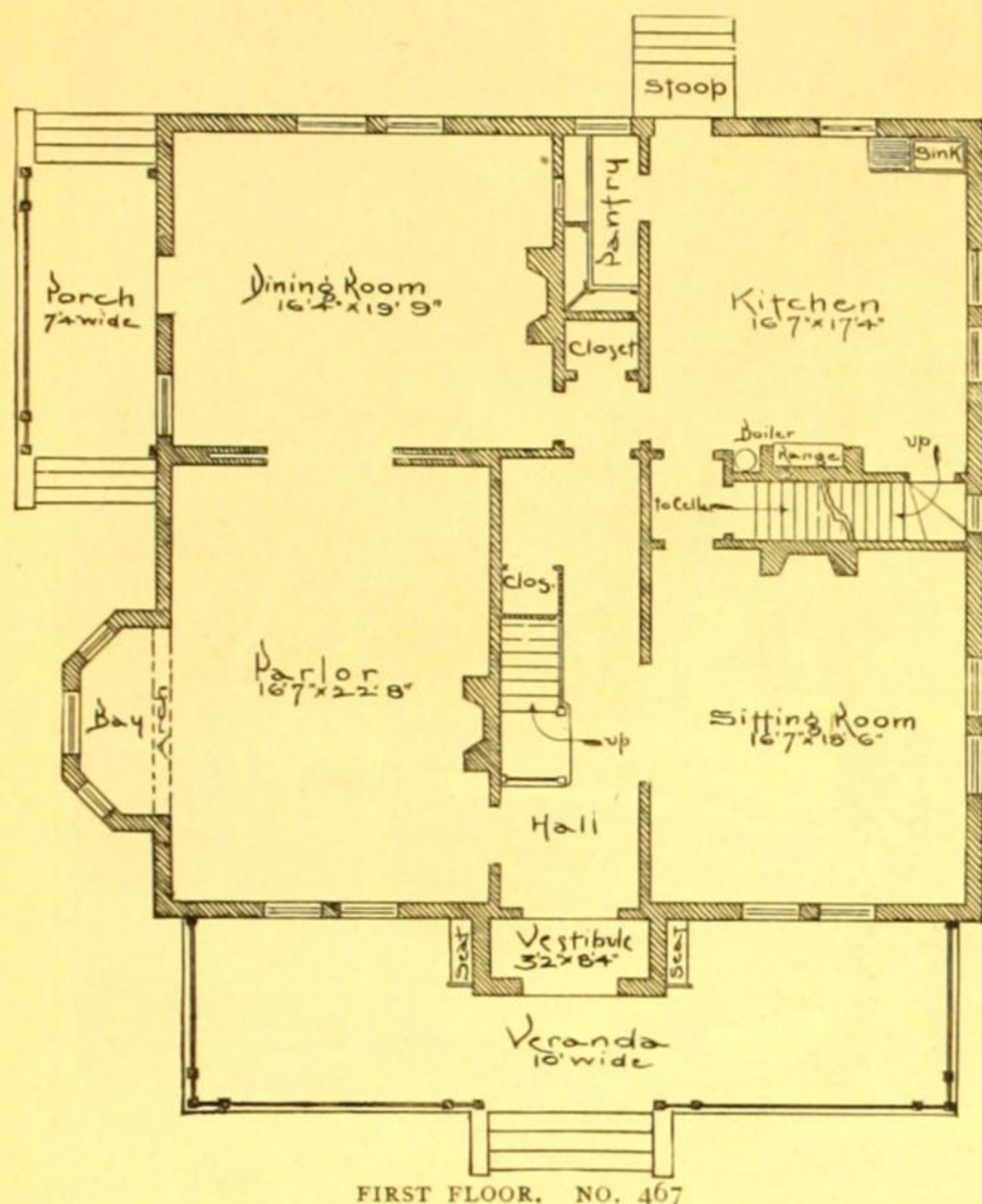
SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 12 ft.; Second Story, 11 ft.; Third Story, 9 ft.

MATERIALS: Foundation, stone and brick walls; First Story, brick veneer over frame; Second Story, brick veneer over frame; Mansard Roof, slate, deck tinned.

COST: \$7,200, complete, except mantels, range and heating apparatus.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

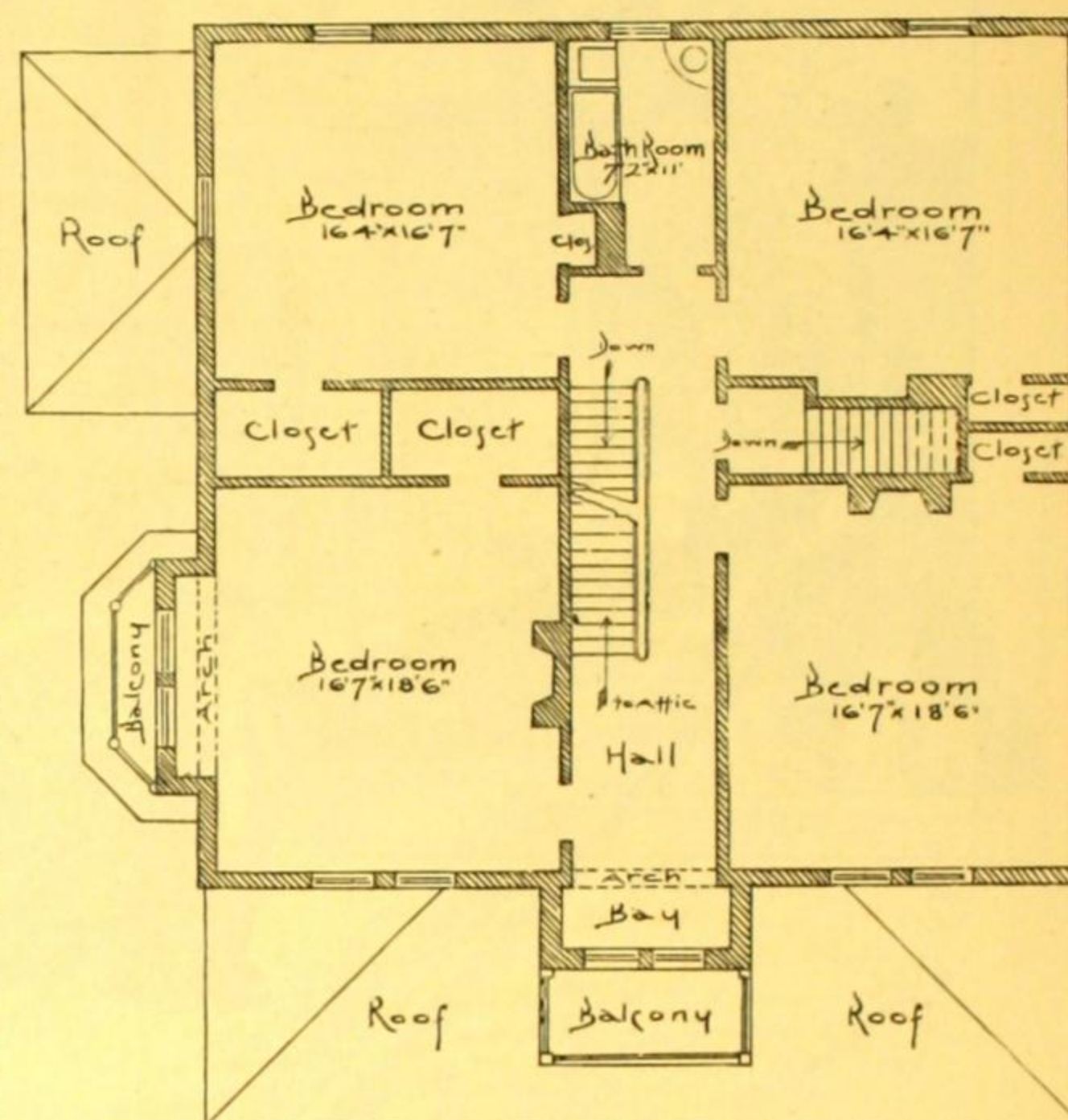


FIRST FLOOR. NO. 467

SPECIAL FEATURES.—A brick veneered house, that is, having an ordinary timber frame with a shell of brickwork, 4 inches thick outside of the frame, anchored securely to it. This makes a very warm house, and has the appearance of a solid brick wall. This method of construction is much used in Canada, where experience has proved its efficacious protection against the cold. It is practiced also in the South where coolness is the object. The brick used for facing is hard-burned select stock.

Four large bedrooms, a trunk-room and closets in the attic.

Cellar under the whole house, with brick partition walls; laundry under the kitchen.



SECOND FLOOR. NO. 467

DESCRIPTION OF DESIGN NUMBER 468

EXTERIOR APPEARANCE LIKE THAT OF DESIGN NUMBER 466

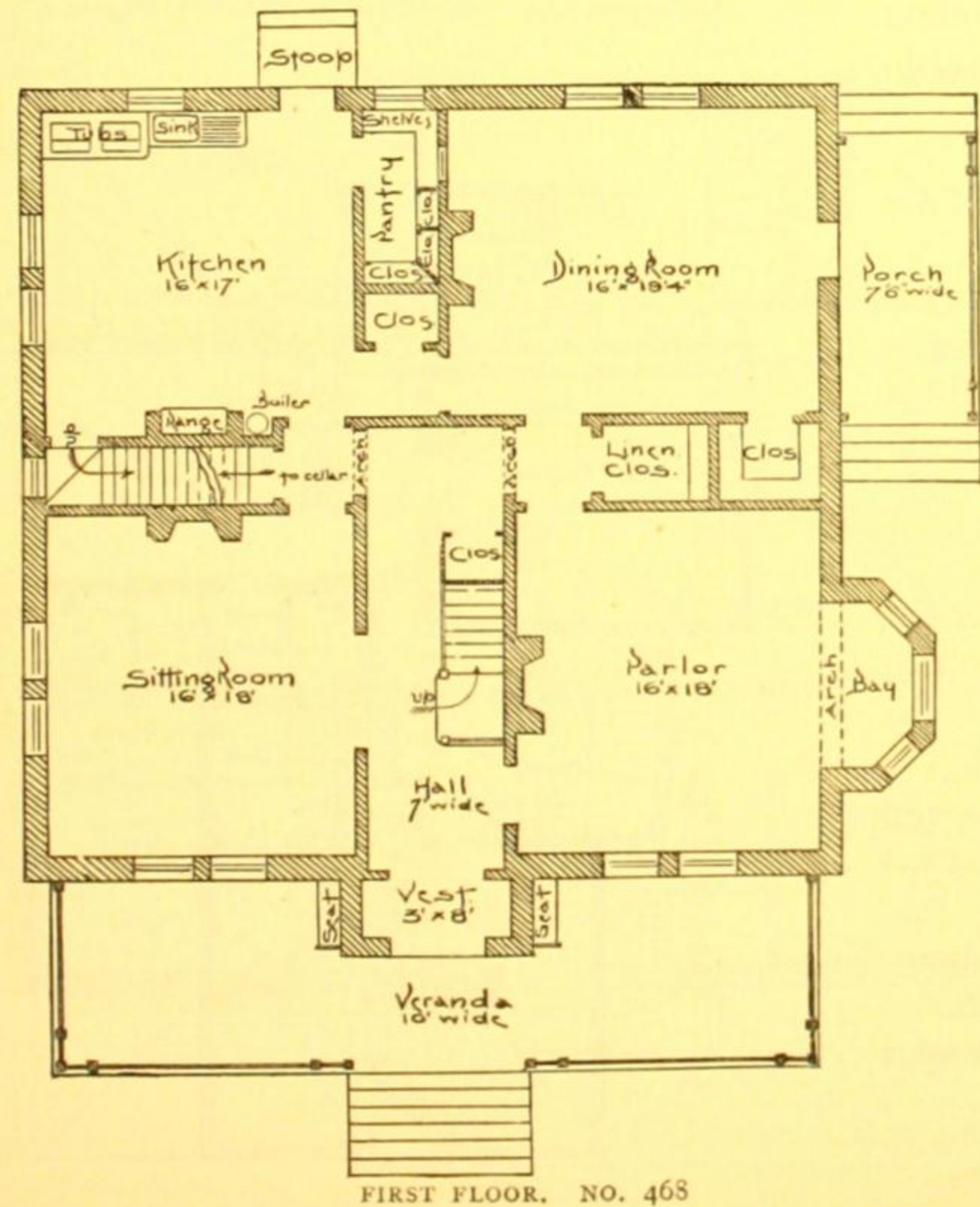
SIZE OF STRUCTURE: Front, 42 ft., 8 in. Side, 41 ft., 8 in., not including front veranda.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 12 ft.; Second Story, 10 ft.; Third Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, brick; Second Story, brick; Mansard Roof, slate, deck tinned.

COST: \$7,800, complete, except mantels, heater and range.



FIRST FLOOR. NO. 468

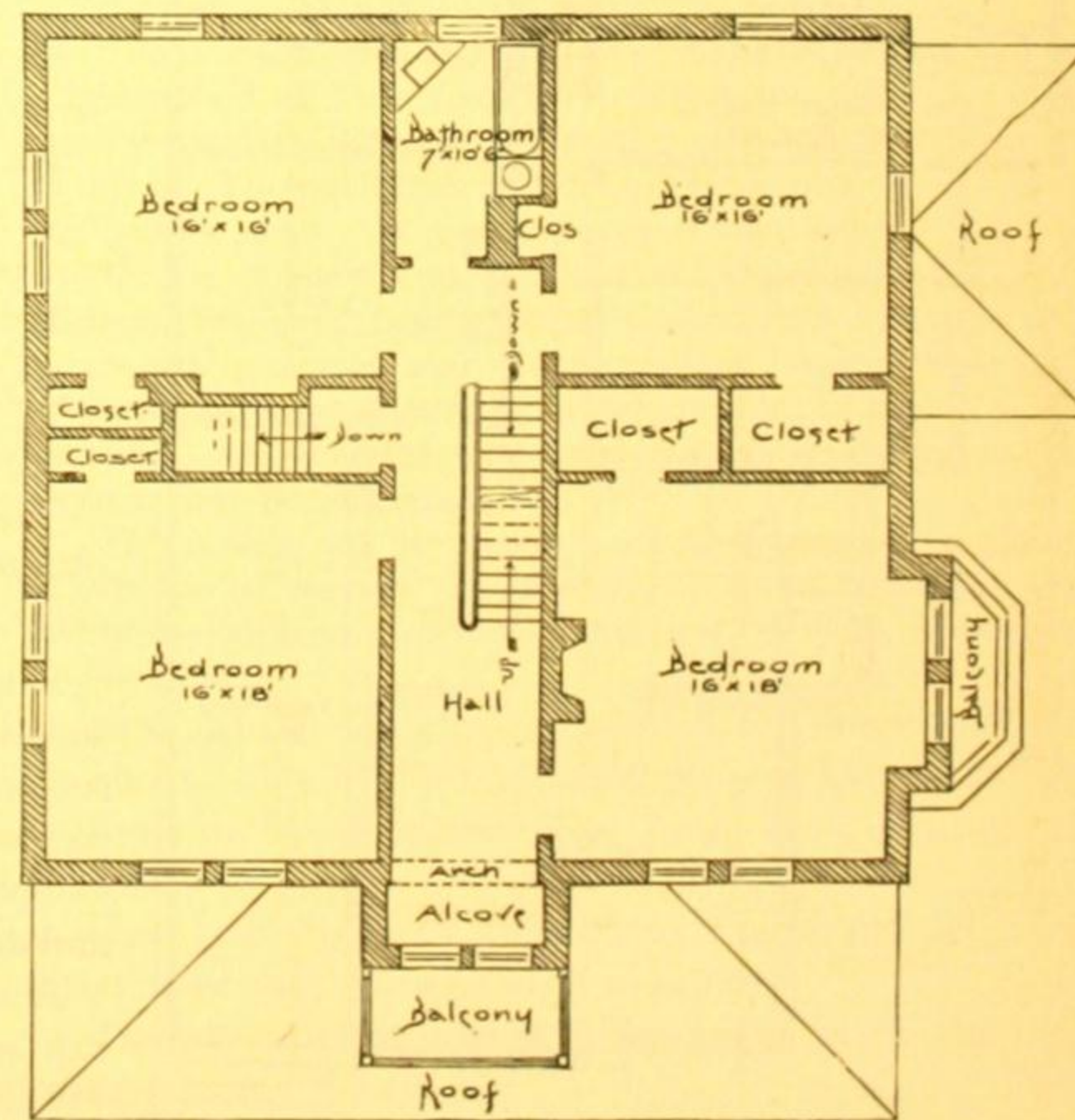
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTE

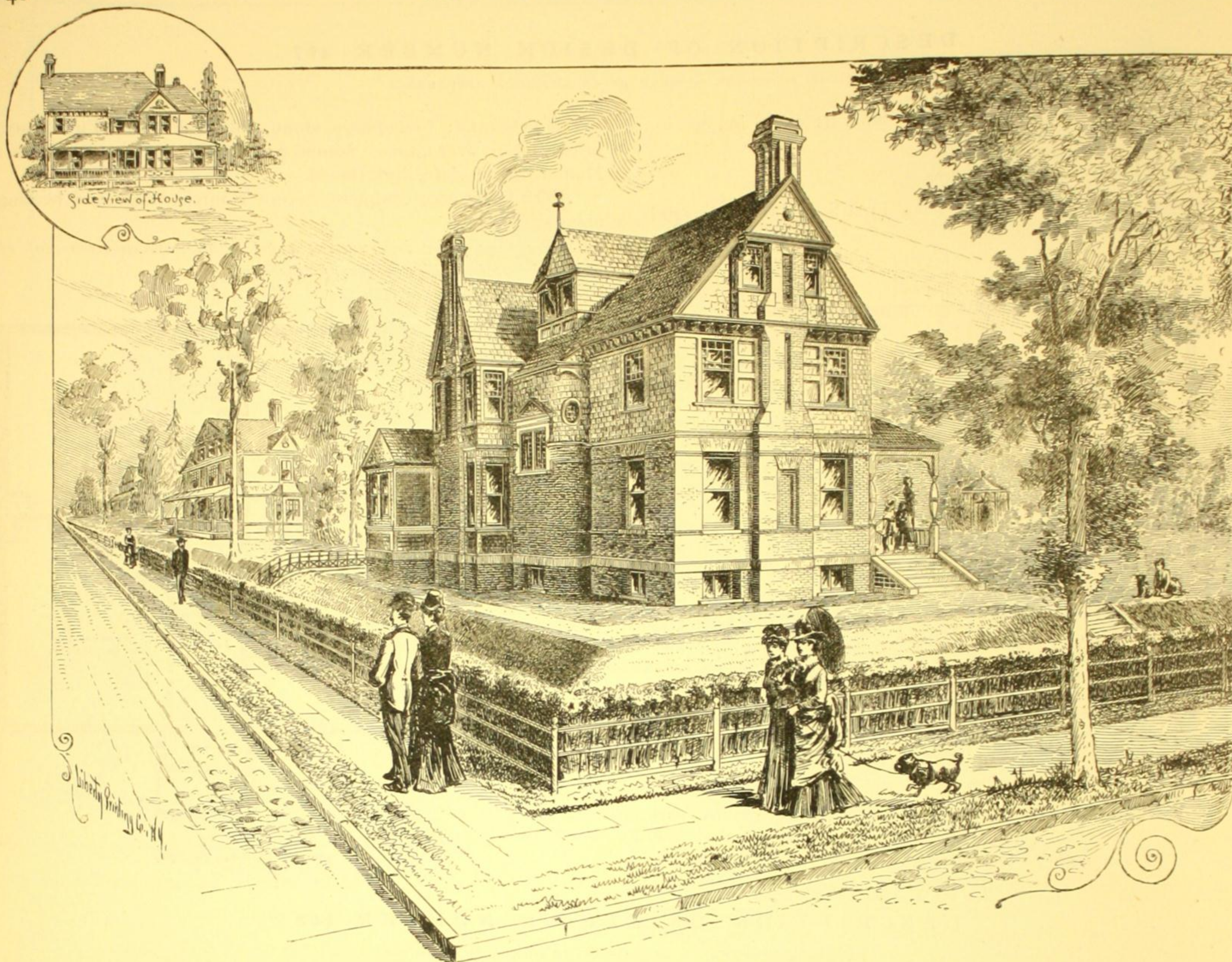
The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

SPECIAL FEATURES.—Walls of solid brickwork twelve inches thick.

Floor plans very similar to those above reversed.

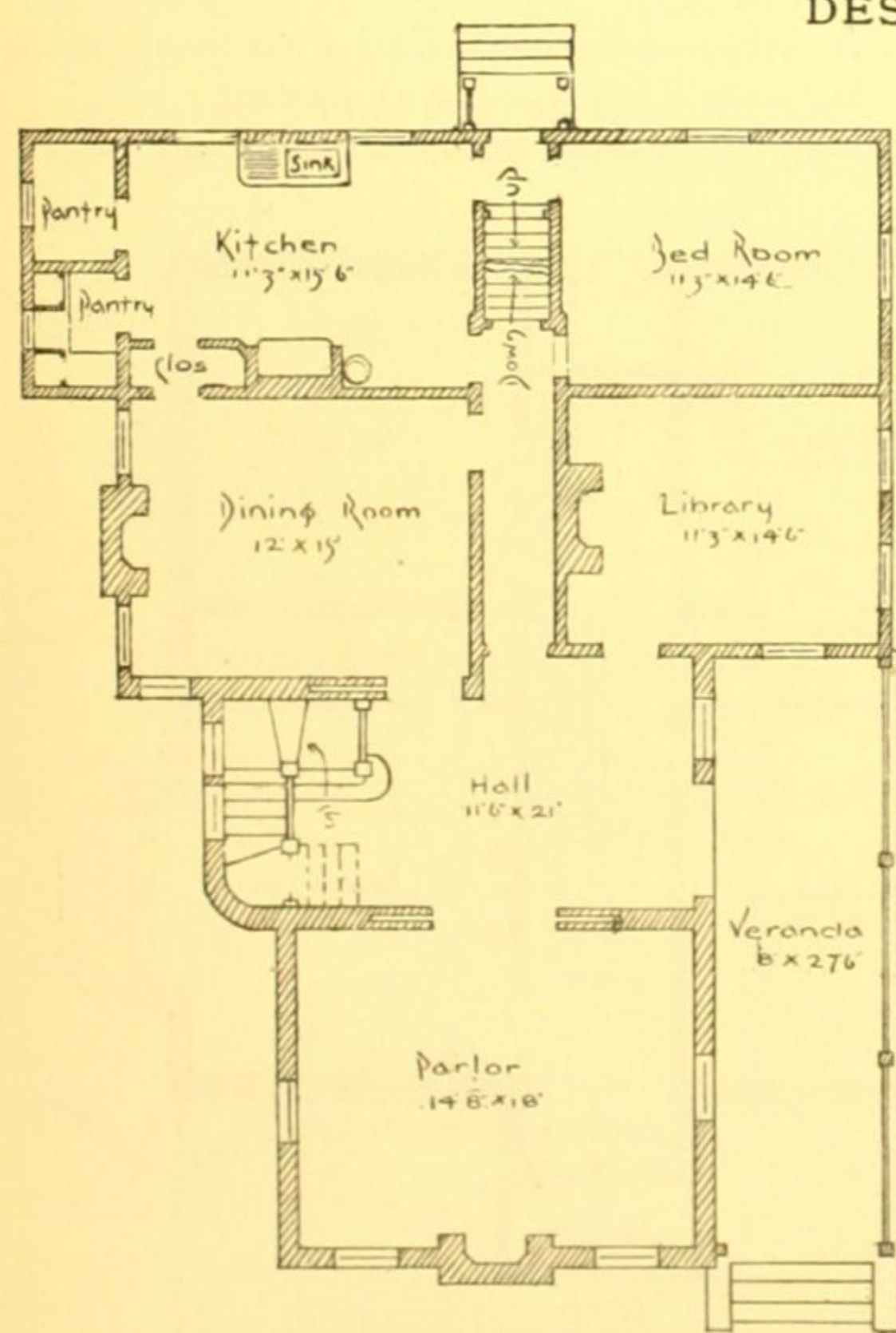


SECOND FLOOR. NO. 468



DESIGN No. 469. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 469



FIRST FLOOR. NO. 469

SIZE OF STRUCTURE: Front, including veranda, 28 ft.; extreme width, 39 ft., 6 in. Side, 52 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 9 ft.

MATERIALS: Foundation, stone and brick; First Story, brick, front part—frame, rear part; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$5,000, complete, except mantels, heater and range.

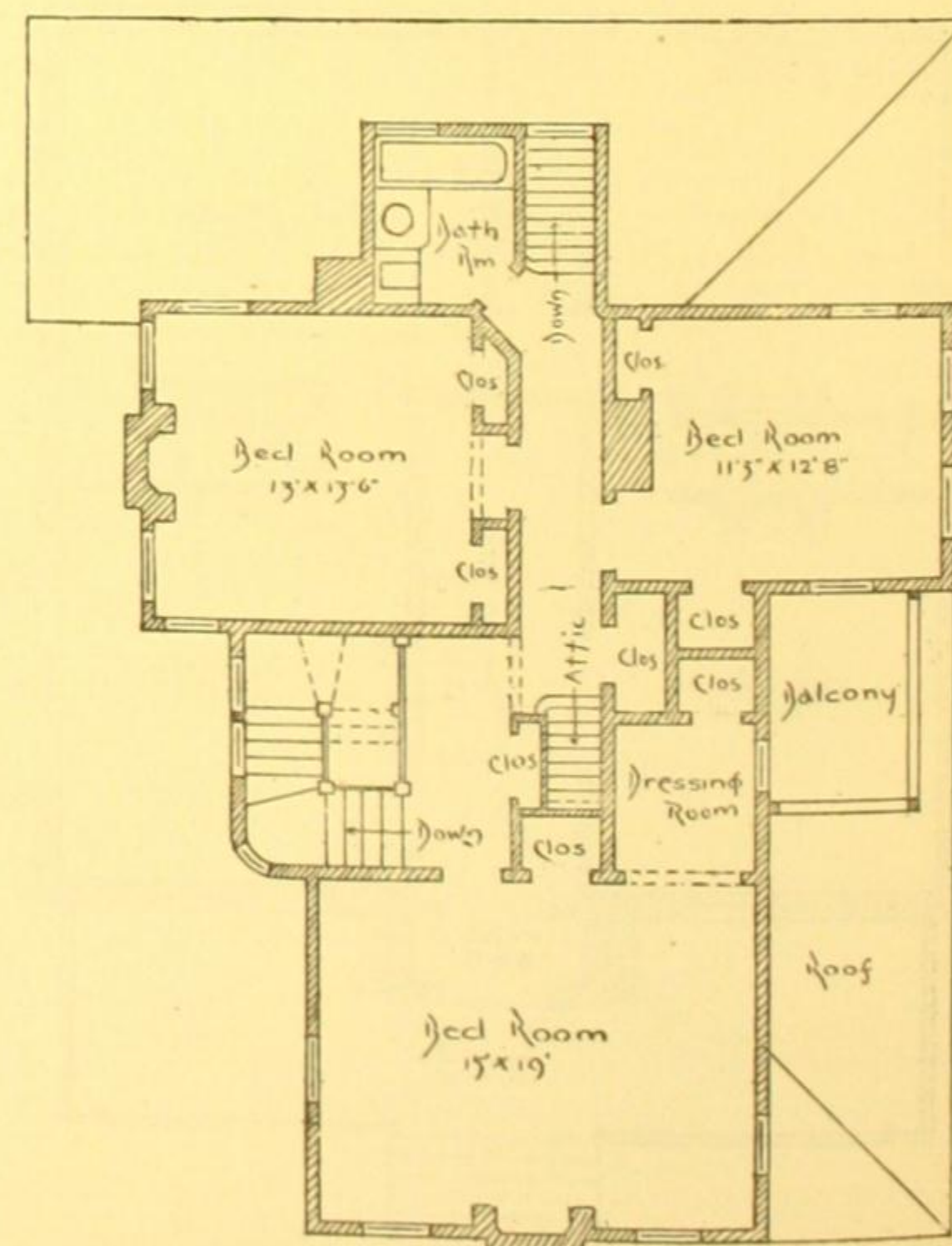
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The hall has a handsome and well-lighted staircase, and is connected with the dining-room and the parlor by sliding doors.

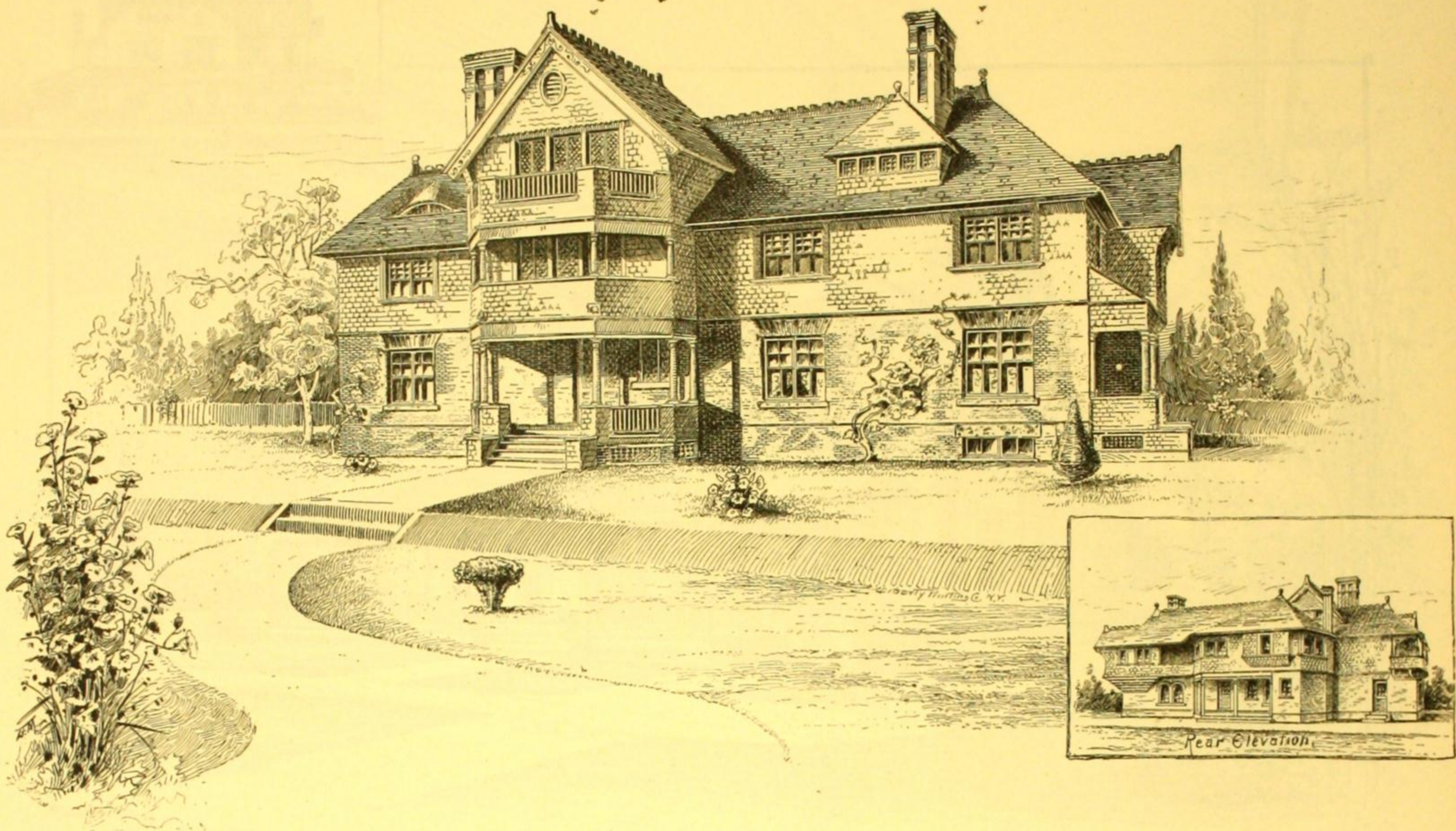
Open fire-places in the parlor, library and dining-room, and in two bedrooms.

A large attic in which two good rooms can be finished, if desired.

Cellar under the whole house, with cemented bottom.



SECOND FLOOR. NO. 469



DESIGN No. 470. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 470

SIZE OF STRUCTURE: Front, 80 ft. Side, 17 ft., 8 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 4 in.; Second Story, 9 ft., 2 in.; Attic Story, 9 ft.

MATERIALS: Foundation, brick walls; First Story, brick; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$6,500, complete, except mantels and range.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

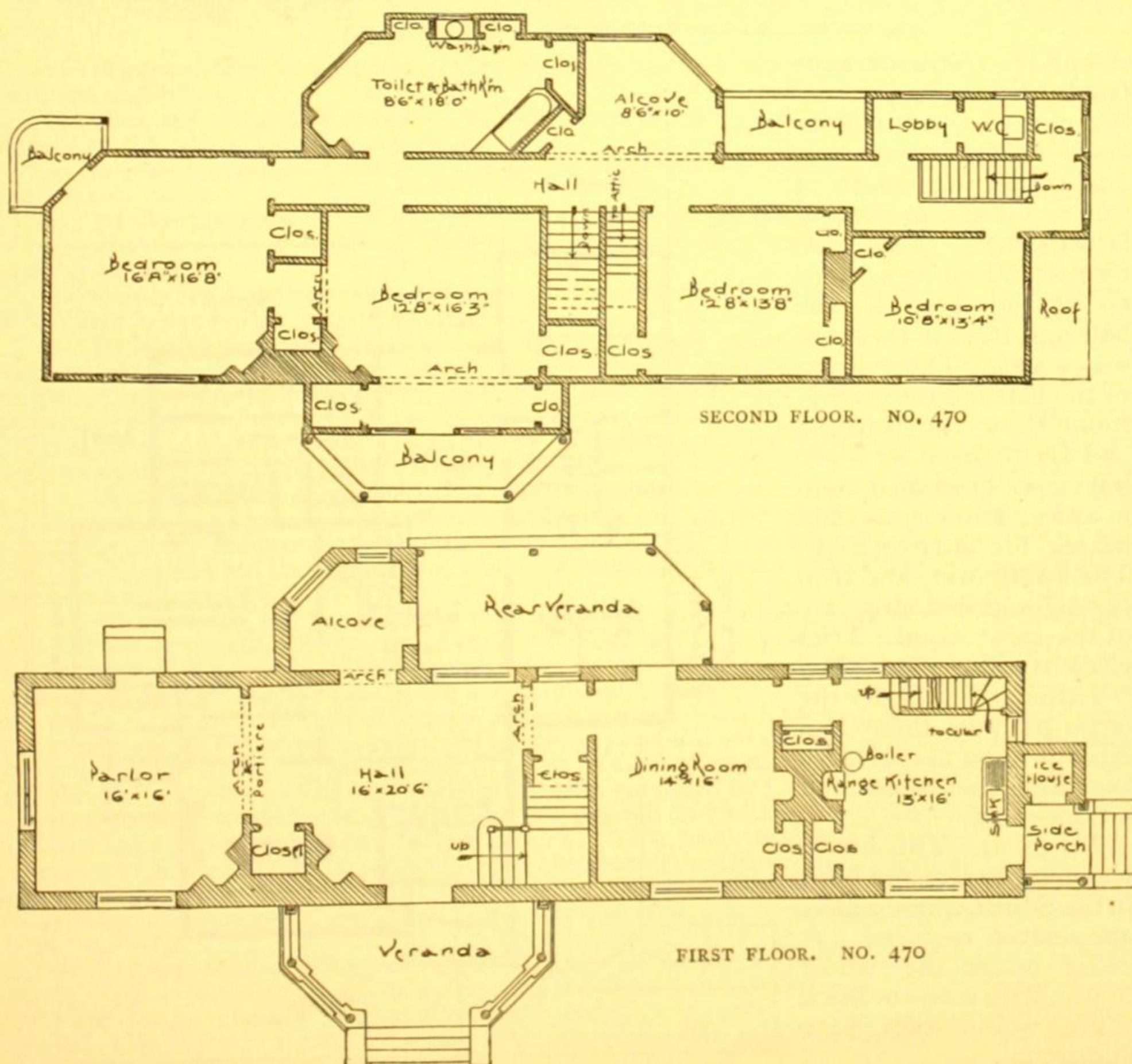
This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

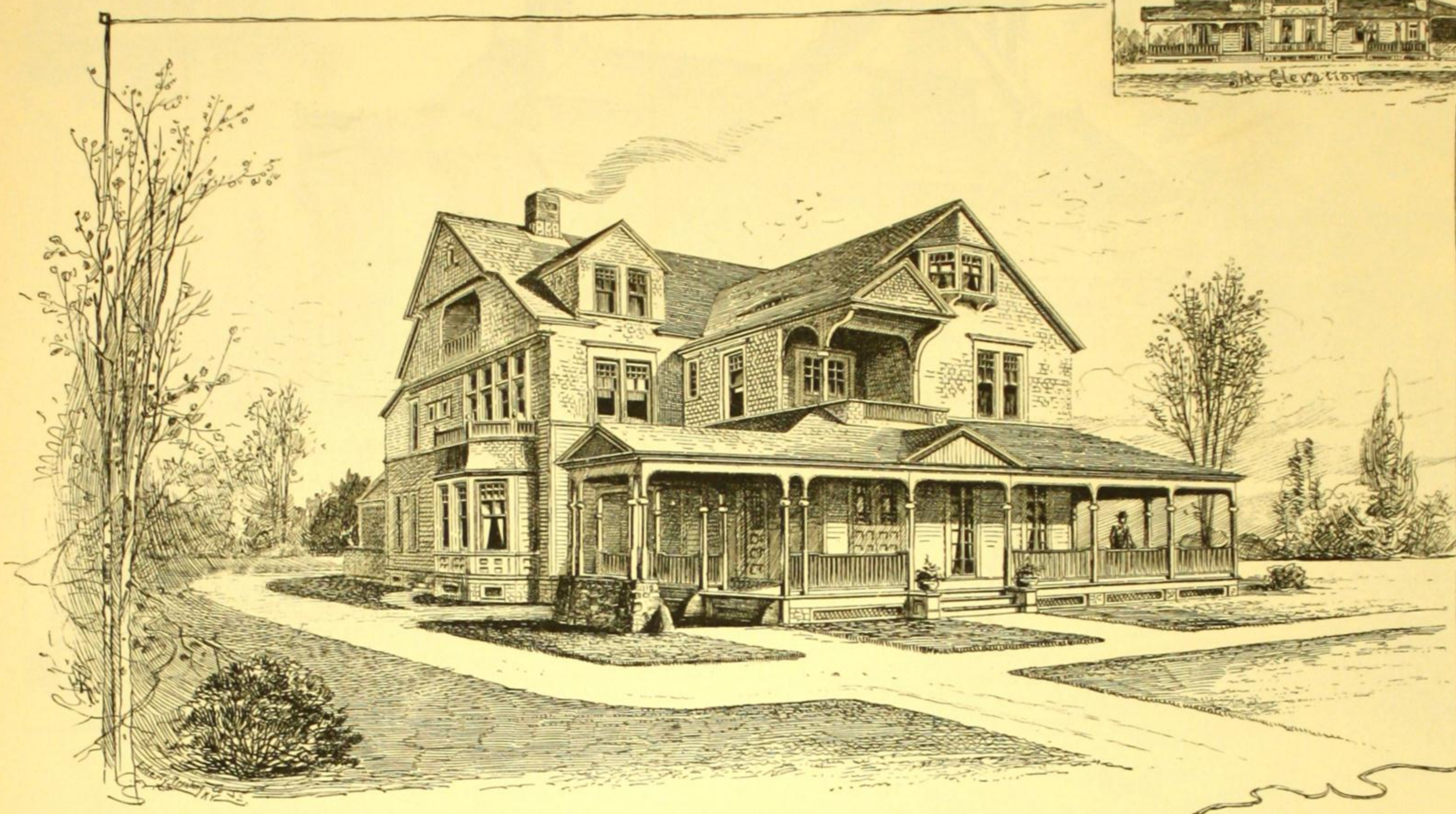
SPECIAL FEATURES.—Designed for erection at the sea-shore. All of the principal rooms have windows or doors on two or more sides, to insure a constant air circulation.

One large room is finished in the front attic, and three more can be finished, if required.

The walls up to second floor are of brick, the best being selected for facing.

Cellar under the kitchen.





DESIGN No. 471. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 471

SIZE OF STRUCTURE: Front, including veranda, 48 ft. Side, 78 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Third Story, 8 ft.

MATERIALS: Foundation, stone or brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

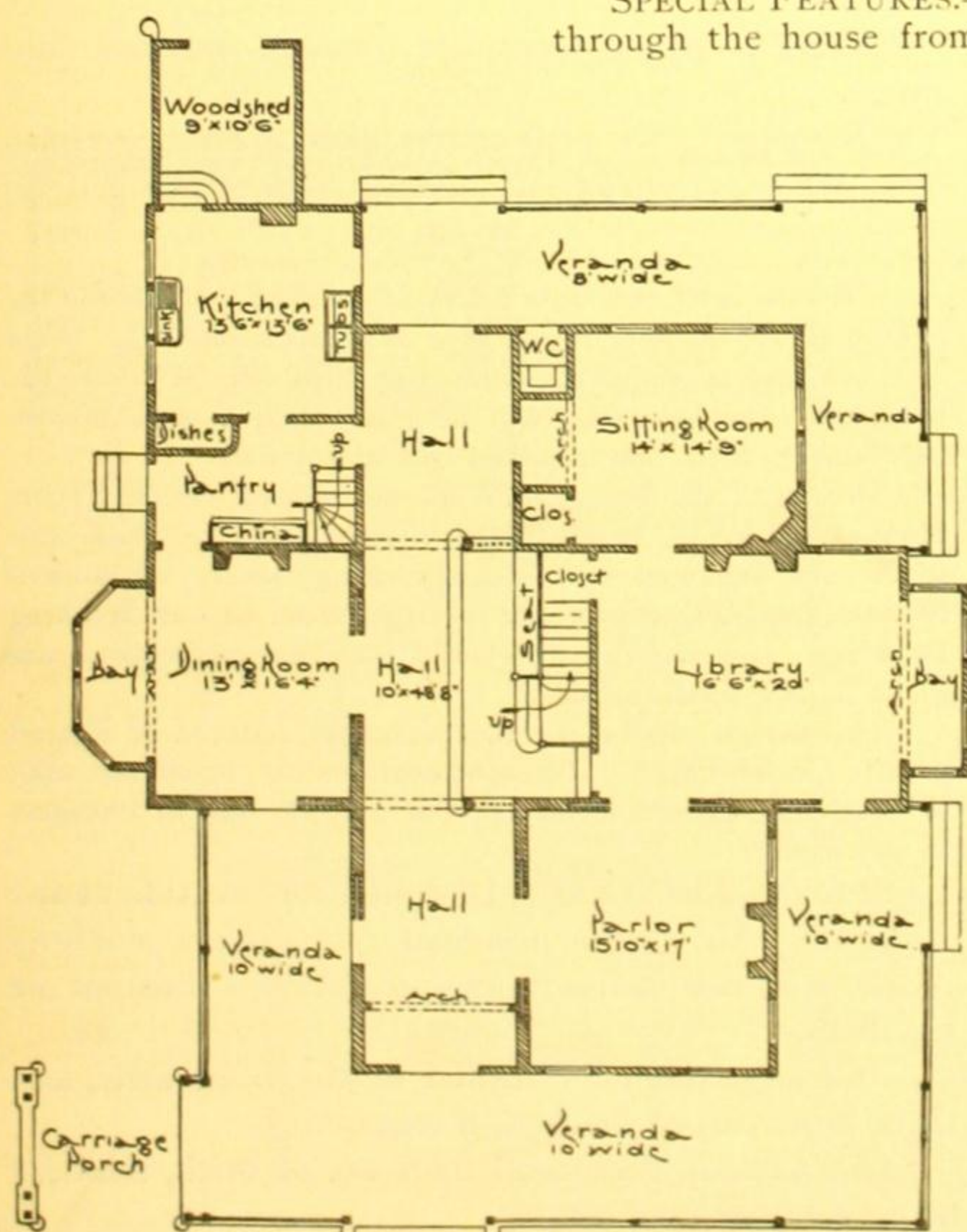
COST: \$12,000, complete, except mantels.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

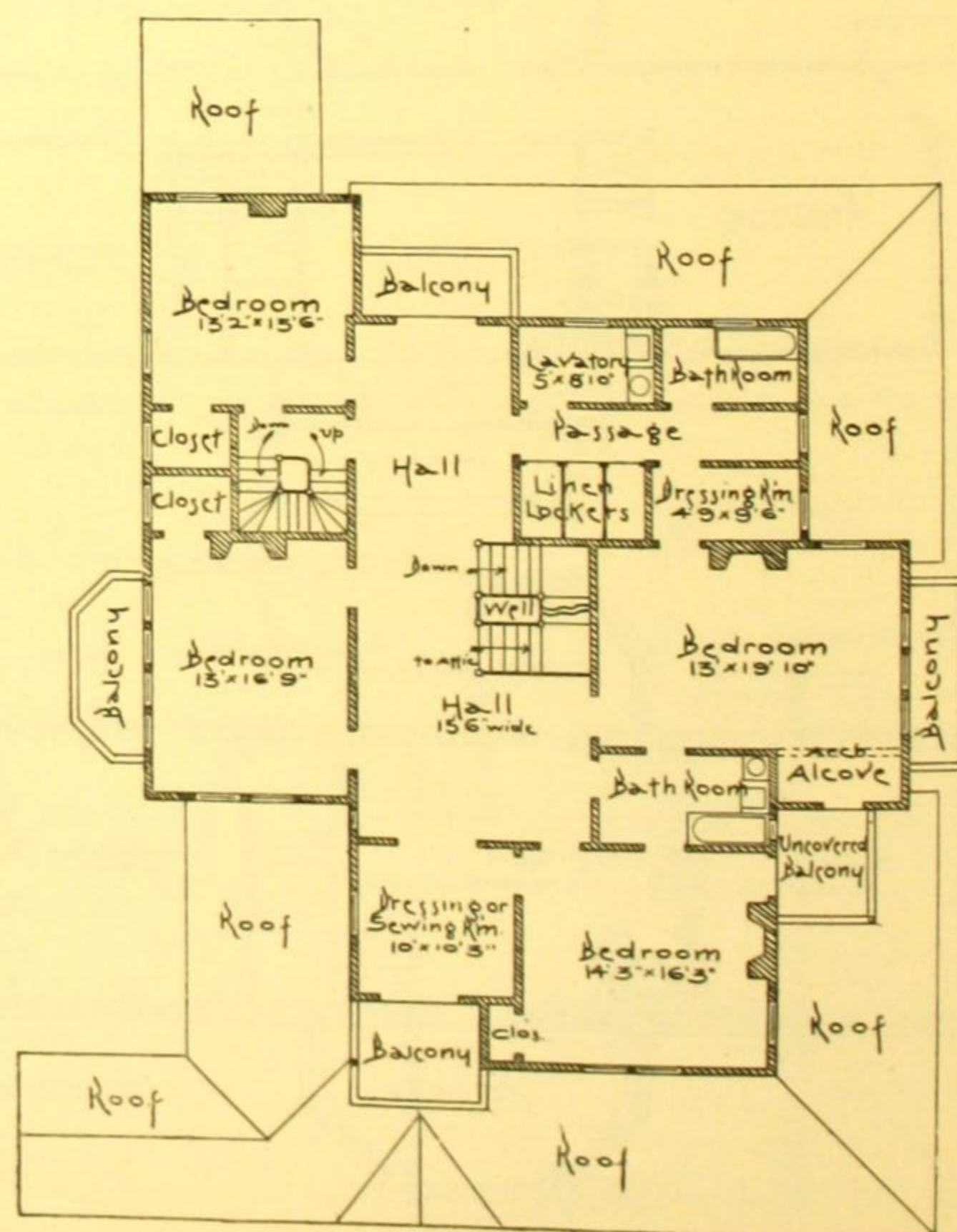
SPECIAL FEATURES.—A hall ten feet wide, runs through the house from front to rear, in the central part of which is a recess for the stairway; also, a platform the length of this recess and projecting into the hall. This platform is raised two steps above the floor of the hall, and from it the stairway starts. The ceilings of the hall and the dining-room show the timbers, and are paneled with red baywood, or what is commonly known as and passes for mahogany. The wainscoting and trim throughout first story are of the same wood. Trim elsewhere, is yellow pine.

In the attic, besides the large hallway, there is a billiard-room 14 ft. x 22 ft., two large bedrooms and a tank-room.

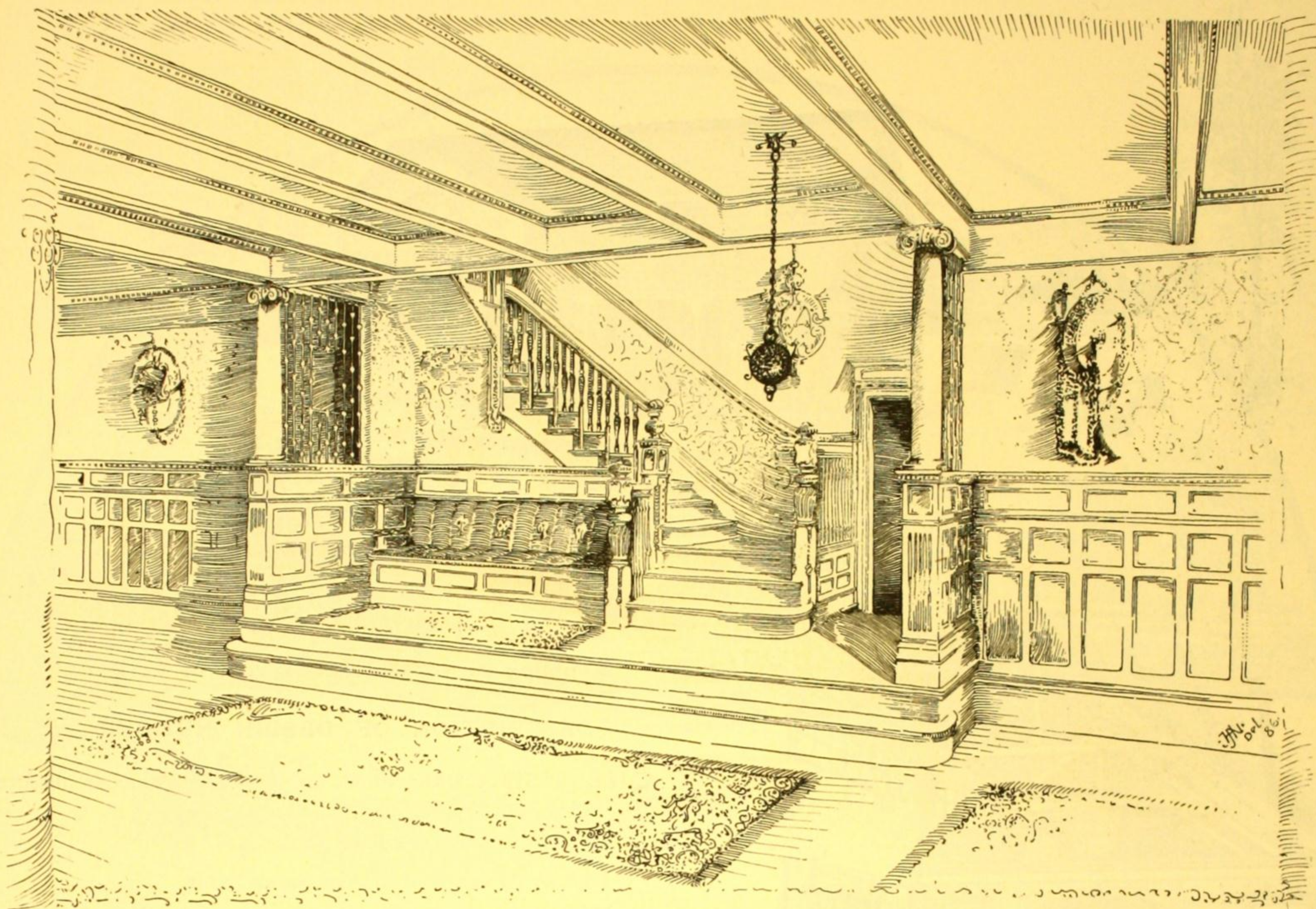
No cellar. This house was designed for and built in the South, where cellars are seldom required. A cellar under the whole house, with stone or brick walls, would cost \$450 additional.



FIRST FLOOR. NO. 471



SECOND FLOOR. NO. 471



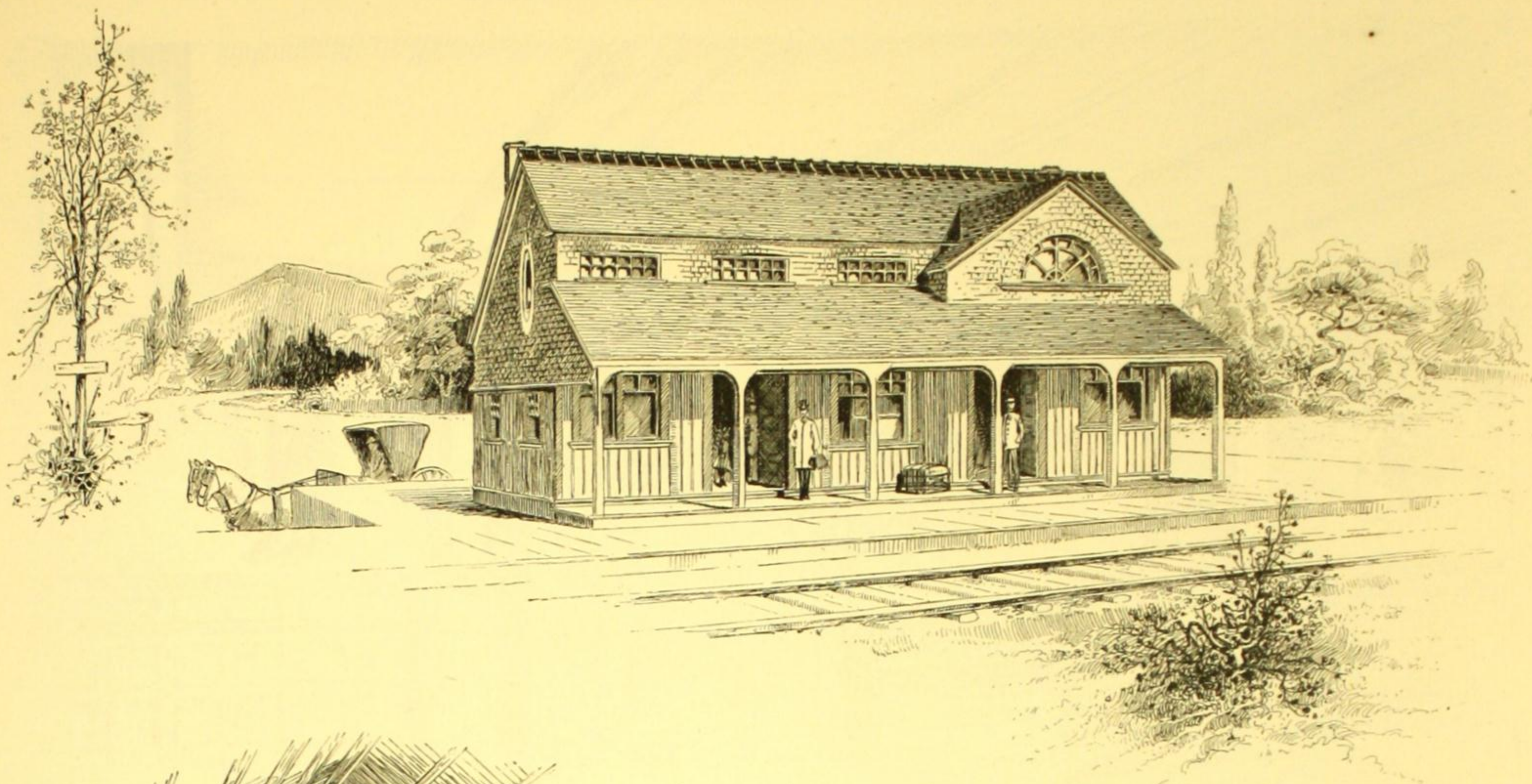
DESIGN No. 471. PERSPECTIVE VIEW OF THE HALL AND STAIRCASE

AXIOMS AND RULES OF COLOR

The following, prepared by Dr. Dresser, form an admirable compend for the guidance of persons interested or engaged in the decoration of houses.

1. Regarded from an art point of view, there are but three colors, namely: blue, red and yellow.
2. Blue, red and yellow have been termed primary colors; they cannot be formed by the admixture of any other colors.
3. All colors other than blue, red and yellow result from the admixture of the primary colors.
4. By the admixture of blue and red, purple is formed; by the admixture of red and yellow, orange is formed; and by the admixture of yellow and blue, green is formed.
5. Colors resulting from the admixture of two primary colors are termed secondary; hence purple, orange and green are secondary colors.
6. By the admixture of two secondary colors a tertiary color is formed; thus, purple and orange produce russet (the red tertiary); orange and green produce citrine (the yellow tertiary); and green and purple, olive (the blue tertiary); russet, citrine and olive are the three tertiary colors.
7. When a light color is juxtaposed to a dark color, the light color appears lighter than it is and the dark color darker.
8. When colors are juxtaposed, they become influenced as to their hue. Thus, when red and green are placed side by side, the red appears redder than it actually is, and the green greener; and when blue and black are juxtaposed, the blue manifests but little alteration, while the black assumes an orange tint or becomes "rusty."
9. No one color can be viewed by the eye without another being created. Thus, if red be viewed, the eye creates for itself green, and this green is cast upon whatever is near. If it views green, red is in like manner created and cast upon adjacent objects; thus, if red and green are juxtaposed, each creates the other in the eye, and the red created by the green is cast upon the red, and the green created by the red is cast upon the green; and the red and the green become improved by being juxtaposed. The eye also demands the presence of the three primary colors, either in their purity or in combination; and if these are not present, whatever is deficient will be created in the eye, and this induced color will be cast upon whatever is near. Thus, when we view blue, orange, which is a mixture of red and yellow, is created in the eye, and this color is cast upon whatever is near; if black is in juxtaposition with the blue, this orange is cast upon it, and gives to it an orange tint, thus causing it to look "rusty."
10. In like manner, if we look upon red, green is formed in the eye, and is cast upon adjacent colors; or if we look upon yellow, purple is formed.
11. Harmony results from an agreeable contrast.
12. Colors which perfectly harmonize improve one another to the utmost.

13. In order to perfect harmony, the three colors are necessary, either in their purity or in combination.
14. Red and green combine to yield a harmony. Red is a primary color, and green, which is a secondary color, consists of blue and yellow—the other two primary colors. Blue and orange also produce a harmony, and yellow and purple, for in each case the three primary colors are present.
15. It has been found that the primary colors in perfect purity produce exact harmonies in the proportions of 8 parts of blue, 5 of red, and 3 of yellow; that the secondary colors harmonize in the proportions of 13 of purple, 11 of green, and 8 of orange; and that the tertiary colors harmonize in the proportions of olive 24, russet 21, and citrine 19.
16. There are, however, subtleties of harmony which it is difficult to understand.
17. The rarest harmonies frequently lie close on the verge of discord.
18. Harmony of color is, in many respects, analogous to harmony of musical sounds.
19. Blue is a cold color, and appears to recede from the eye.
20. Red is a warm color, and is exciting; it remains stationary as to distance.
21. Yellow is the color most nearly allied to light; it appears to advance toward the spectator.
22. At twilight blue appears much lighter than it is, red much darker, and yellow slightly darker. By ordinary gaslight blue becomes darker, red brighter, and yellow lighter. By this artificial light a pure yellow appears lighter than white itself when viewed in contrast with certain other colors.
23. By certain combinations, color may make glad or depress, convey the idea of purity, richness or poverty, or may affect the mind in any desired manner, as does music.
24. When a color is placed on a gold ground, it should be outlined with a darker shade of its own color.
25. When a gold ornament falls on a colored ground, it should be outlined with black.
26. When an ornament falls on a ground which is in direct harmony with it, it must be outlined with a lighter tint of its own color. Thus, when a red ornament falls on a green ground, the ornament must be outlined with a lighter red.
27. When the ornament and the ground are in two tints of the same color, if the ornament is darker than the ground, it will require outlining with a still darker tint of the same color; but if lighter than the ground no outline will be required.



DESIGN No. 472. PERSPECTIVE VIEW OF EXTERIOR

DESCRIPTION OF DESIGN NUMBER 472

SIZE OF STRUCTURE: Front, 41 ft. Side, including platform, 27 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT: From floor to ridge, inside, 20 ft.

MATERIALS: Foundation, wood posts; Side Walls, siding and shingles; Roof, shingles.

COST: \$1,400, complete, including plumbing.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, December, 1886. In other localities and at different dates the cost will be somewhat modified. The publishers will be glad to acquaint the intending builder with this modified cost at any time.

Details of the Cornices, Windows, Doors, Gables, Trim, Inside Finish, Colors, etc., etc. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—A railway station of low cost.

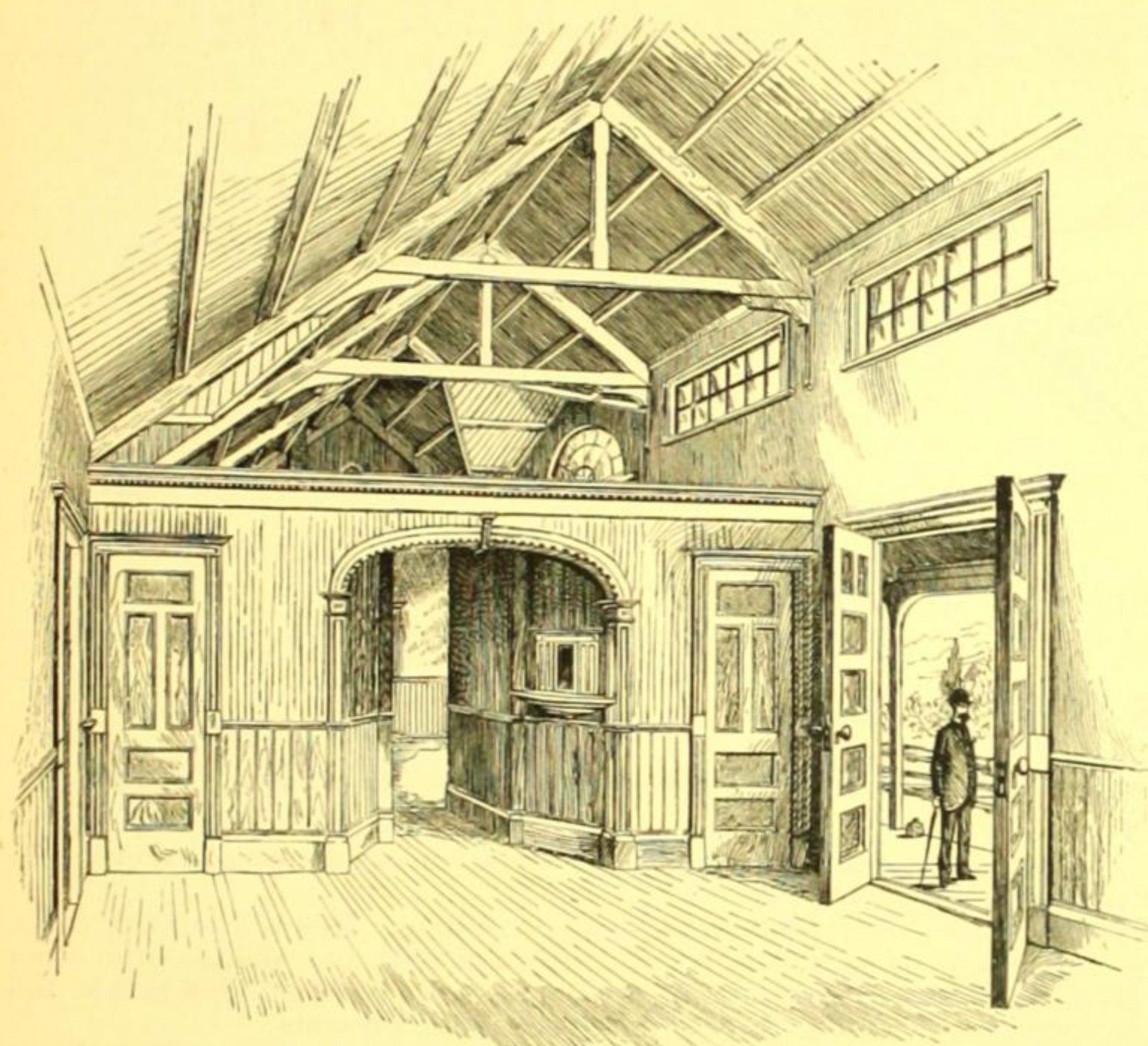
The ladies' and gentlemen's waiting-rooms each have a flue for a stove.

In the ticket-office there is a desk for a telegraphic instrument, a ticket rack, and two windows through which the tickets are sold.

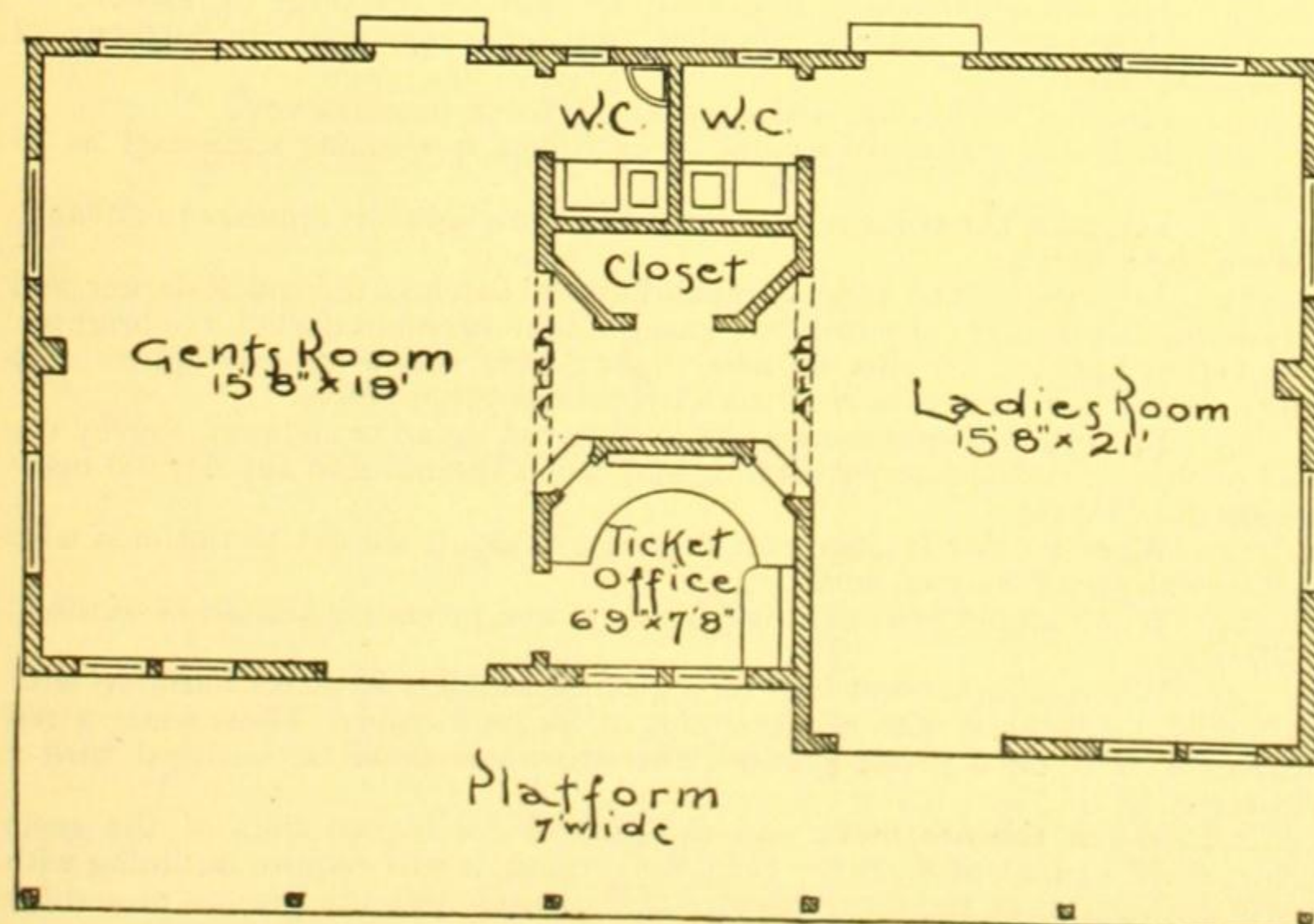
The interior is finished with Southern pine—natural color. Wainscoting throughout both the waiting-rooms.

The water-closets are concentrated between the waiting-rooms, and have light and air direct from the outside.

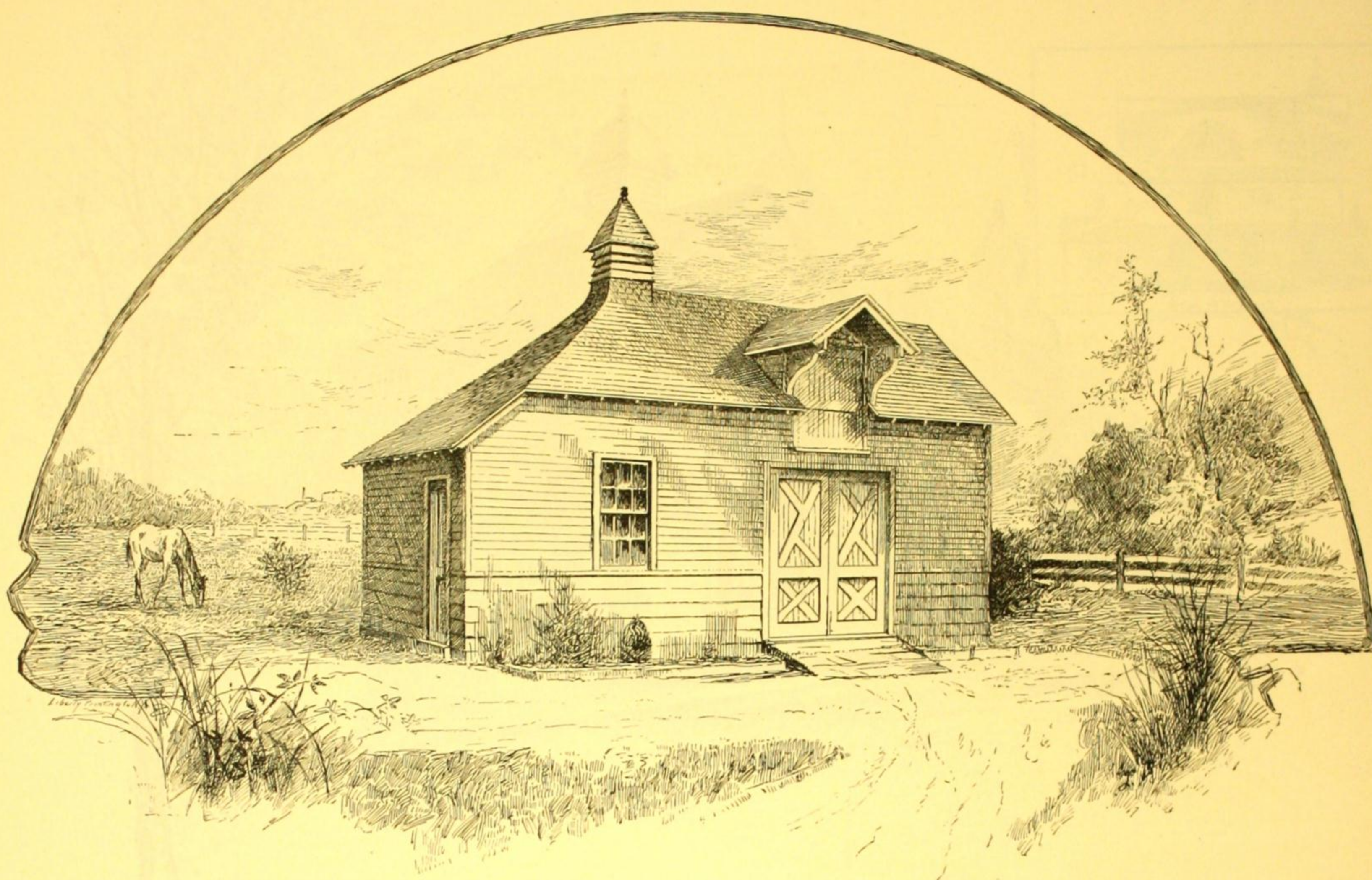
The windows in the upper part of the waiting-rooms insure proper ventilation.



PERSPECTIVE VIEW OF INTERIOR. No. 472



FLOOR PLAN. No. 472



STABLE AND CARRIAGE-HOUSE DESIGN No. 473. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 473

SIZE OF STRUCTURE: Front, 30 ft. Side, 16 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 8 ft., 8 in.

MATERIALS: Foundation, stone; First Story, clapboards; Roof, shingles.

COST: \$300, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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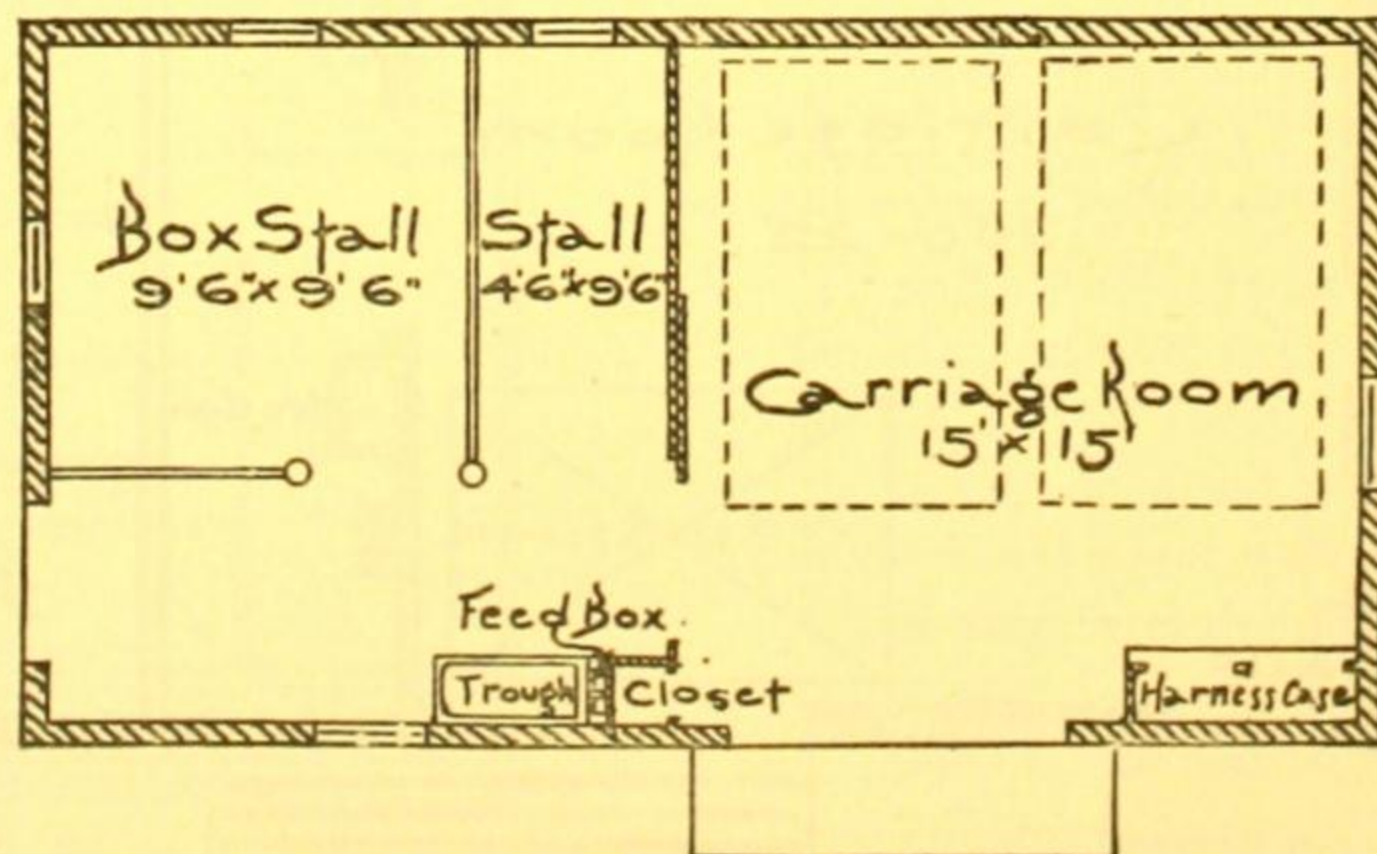
Details of the Cornices, Windows, Doors, Gables, Trim, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

This design can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Space for two carriages in the carriage-room.

The stable can be made to accommodate three horses by dividing the box stall.

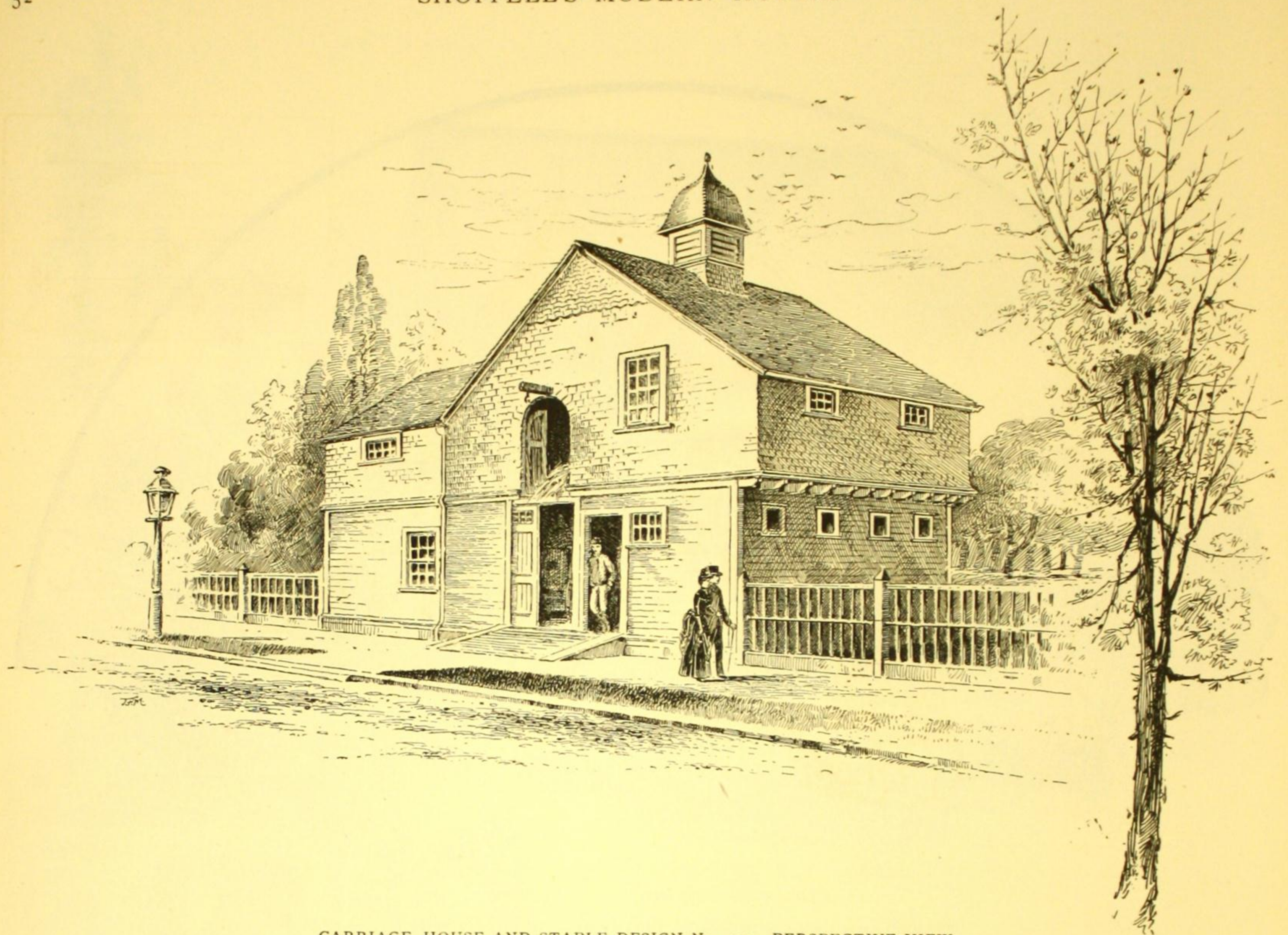
Stable and carriage-room are connected by a sliding door. Both rooms are floored with two-inch hemlock planks laid on chestnut sleepers.



GROUND FLOOR. NO. 473

Hay loft over the carriage-room and the single stall, reached by a ladder. The remainder of the space (over the box stall) is open to the roof, on which is placed a ventilator.

Two grain bins are provided in the loft, with galvanized iron tubes leading to a feed box in the stable.



CARRIAGE HOUSE AND STABLE DESIGN No. 474. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 474

SIZE OF STRUCTURE: Front, 44 ft., 8 in. Side, 23 ft.

SIZE OF ROOMS: See floor plan.

HEIGHT OF STORIES: First Story, 9 ft.

MATERIALS: Foundation, brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$1,200, complete, except stall fittings.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

The cost is figured from prices of material and labor in the neighborhood of New York City, Sept., 1886. In other localities and at different dates the cost will be somewhat modified. The publishers

will be glad to acquaint the intending builder with this modified cost at any time.

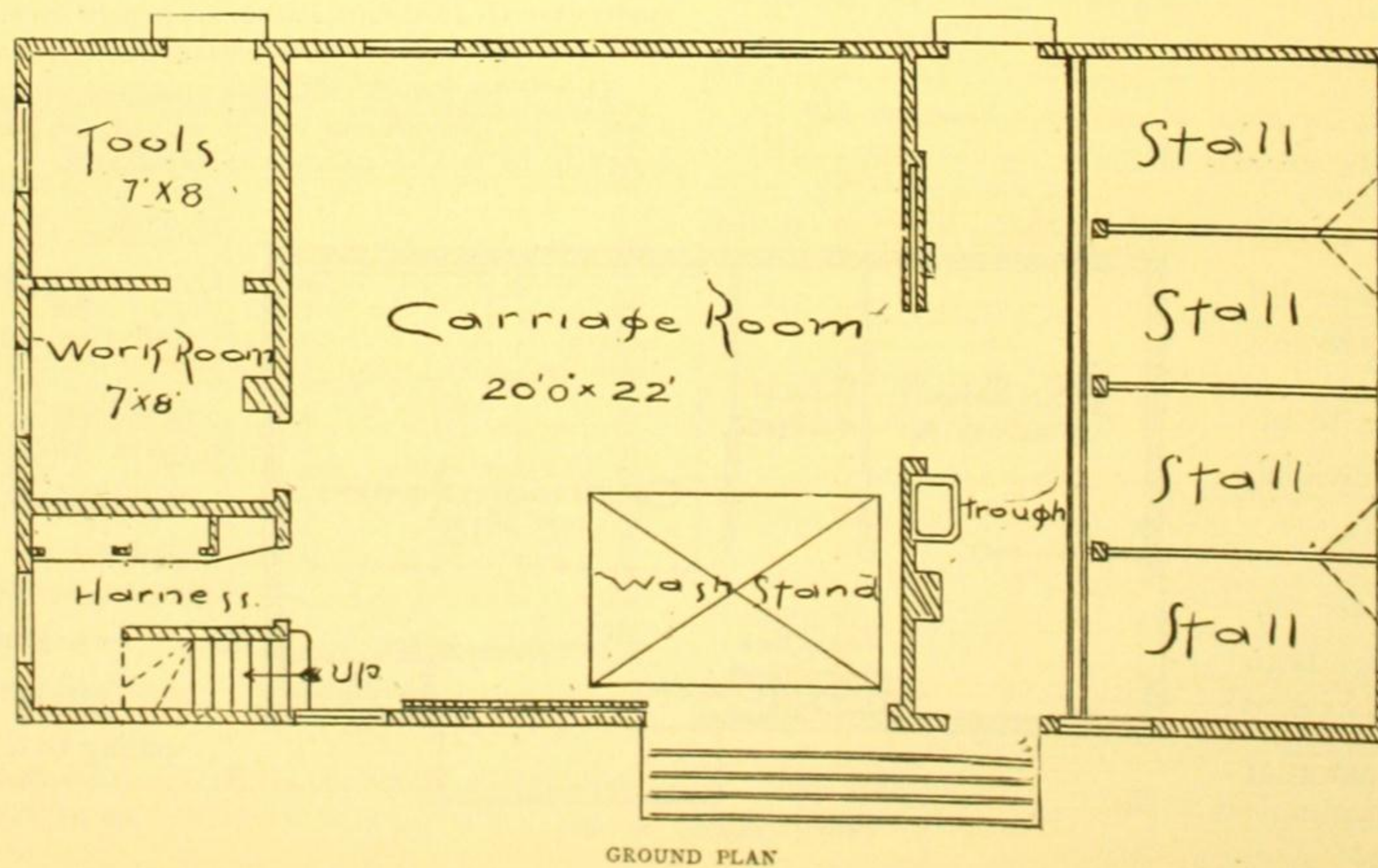
Details of the Cornices, Windows, Doors, Gables, Trim, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, in our Working Drawings, and careful directions for their execution are given in our Specifications.

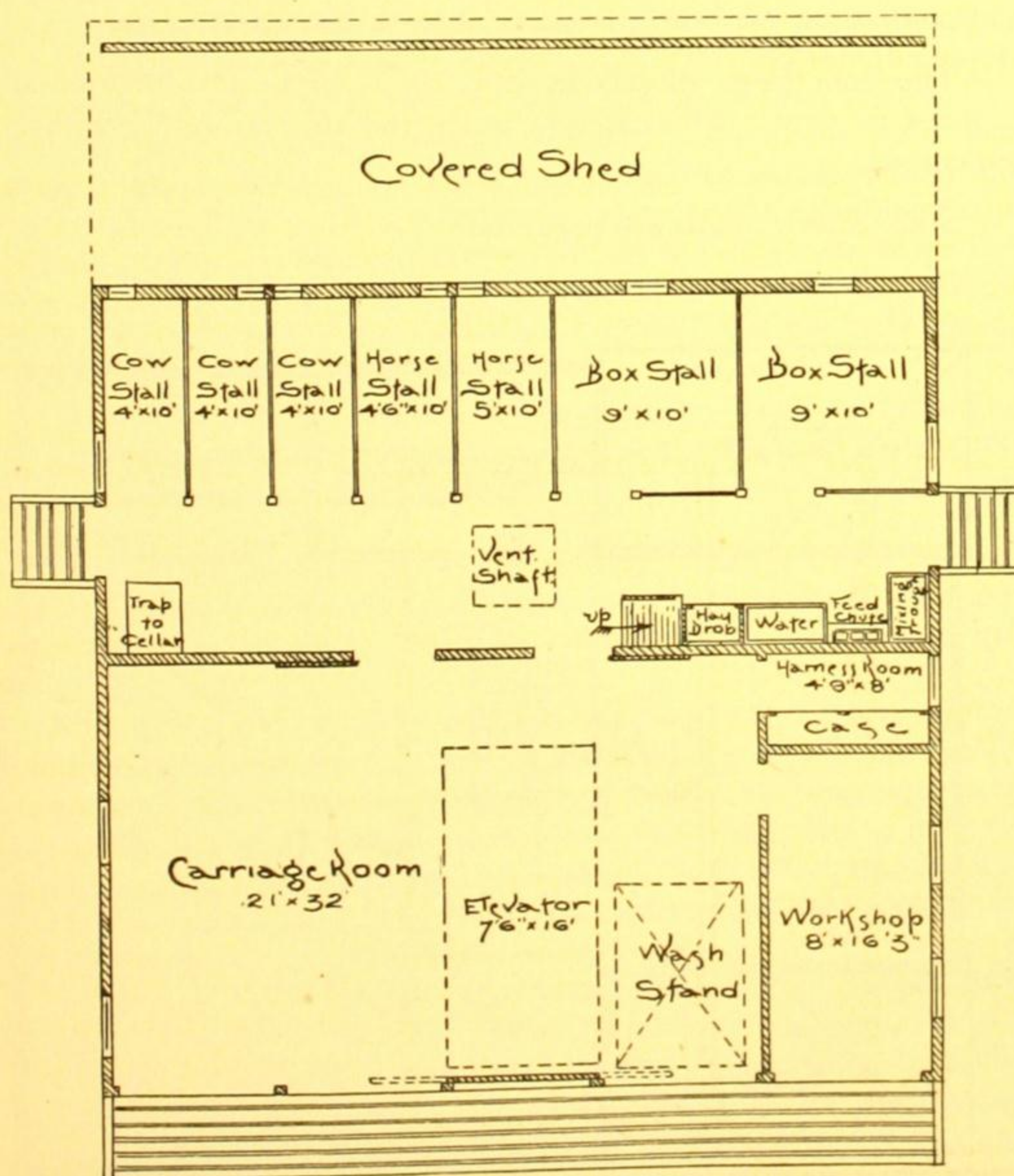
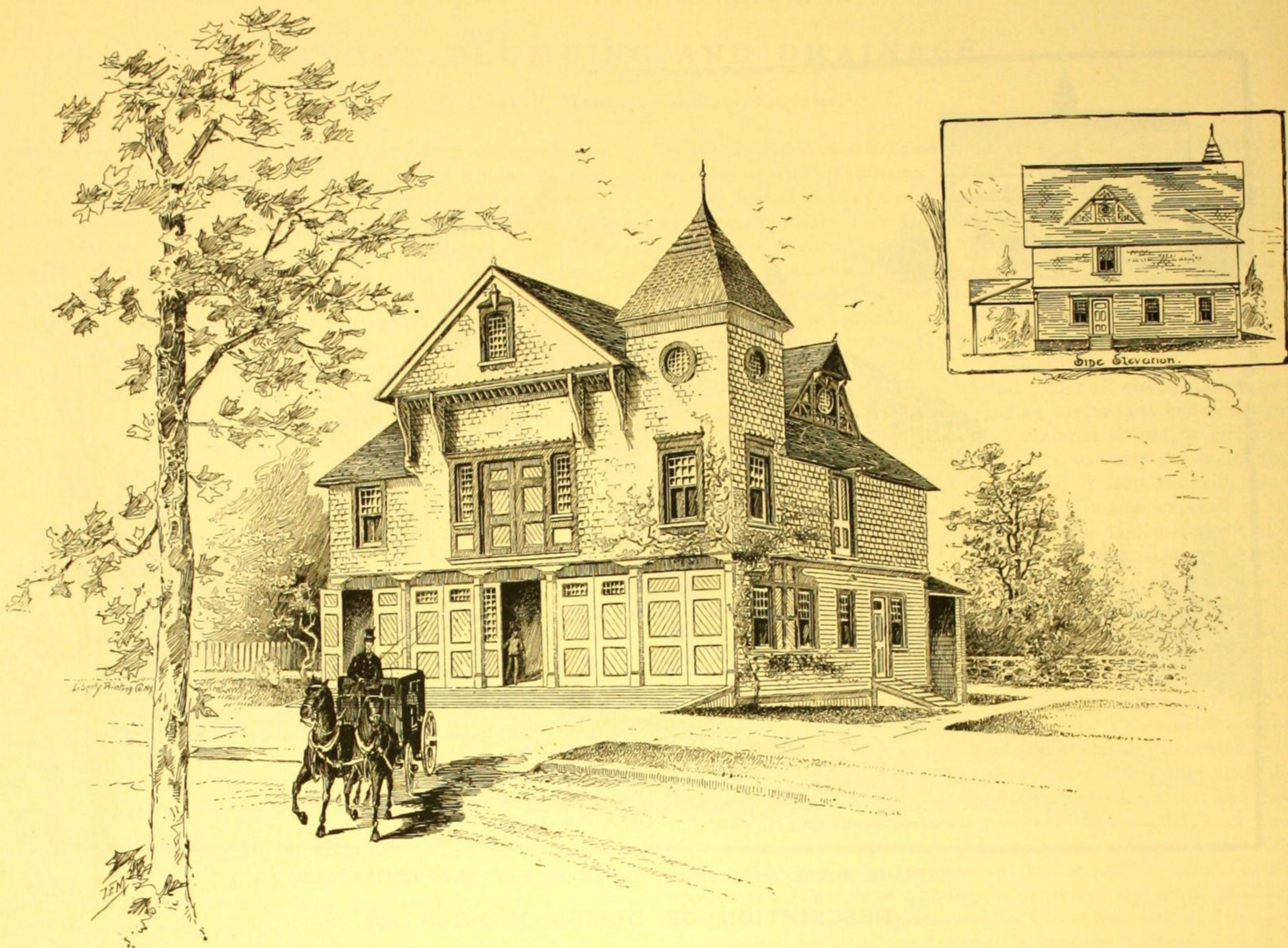
This design can be reversed, enlarged, reduced, or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

SPECIAL FEATURES.—Accommodations for four horses.

A harness-room, workshop and tool-room.

Hay-loft, 22 ft. x 36 ft. Stableman's sleeping room, 8 ft. x 13 ft. Complete separation of stable from carriage and harness rooms is essential to a well planned barn.





GROUND FLOOR. NO. 475

CARRIAGE-HOUSE AND STABLE DESIGN No. 475. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN No. 475

SIZE OF STRUCTURE: Front, 41 ft., 6 in. Side, including shed in rear, 52 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.

MATERIALS: Foundation, stone wall and brick piers; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,200, complete.

[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

NOTES

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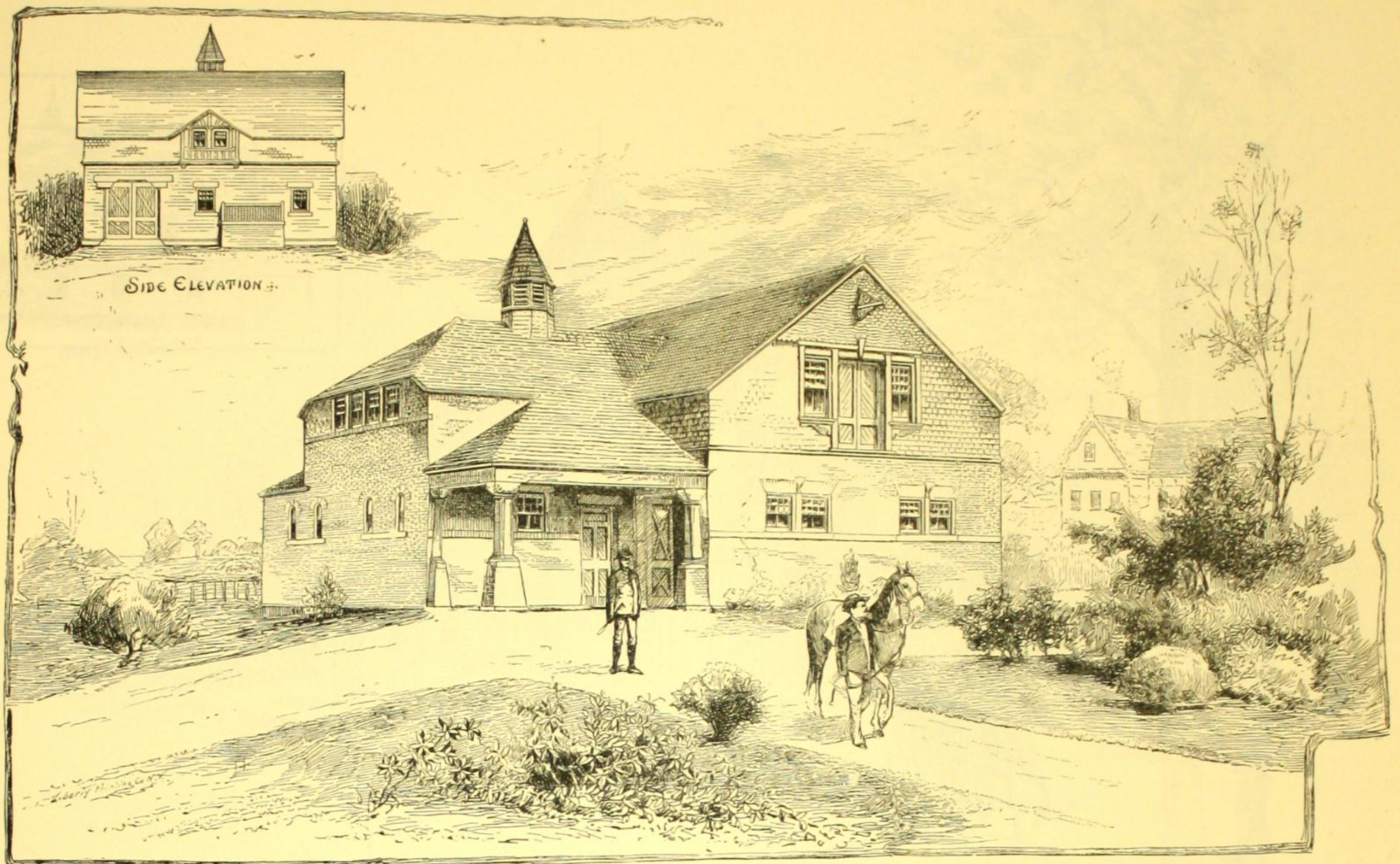
SPECIAL FEATURES.—Cellar with stone walls under a part of the carriage-room; the remainder of the building is set on brick piers.

Seven or nine animals can be accommodated; the latter number if the box stalls are divided into single stalls.

A large elevator for taking vehicles to the loft, where they can be stored.

Shed in the rear to shelter carts and implements.

The loft is open the full size of the building.



CARRIAGE HOUSE AND STABLE DESIGN No. 476. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 476

SIZE OF STRUCTURE: Front, 48 ft. Side, 41 ft., 4 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 11 ft.; Loft open to roof.

MATERIALS: Foundation, stone walls and piers; First Story, brick; Second Story, shingles and brickwork; Roof, slate.

COST: \$2,800, complete.

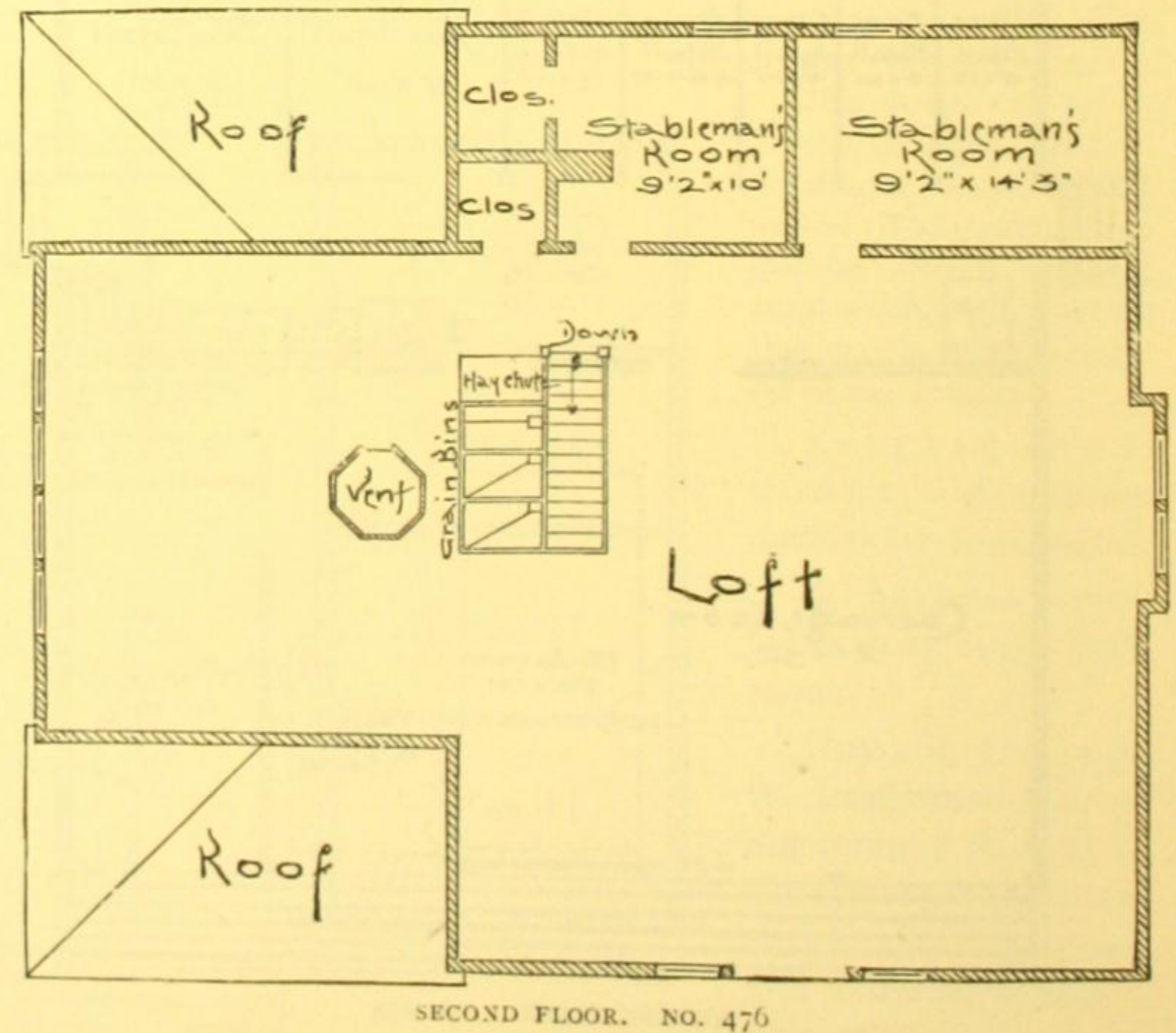
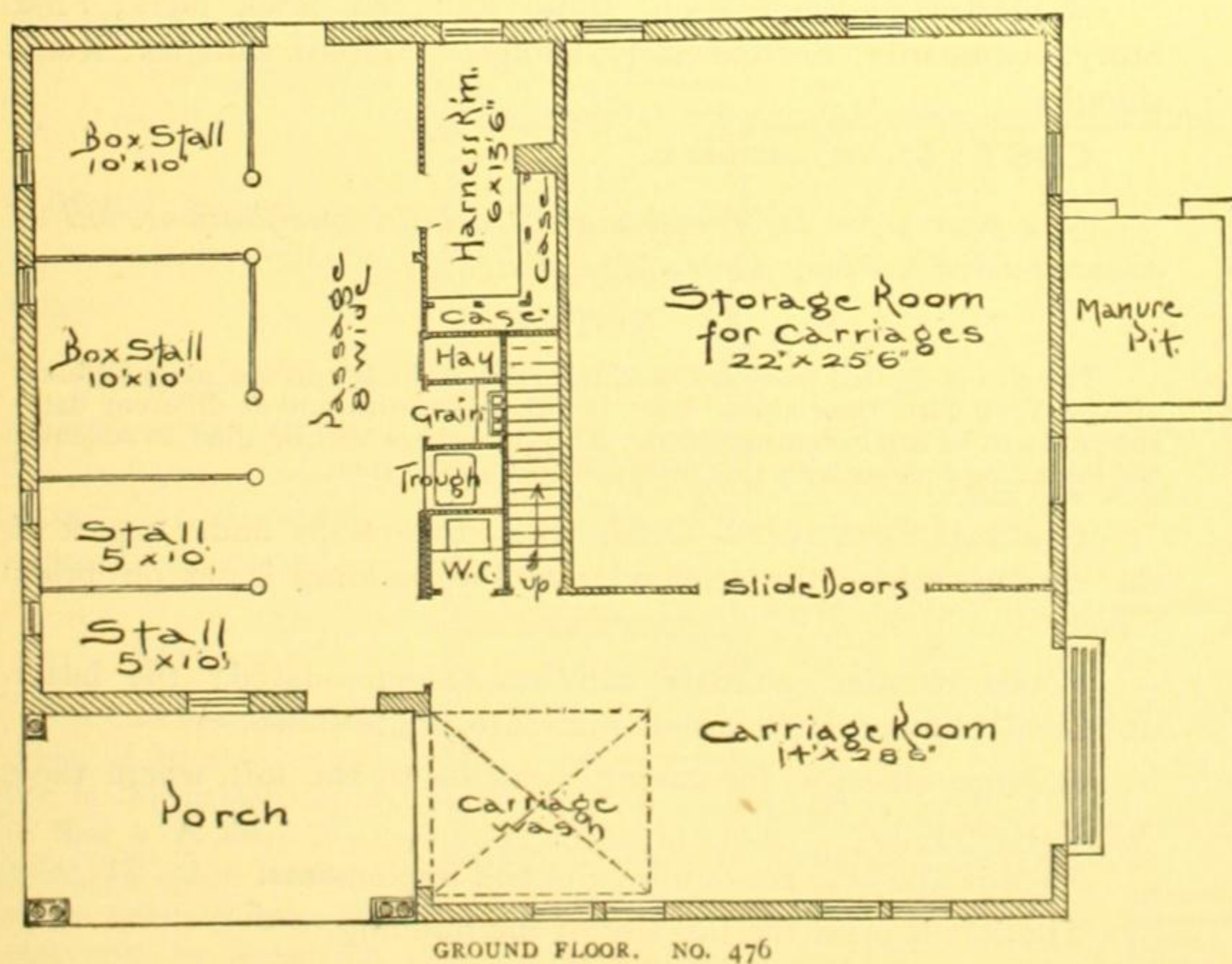
[See page 3 for information about details, specifications, bill of quantities and working plans of this design.]

SPECIAL FEATURES.—The brick walls are laid up in red putty and pointed on the inside, so as to make a neat appearance.

The floor joists of second story are Georgia pine, dressed and exposed to view. The carriage wash and the floor of porch are cemented.

Stablemen's rooms are plastered.

No cellar.



ABOUT PLUMBING AND DRAINAGE

By CHAS. F. WINGATE, Sanitary Engineer.

IN considering how to arrange the plumbing of an ordinary house, it is first necessary to decide how many fixtures will be required, and what amount of work has to be done. This will depend upon the size of the building, the number of inmates, and the length of the owner's purse.

In an ordinary household, numbering six or eight persons, occupying an average dwelling, there will usually be a single bath-room, two water closets, one upstairs and one for the use of domestics, a kitchen sink and hot water boiler, wash trays, butler's pantry sink, and from one to five stationary wash basins, while if the water pressure is deficient in the city, or if in the country the roof water is stored for family consumption, a tank or cistern will be required. In such a dwelling a four-inch soil pipe will be ample for the drainage from the principal fixtures, and a two-inch cast iron waste pipe from the basins, if any are located at a distance from the main lines. There will also be need for a two-inch waste from the kitchen fixtures, together with a five-inch rain leader, and connections from surface cess-pools in the front and back yards. All these pipes will discharge into a five-inch main drain leading to the sewer or cess-pool. To plumb a house of this grade will cost in the neighborhood of three hundred dollars.

The first consideration in planning the plumbing for any house is to concentrate the fixtures as much as possible and to strive to have everything compact and accessible. I am strongly opposed to scattering plumbing helter skelter all over a building with no system, and with the necessity of carrying pipes in places where they are liable to freeze or where they are quite inaccessible, so that in case of accident they cannot be got at without great damage to walls and ceilings and much outlay of money.

Previous to the sewer gas scare, householders had become inordinately fond of having plumbing, and they placed no check upon its amount. I have heard of a dozen water closets being in a house occupied by three persons, and still the owner was not satisfied, but like Oliver Twist, he asked for "more." The present tendency to do away with fixed basins in sleeping rooms is to be encouraged, and householders should learn to get along without such superfluities. It seems absurd to talk of isolating plumbing when one sees the number of fixtures demanded by wealthy householders in their houses. In a Fifth avenue residence, recently completed, there are eight water closets, twenty-four basins, eight baths, six sitz baths, and six sinks, besides other fixtures. Again, it is so common to find plumbing fixtures in out of the way rooms, intended for the use of guests or for occasional visitors, which have traps with no water in them, that I should strongly advise never to leave a fixture where it will not have constant surveillance.

It is a good plan in order to secure complete isolation of plumbing, to place the principal fixtures in an extension away from living rooms, and in a line directly over each other. This is economical and is now being largely followed.

The second consideration in plumbing a house should be to employ nothing but the very best materials, and the most substantial and tried appliances and fixtures. There is no economy in using cheap materials.

The soil pipe and main drain should be of extra heavy cast iron pipe, tarred inside and outside, and carefully examined and tested to insure that it is of uniform thickness. The days of using light weight pipe have passed, and it is a wonder that such pipe has so long been countenanced by architects and plumbers, as it is liable to be full of sand holes and flaws. It is easily cracked and on that account it is difficult to make a tight joint.

While it is desirable that pipe of extra heavy weight should always be employed, particularly if it is to be laid underground, yet where economy is to be studied, ordinary pipe may be employed, provided it is made by a reputable firm and stamped with its tested weight. There is so much poor pipe on the market that no other guarantee can be accepted. Tarring the pipe is not sufficient security as there may be sand holes, cracks, and other flaws which will be covered up

by the tar and thus concealed from view. Poor pipe is brittle, and hard to cut without splitting.

The best extra heavy pipe is made from special patterns and not by shaving off the core from which ordinary pipe is made, which reduces the interior diameter, and it should be full size inside. Testing with a hammer will reveal flaws. Good pipe when examined with the eye should be perfectly straight end from end, and not be sprung at any point so as to create depressions. On examining the cut edge of a piece of inferior pipe it will be seen to have a steely crystalline hue and not the dull gray color of good iron.

The drain within the house should under all circumstances be of cast iron. The weight of opinion among sanitarians and intelligent plumbers seems to be that no other material should be employed. In the first place it is desirable in all cases to carry the main drain along the side wall of the cellar or suspend it from the ceiling so as to be in full view. Of course tile pipe could not be exposed in this way. Even where the main drain has to be laid underground on account of special conditions, it is preferable to use cast iron pipe rather than tile within doors owing to the greater risk of the latter being damaged in some way. Tile pipe is brittle and may be easily crushed or cracked by the house settling or by other causes. The lengths are shorter and there are hence more joints in a given distance than with iron pipe. The joints also being made with cement may give way or be injured by rats, and in case of any such contingency, from the fact that the pipes are hidden from view, the consequences of any accident might prove serious before the evil was discovered. The final objection to employing tile pipe within doors is that such pipe is in most cases carelessly laid, and is constantly imperfect and leaky. In my whole experience in sanitary work I have scarcely ever found such an earthenware house drain properly laid, and I invariably distrust them and insist upon testing their condition before passing upon them. The same opinion is expressed by most plumbers, architects and health inspectors whom I have met, so that I have no doubt that as far as indoor drainage is concerned tile pipe must be abandoned for cast iron in all good work. And yet no one denies that tile pipes are excellent from their smoothness, cheapness and non-corrosiveness by acids. If they could be securely laid they would be preferable to iron.

Some plumbers prefer to cover drain pipes entirely with cement; others lay them so that the cement reaches up to the middle of the pipe. It seems preferable to expose the drain as much as possible to view and not to cover it entirely.

If a drain is not laid with a proper fall, it is not possible to make the joints secure, as the ends of the lengths of pipe will not fit tightly. In laying drains so as to secure the proper fall, first measure the distance from the cess-pool, or from the front wall to the rear of the house where the soil pipe or leader is to join, and having calculated the distance and depth of the cess-pool inlet it is easy to find out how much fall is possible. For example, suppose that the drain within the house is fifteen feet long, and that from the rear of the house to the cess-pool in the yard is sixty feet; this makes just sixty-five feet in all. Suppose the bottom of the cellar is seven feet below the surface of the ground, and that the top of the drain must end at this point to accommodate a servant's closet or other fixture at the rear. This would give a fall of five feet in sixty-five, or say roughly, one in twelve. By cutting a piece of wood so as to be two inches high, and laying this under the end of a two-foot spirit level upon each length of drain pipe as it is laid, the proper fall can be obtained.

The workmen should begin at the cess-pool and work upwards with the drain; a running trap should be placed close to the front wall, enclosed in a brick manhole with a wooden cover, so as to be convenient of access. The trap itself should be placed on a level, and should have a cleaning-out hole and a branch for the air inlet or foot ventilation.

Tree roots often enter the joints of drains and cause trouble. To guard against this chance, where drains must be laid near trees, the pipes should be bedded in concrete.

LANDSCAPE GARDENING—BY S. B. PARSONS

II.—PLANTING A PLOT 300x480 FACING SOUTH

A PLAN illustrating landscape art on grounds unknown or unvisited can never be an entire success. Planting adapted to a northern exposure would be entirely unsuited to a southern, and so with each point of the compass. It would be useless to aim at sky effects when an old forest of tall trees is a next neighbor. A level surface requires a different treatment from a broken one. Vistas cannot be opened unless the artist knows the end of the vista. For these things there is nothing like a personal inspection of the ground.

This publication, however, is for those who cannot have professional aid or who desire to plant for themselves.

We have, therefore, made our plan for a level piece of ground, fronting south, with a width of 300 feet and a depth of 480 feet. It can be changed to any point of the compass, only bearing in mind that the evergreen trees and shrubs should be on the north and west sides.

For speedy effect, the trees are not placed at the distance from each other that would be proper for an avenue, and the shrubs can be always kept from crowding each other by judicious pruning *after* the flowering.

The walks and drives are those only which utility requires. Others require labor and are not so pleasant for walking as the shaved turf. These walks and drives should be made, if possible, with a substratum of twelve to eighteen inches of rough stone covered with the coarser and then the finer sifting of the brown Red Hook gravel, which is used in Central Park. Failing this, any other good gravel will answer. After being made they should be well rolled in wet weather. It will be noticed that to keep open a view of the western sky the evergreens west of the house are those of a lower growing character. Trees on the adjoining property may render this useless, but a sunset view is very desirable.

Below will be found a list of the best trees and shrubs, appended to each of which is a number corresponding with a similar number on the plan. This will greatly aid the planter. These numbers are sometimes the same for different classes but the symbol on the map will show where they belong.

A prominent feature in the plan is the avenue of Weeping Beeches on the east side (No. 34). The first of these should be planted twenty

feet distant from the front fence and from the east line and continue to the stable twenty feet apart and twenty feet from the east line. As these grow the inside branches can be cut away leaving only a shell. This will make, in time, a foliage covered way, close at the top, close at the sides, with irregularity of top outline. This covered way does not, we think, yet exist either in Europe or America, and will thus be unique in its beauty. A similar effect for narrow walks can be made with *Cerasus japonicum roseum*, which like the Weeping Beech grows upward while it droops. A similar effect can also be obtained with the Weeping Hemlock by training up a leading stem for ten feet and trimming out the inside. So also with the Japan Sophora.

A *Salisburia* should be planted at each corner of the house to be trained along its eaves. To fill the vacant space between the Weeping Beeches and the fence, a line of Peach Trees can be planted until the Beeches encroach upon them. The vines will go on the east fence. *Limonia trifoliata* should be trained against the south or east side of the house. The carriage-house should be covered with *Ampelopsis Veitchii*.

For the edge of the walk in the front street *Tilia Sulphurea* and *Acer Schwerdlerii* will be striking and very ornamental. They should be planted alternately and thirty feet apart. If, after planting, the trees or shrubs seem too far apart for immediate effect others can be temporarily placed between them. The circle near the *Porte Cochere* can be left in grass with the Weeping Hemlock in its centre.

The American Holly hedge around the drying ground will be a charming novelty, and by using small plants from pots, will be a success.

That as well as the Golden Yew and Golden Retinospora should be set two feet farther from the walk than shown on the plan.

The vinery for foreign grapes is essential to every gentleman's place. The fences on the north and west lines of the fruit and kitchen garden should be tight, and on them should be trained the stone fruits; these trees will escape the curculio only by being covered with mosquito netting.

They should be planted not less than ten feet apart.

The best time for planting is, Spring for Evergreens, Autumn for Deciduous.

EVERGREEN TREES AND SHRUBS

1 <i>Abies alba</i>	43 <i>Pinus massoniana aurea</i>	10 <i>Betula fastigiata</i>
2 " <i>alcockiana</i>	44 " " <i>variegata</i>	11 " <i>laciniata</i>
3 " <i>canadensis</i>	45 " <i>monticola</i>	12 <i>Carpinus betulus</i>
4 " " <i>atrovirens</i>	46 " <i>mughus compacta</i>	13 <i>Castanea Americana</i>
5 " " <i>macrophylla</i>	47 " <i>resinosa</i>	14 " <i>japonica</i>
6 " " <i>weeping</i>	48 " <i>strobilus</i>	15 <i>Catalpa aurea</i>
7 " <i>excelsa</i>	49 " " <i>compacta</i>	16 <i>Celtis occidentalis</i>
8 " " <i>conica</i>	50 " <i>sylvestris</i>	17 <i>Cerasus avium, dbl. white</i>
9 " " <i>elata</i>	51 " " <i>pumila</i>	18 " <i>japonicum, weeping</i>
10 " " <i>Gregoriana</i>	52 <i>Retinospora filifera</i>	19 <i>Cercis canadensis</i>
11 " " <i>inverta</i>	53 " " <i>aurea</i>	20 " <i>japonica</i>
12 " <i>nigra pumila</i>	54 " <i>obtusata</i>	21 <i>Chionanthus virginica</i>
13 " <i>orientalis</i>	55 " " <i>nana</i>	22 <i>Cornus Florida</i>
14 " <i>polita</i>	56 " " <i>pendula</i>	23 " <i>red flower'g</i>
15 " <i>pungens</i>	57 " <i>pisifera</i>	24 " " <i>weeping</i>
16 <i>Biota elegantissima</i>	58 " <i>plumosa aurea</i>	25 <i>Crataegus arbutifolia</i>
17 " <i>orientalis, golden</i>	59 " <i>squarrosa</i>	26 " <i>double white</i>
18 <i>Juniperus canadensis</i>	60 <i>Taxus aurea</i>	27 " <i>Paul's dbl. red</i>
19 " <i>hibernica</i>	61 " <i>cuspidata</i>	28 <i>Cytisus laburnum</i>
20 " <i>japonica, silver</i>	62 " <i>Jacksoni</i>	29 <i>Diospyros virginica</i>
21 " " <i>golden</i>	63 " <i>repandens</i>	30 <i>Fagus atropurpurea</i>
22 " <i>oblonga pendula</i>	64 " <i>Washingtonii</i>	31 " <i>cuprea</i>
23 " <i>sinensis variegata</i>	65 <i>Thuja Brinckerhoffii</i>	32 " <i>ferruginea</i>
24 " <i>suecica</i>	66 " <i>compacta</i>	33 " <i>laciniata</i>
25 " " <i>nana</i>	67 " <i>Hoveyi</i>	34 " <i>pendula</i>
26 " <i>sabina</i>	68 " <i>occidentalis, golden</i>	35 " <i>sylvatica</i>
27 " <i>virginiana glauca</i>	69 " <i>pyramidalis</i>	36 <i>Fraxinus aurea</i>
28 " <i>venusta</i>	70 " <i>siberica</i>	37 <i>Fraxinus concavaefolia</i>
29 <i>Picea cilicica</i>	71 " <i>Vervaeana, golden</i>	38 " <i>juglandifolia</i>
30 " <i>concolor</i>	72 " <i>Columbia</i>	39 <i>Gleditsia sinensis</i>
31 " <i>japonica</i>	73 <i>Thuopsis Standishii</i>	40 <i>Gymnocladus</i>
32 " <i>Hudsonica</i>		41 <i>Halesia</i>
33 " <i>nobilis</i>		42 <i>Kolreuteria</i>
34 " <i>nordmaniana</i>		43 <i>Larix Europaea</i>
35 " <i>pectinata compacta</i>		44 " " <i>pendula</i>
36 " " <i>pendula</i>		45 " <i>leptolepis</i>
37 " <i>pichta</i>		46 <i>Liquidambar</i>
38 <i>Pinus austriaca</i>		47 <i>Liriodendron</i>
39 " <i>densiflora</i>		48 <i>Magnolia conspicua</i>
40 " <i>excelsa</i>		49 " <i>cordata</i>
41 " <i>mandschurica</i>		50 " <i>hypoleuca</i>
42 " <i>massoniana</i>		51 " <i>Lennei</i>
		52 " <i>macrophylla</i>
		53 " <i>stellata</i>

DECIDUOUS TREES

1 <i>Acer cucullatum</i>	10 <i>Betula fastigiata</i>
2 " <i>rubrum</i>	11 " <i>laciniata</i>
3 " <i>Schwerdlerii</i>	12 <i>Carpinus betulus</i>
4 " <i>saccharinum</i>	13 <i>Castanea Americana</i>
5 <i>Aesculus hippocastanum,</i>	14 " <i>japonica</i>
double white	15 <i>Catalpa aurea</i>
6 " <i>hippocastanum,</i>	16 <i>Celtis occidentalis</i>
red flowering	17 <i>Cerasus avium, dbl. white</i>
7 <i>Alnus imperialis, cut leaf</i>	18 " <i>japonicum, weeping</i>
8 <i>Aralia spinosa</i>	19 <i>Cercis canadensis</i>
9 <i>Betula atropurpurea</i>	20 " <i>japonica</i>

SHRUBS—DECIDUOUS

54 <i>Magnolia Thompsoniana</i>	7 <i>Ilex opaca</i>	47 <i>Eleagnus hortensis</i>
55 <i>Malus coronaria, double</i>	8 <i>Kalmia latifolia</i>	48 " <i>longipes</i>
56 " <i>Halleana</i>	9 <i>Limonia trifoliata</i>	49 <i>Euonymus alata</i>
57 " <i>spectabilis</i>	10 <i>Mahonia aquifolia</i>	50 " <i>Americanus</i>
58 <i>Persica camelliaeflora</i>	11 <i>Rhododendron, assort'd</i>	51 " <i>Europaeus</i>
59 " <i>double white</i>		52 " " <i>purple</i>
60 " <i>purple leaved</i>		[leaved
61 <i>Phellodendron amurense</i>		53 " " <i>nanus</i>
62 <i>Populus golden</i>		[erectus
63 <i>Prunus Pissardi</i>		54 " <i>latifolius</i>
64 <i>Quercus cerris</i>		55 <i>Exochorda</i>
65 " <i>concordia</i>		56 <i>Forsythia Fortunei</i>
66 " <i>Daimio</i>		57 " <i>suspensa</i>
67 " <i>fastigiata</i>		58 " <i>viridissima</i>
68 " <i>nigricans</i>		59 <i>Hibiscus Syriacus</i>
69 " <i>phellos</i>		60 " " <i>compacta</i>
70 " <i>palustris</i>		61 " " <i>Buist's</i>
71 " <i>rubra</i>		62 " " <i>tota alba</i>
72 <i>Rhus coccinea</i>		63 <i>Hydrangea nivea</i>
73 " <i>osbeckii</i>		64 " <i>grandiflora</i>
74 <i>Robinia hispida</i>		65 " <i>quercifolia</i>
75 <i>Salisburia</i>		66 " <i>radiata</i>
76 <i>Salix laurifolia</i>		67 <i>Hypericum kalmianum</i>
77 <i>Sophora, weeping</i>		68 " <i>prolificum</i>
78 <i>Sorbus Americana</i>		69 " <i>aureum</i>
79 <i>Staphylea bumalda</i>		70 <i>Itea virginica</i>
80 <i>Tamarix indica</i>		71 <i>Kerria japonica</i>
81 <i>Taxodium sinensis</i>		72 " " <i>variegated</i>
82 <i>Tilia Americana</i>		[leaf
83 " <i>alba pendula</i>		73 <i>Ligustrum ovalifolium</i>
84 " <i>argentea</i>		74 <i>Lonicera fragrantissima</i>
85 " <i>laciniata rubra</i>		75 " <i>Standishii</i>
86 " <i>sulphurea</i>		76 " <i>tartarica</i>
87 <i>Ulmus fulva pendula</i>		77 " <i>xylostemum</i>
88 " <i>purpurea</i>		78 <i>Paeonia moutan</i>
89 <i>Virgilia lutea</i>		79 <i>Philadelphus coronarius</i>
		80 " <i>golden leaved</i>
		81 " <i>Gordonianus</i>
		82 " <i>grandiflorus</i>
		83 <i>Potentilla fruticosa</i>
		84 <i>Prinos verticillata</i>
		85 <i>Prunus maritima</i>
		86 " <i>sinensis, dbl. white</i>
		87 " " <i>rose</i>

SHRUBS—EVERGREEN

1 <i>Andromeda catesbaei</i>	43 <i>Cotoneaster microphylla</i>
2 <i>Azalea amena</i>	44 " " <i>purple</i>
3 <i>Buxus rotundifolia</i>	45 " <i>gracilis</i>
4 <i>Cotoneaster japonica</i>	46 " <i>scabra</i>
5 <i>Crataegus pyracantha</i>	
6 <i>Daphne cneorum</i>	

SYMBOLS

DECIDUOUS TREES

DECIDUOUS SHRUBS

EVERGREEN TREES

EVERGREEN SHRUBS

VINES

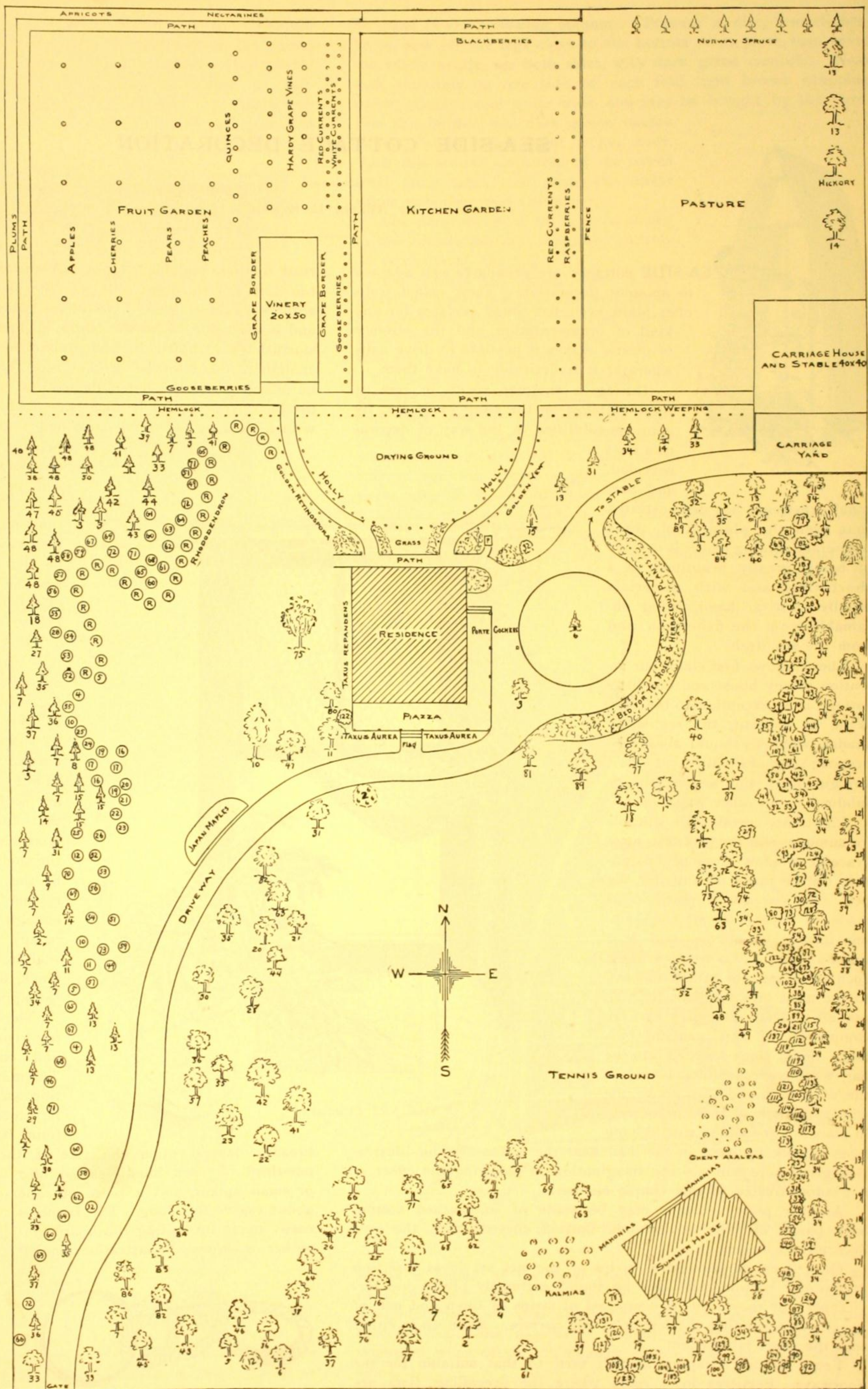
SCALE
20 FEET

SHRUBS—DECIDUOUS (Continued)

- 88 *Prunus triloba*
- 89 *Rhodotypos*
- 90 *Ribes fragrans*
- 91 " *Gordonianum*
- 92 *Salix rosmarinifolia*
- 93 *Sambucus aurea*
- 94 *Spiraea Billardii*
- 95 " *callosa*
- 96 " " *alba*
- 97 " " *crispifolia*
- 98 " " *Fortunii*
- 99 " *macrophylla*
- 100 " *chamaedrifolia*
- 101 " *Douglasi*
- 102 " *opulifolia aurea*
- 103 " *prunifolia, double*
- 104 " *Reevesiana*
- 105 " " *double*
- 106 " *Thunbergii*
- 107 *Stuartia pentagynia*
- 108 *Styrax japonica*
- 109 *Symphoricarpos racem*
- 110 *Syringa Emodii*
- 111 " *Josikaea*
- 112 " *persica*
- 113 " " *alba*
- 114 " " *laciniata*
- 115 " *rothomagensis*
- 116 " *sinensis*
- 117 " " *alba*
- 118 " *vulgaris alba*
- 119 " *President Massart*
- 120 " *virginialis*
- 121 " *japonica*
- 122 *Tamarix Africana*
- 123 *Viburnum dentatum*
- 124 " *japonicum latifol*
- 125 " " *variegated*
- 126 " *lantana*
- 127 " *macrocephalum*
- 128 " *oxycoccus*
- 129 " *opulus sterilis*
- 130 " *plicatum*
- 131 *Weigelia hortensis nivea*
- 132 " " *rubra*
- 133 " *Lavallee*
- 134 " *candidissima*
- 135 " *rosea*
- 136 " *nana variegata*
- 137 *Yucca*

VINES

- 1 *Actinidia*
- 2 *Ampelopsis japonica*
- 3 " *quinquefolia*
- 4 " *Veitchii*
- 5 *Akebia quinata*
- 6 *Aristolochia siph*
- 7 *Celastrus paniculatus*
- 8 " *scandens*
- 9 *Clematis, assorted*
- 10 *Hedera daurica*
- 11 " *hibernica*
- 12 *Hydrangea scandens*
- 13 *Lonicera belgica*
- 14 " *brachypoda*
- 15 " *canadensis*
- 16 " *fuchsoides*
- 17 " *Halleana*
- 18 " *Magnevilla*
- 19 " *reticulata aurea*
- 20 " *semper virens*
- 21 " *superba*
- 22 " *Brownii coccinea*
- 23 *Periploca graeca*
- 24 *Tecoma grandiflora*
- 25 *Wistaria sinensis*
- 26 " " *alba*



PLAN OF A PLOT 300 X 480 FEET—FACING SOUTH

SEA-SIDE COTTAGE DECORATION

BY ADELIA B. BEARD



SEA-SIDE cottages are peculiarly well adapted to amateur decoration. Their ceiled walls offer plain, even, flat tinted surfaces for any kind of ornamentation, and the absence of plaster makes it possible to drive nails wherever it is desirable to have them.

During a summer spent in one of these cottages on the coast of Maine, its many possibilities in the way of decoration were revealed, and personal experience has demonstrated that even the plainest of these temporary abiding places is capable of being greatly beautified in a short time, and with materials usually close at hand, being obtainable from the fishermen and from the sea itself.

The windows first claim our attention in any house and our little cottage is no exception to the rule. With, or without, the regulation shades, windows should always be draped; the formality of their straight lines and angles can be subdued in no other way.

Light, airy curtains are suitable for summer, and the prettiest, most graceful window drapery imaginable can be made of ordinary fish net. An oar for a pole; rings made of rope (Fig. 2); the looping formed of a rope tied in a sailor's knot; and a wooden hoop, such as is used to attach the sail to the mast on a sail-boat (Fig. 1), are all that are necessary for the completion of this nautical curtain. Small rings screwed into the oar, with corresponding hooks in the window frame just above the window, will hold the oar securely in place. The looping should hang from a hook fastened in the wall near the window. The illustration given here will aid the imagination in picturing the effect of a window treated in this simple manner.

Another pretty curtain may be made of unbleached cotton, with bands of blue at top and bottom, covered with the ever decorative fish net.

Gray linen curtains, with strips of the net set in as insertion at top and bottom, will also be found extremely pretty and serviceable; or they may be composed of strips of linen and net, of equal width, running the length of the curtain. Made up in either way the effect is excellent.

From window drapery we will turn to that suitable for the doorways. Portieres in a room where the prevailing tints are gray and light wood color, should not present too violent a con-

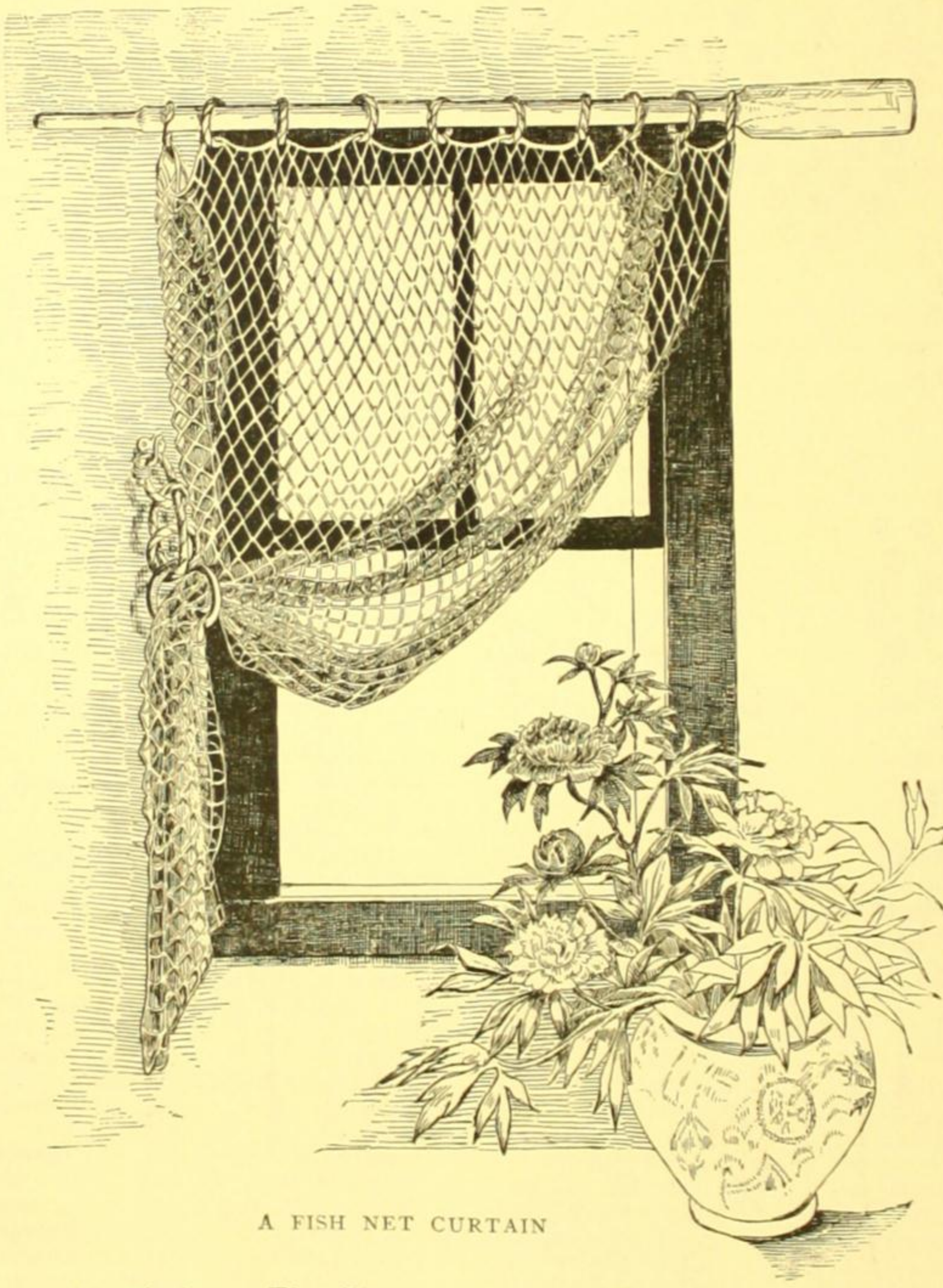
trast to those subdued tones. A curtain of wood brown, neither too dark nor too light, will give the needed strength and decision, without destroying the harmonious coloring. One can be quickly and easily made of brown canton flannel and decorated with dried star-fish—as shown in the illustration. The star-fish are soft enough to admit of being sewed to the curtain, and they should be placed with the underside out, as that is much prettier than the back, showing as it does two shades of color. A heavy rope with a knot at each end, stretched taut across the doorway and

held in place with two hooks, will answer for a pole, and the drapery can be hung from it with iron rings. If the rope is very heavy the ends will have to be parted into strands before the knots can be tied. Figs. 3 and 4 show the manner of tying the knot and fastening the end of a moderately heavy rope.

Bookshelves made of half of a flat-bottomed row-boat is not only an appropriate piece of furniture for a cottage by the sea, but also a very useful one. The fact of its shape allowing it to occupy a corner makes it a welcome addition to the furnishing, since there are so few things adapted to fill that angle. Fig. 5 shows half of boat with cleats nailed on to hold the shelves, which must be made to fit the boat. The shelves, when resting on the cleats, are secure enough and need not be fastened in any other way. If the bookshelves, when finished, are painted black, unvarnished, they will have the appearance of being ebonized.

The hat rack, which our drawing represents, makes an excellent and convenient hall decoration. The materials used in its construction are a small mirror, which can be procured at any country store; four boards, whose length and

breadth depend upon the size of the mirror; two oars, with one-third of each handle sawed off; one dozen large-sized nails, or small spikes, and a piece of rope about twelve feet long. The frame is easily made by nailing the boards together as shown in illustration, placing



A FISH NET CURTAIN

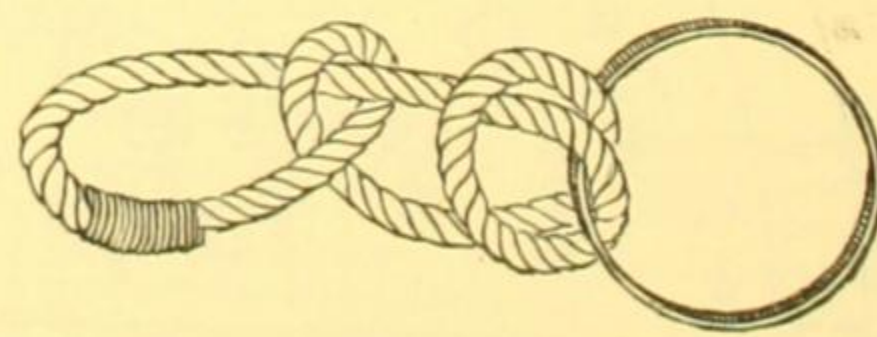
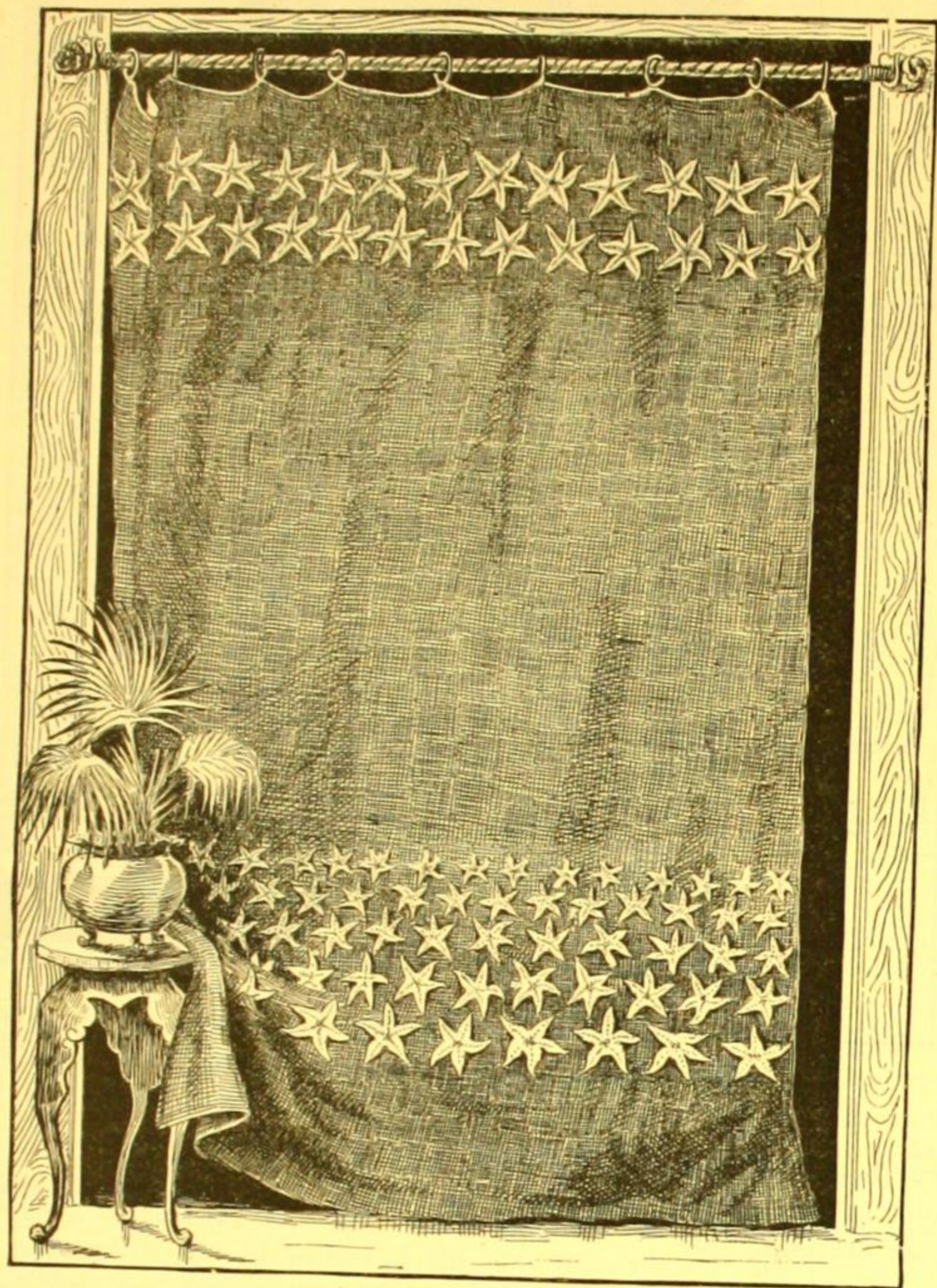


Fig. 1



Fig. 2

the end boards on top. The opening left in the centre should be one inch smaller than the mirror. When eight of the spikes have been driven into the frame at regular distances the mirror must be fastened on the back with strips of leather or sail-cloth, as shown in diagram (Fig. 6). The diagram also shows how the oars are held in place and the rope attached. The knot in



A CANTON FLANNEL PORTIERE

which the rope is tied is called a true-lover's knot, and can readily be fashioned by studying the diagram. Small nails driven through the rope where it crosses the back of the oar will keep the loops from slipping out of place. The remaining four spikes are to suspend the hat rack from, and must be driven into the wall so that two will hold the top loops, and the others the extreme upper corners of the side loops.

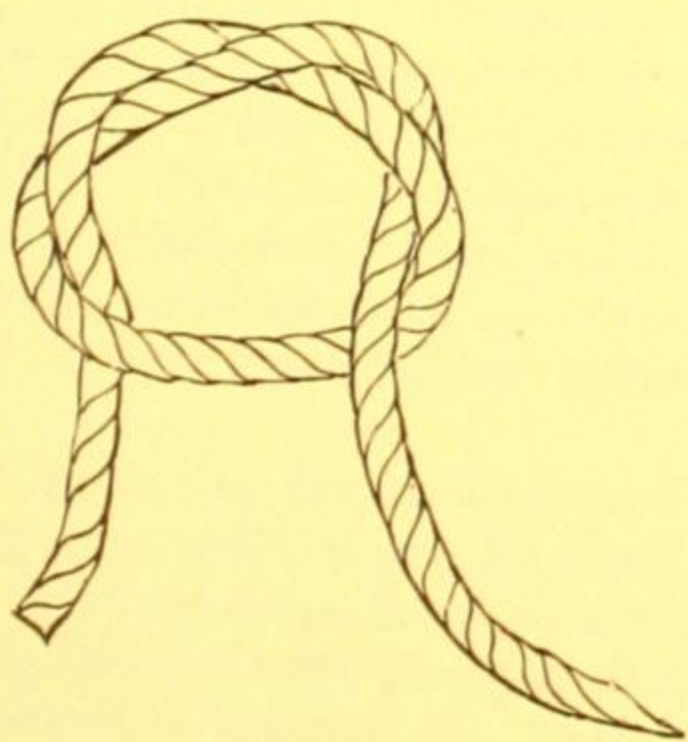


Fig. 3

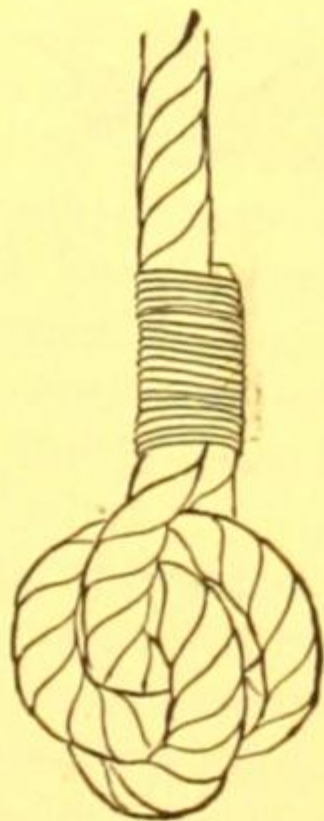


Fig. 4

The frame and oars may be painted black and the spikes and ropes gilded, or the whole will look well painted yellow or brown.

A handsome screen, adding not a little to our decorations, can

be made in the following manner: Procure a nice, firm clothes-horse, saw off the legs close to the bottom cross piece, then cover the whole neatly, on both sides, with dark green cambric. Next tack smoothly on one side of each fold light brown wrapping paper, which comes quite wide, and may be bought by the yard. For the border use dark green canton flannel cut in strips eight inches wide. Tack this around each fold of the screen with gimp tacks, and paste the inside edges smoothly over the paper.

The decorations of the screens shown in the illustration are composed entirely of products of the sea.

Two panels are shown. One is decorated with sea-weed, star-fish and shells. Sea-weed and shells also are used on the other, but a group of horseshoe crabs take the place of the star-fish.

Sea-weed of various kinds suitable for this use can be found along the coast, and they may be gathered and dried in this way: Loosen the sea-weed from whatever it is attached to, and while still in the water slip a piece of stiff paper beneath it and lift it out. Quite a number can be carried on the same paper, but they should be taken home as soon as possible and placed in a tub of fresh water. The tub will give the larger kinds room to spread out, when a smaller vessel would cramp and rumple them. On

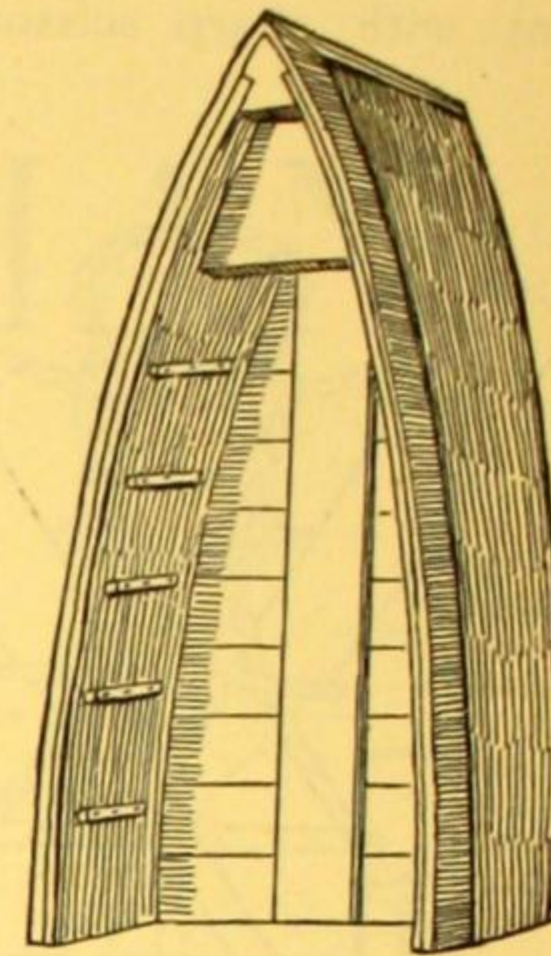
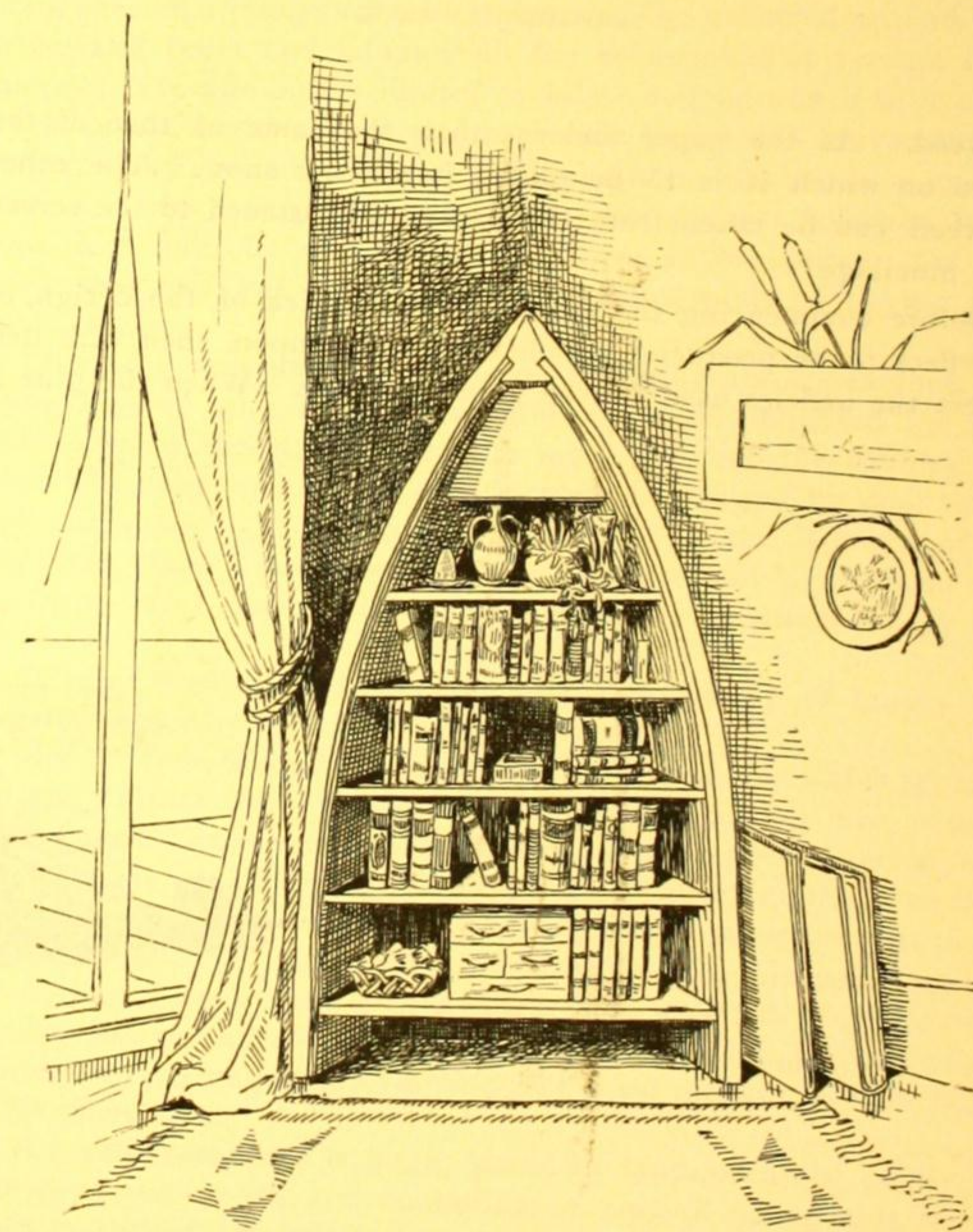


Fig. 5



BOOKSHELVES MADE FROM HALF OF A ROW-BOAT

sheets of paper, of the kind used for the screen, carefully lift each sea-weed out of the water, and with a long pin gently straighten the parts that are too much folded, and separate those that lie too close together. Should the plant be very much crumpled when taken out, quickly replace it in the water and try again.

When they have all been satisfactorily spread on the paper and have become partially dry, they must be pressed by laying

them between sheets of newspapers spread on a table or floor, with a board on top. On the board place some kind of weight, not too heavy. When the sea-weed is quite dry it will be found that some varieties will cling closely to the paper on which it has been spread, while others can readily be removed. Do not try to separate the first-mentioned kind from the paper, but with sharp scissors neatly trim off the edges around the

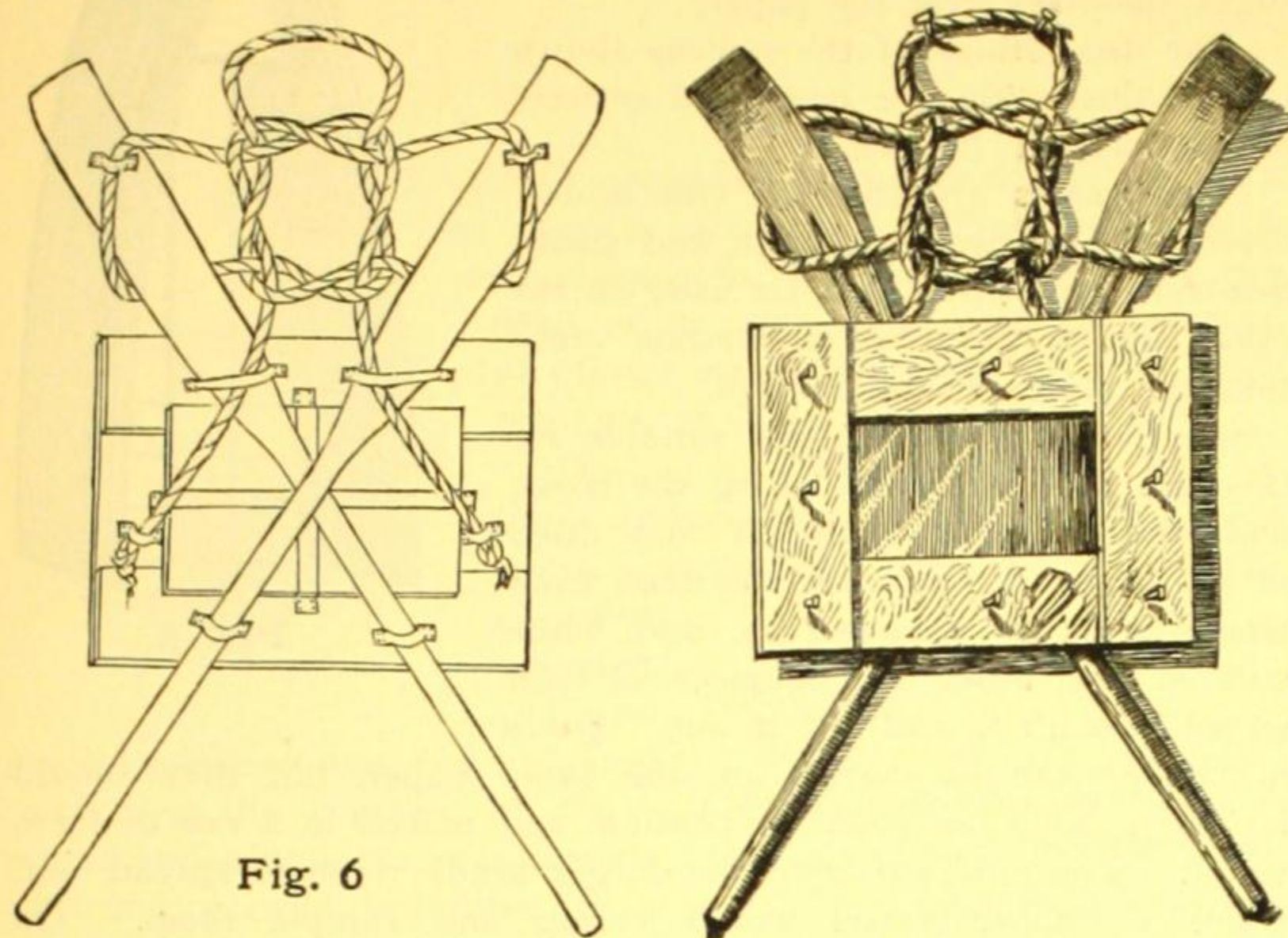
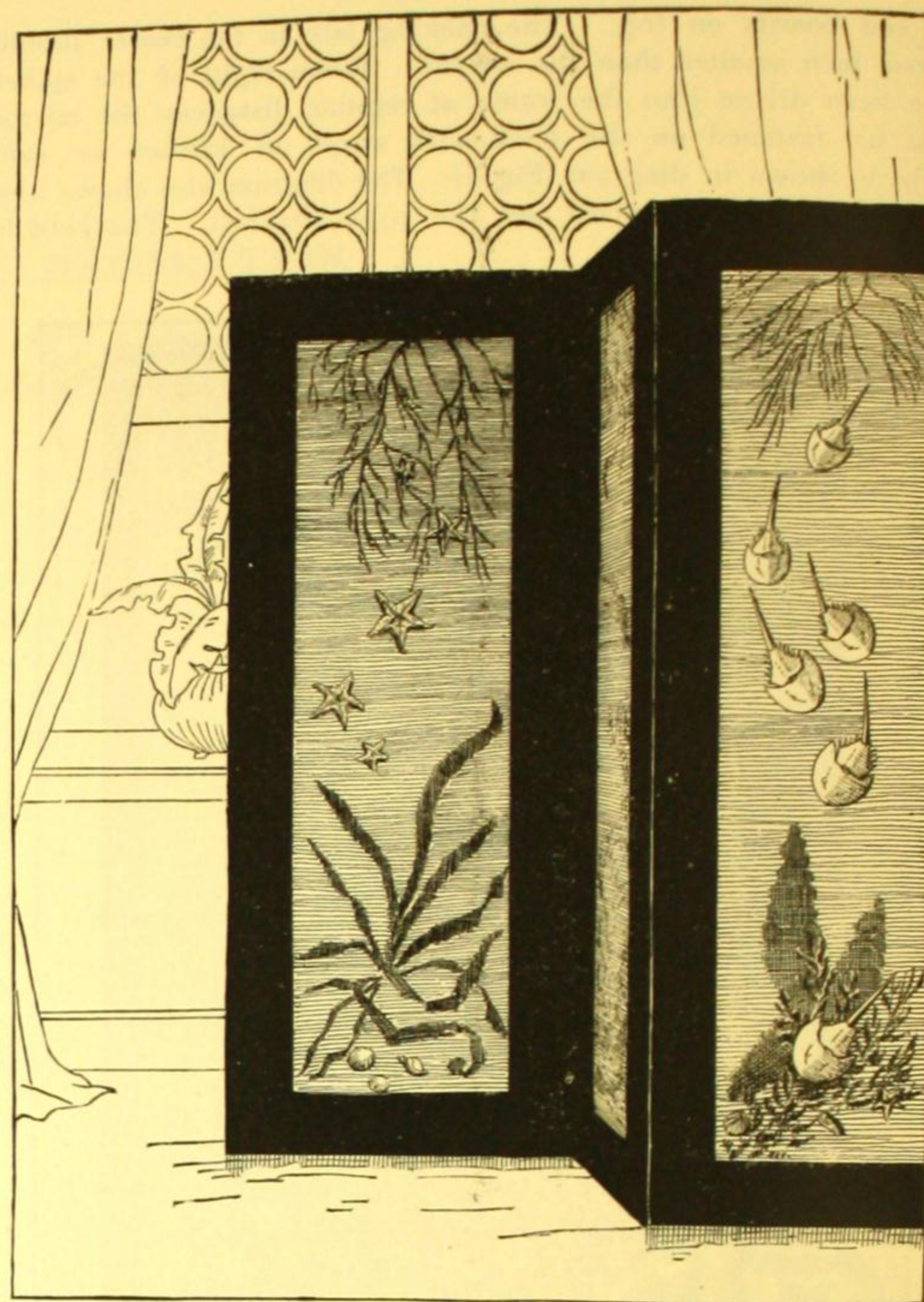


Fig. 6

A SEA-SIDE HAT-RACK

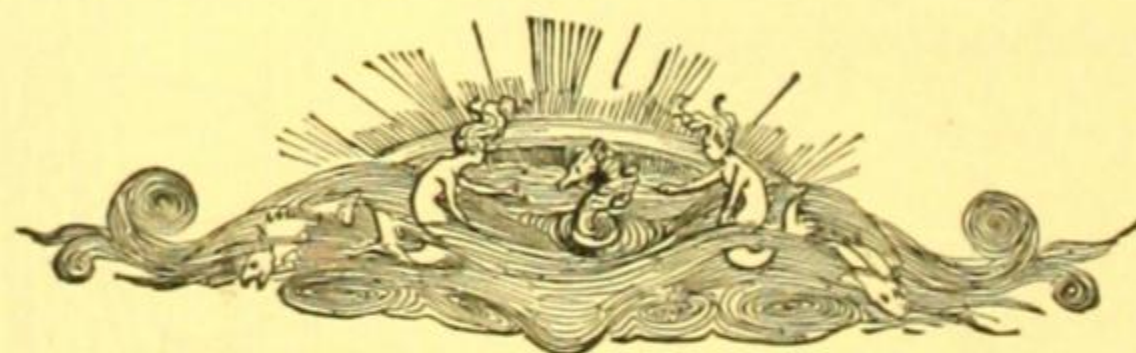
sea-weed. As the paper underneath is the same as that of the screen on which it is to be pasted it will not show. The other sea-weed can be taken from the paper and fastened to the screen with mucilage.

Before commencing the decoration some idea of the design, or the effect to be produced, should be decided upon, then with deft fingers the articles used can be glued in place. When the glue is



SCREEN DECORATED WITH SEA PRODUCTS

dry the whole must be given a coat of white varnish. This will help to hold things in place, and will also keep the sea-weed from chipping off.



THE HABITATIONS OF MAN IN ALL AGES

By VIOLLET-LE-DUC

Translated by BENJ. BUCKNALL, Architect

CHAPTER XVIII

THE ROMANS

IMMEDIATELY after the civil wars, Rome, under the sway of Augustus, was beginning to undergo a transformation. The taste for luxury and for sumptuous habitations, unknown to the Republic, was spreading among all classes of citizens; and there was not an *advocatus* or a merchant who did not possess an abode more elegant and spacious than were the patrician dwellings in the time of the Scipios.

Rome, whose population was composed of very diverse elements, was affected by the influence of the arts belonging to the peoples to which she owed her origin, and which she had successively conquered or chosen as allies. Her architecture, Etruscan in its origin, had been gradually enriched by additions from Magna Græcia, Sicily, Attica and Asia Minor; accordingly, at the commencement of the imperial era, it exhibited a blending of arts differing in their principles and in their form. Augustus, in whose character moderation prevailed, was of opinion that Rome should be content with the conquests achieved under the Republic, governing the provinces by a wise administration; and that of these materials combined she should found an impregnable empire, without overstepping limits which he considered as definitively settled.

During the Republican period, Rome had scarcely had leisure to think of the arts, and of the pleasures and comfort of which they afford the means. At the conclusion of the Social War, however, a taste for the arts was diffused among the inhabitants of the victorious city. The cities of Samnium, Etruria and Lucania, which contained so many magnificent buildings, furnished, on their destruction by Sulla, an immense booty, whose artistic worth and importance exercised a very considerable influence on the character of the Romans.

The treasures of Greece also contributed to imbue the Romans, during the last years of the Republic, with a taste for the arts; and after the wars of Sulla, there was not a Roman citizen of any consideration who was unacquainted with the Greek language, and who did not desire to have in his house some productions of Athenian skill.

The far-sighted policy of Augustus suggested the advantage to be derived from stimulating that growing taste for objects of art which was manifesting itself among the Roman aristocracy; well aware as he was that the habit of luxury is one of the most effective means of holding the upper classes in vassalage. Therefore, although

he lived simply himself and continued to inhabit a modest dwelling, he looked with favor on those of the patricians who, in their habitations, affected a luxury till then unknown, who gathered around them artists and poets, and adopted all the refinements of foreign introduction. He who builds himself a palace and adorns it with costly works of art is not a conspirator. To encourage this movement, the emperor had the temples and public edifices rebuilt on a grander scale and with costly materials. This example was followed by all who were desirous of enjoying the favor of the prince; for they knew that this was the most advantageous mode of paying their court to him.

Not only was the city of Rome changing its appearance, and being covered with sumptuous buildings which delighted the gaze and occupied the attention of the multitude, but the country districts witnessed the erection of *villæ* which contrasted, by their extent and magnificence, with the country houses of the Romans of the Republic; these having been usually characterized by extreme simplicity as mere centres of farming operations in which luxury had no place.

It must be observed, however, that this display of luxury was dictated rather by vanity than by love of art.

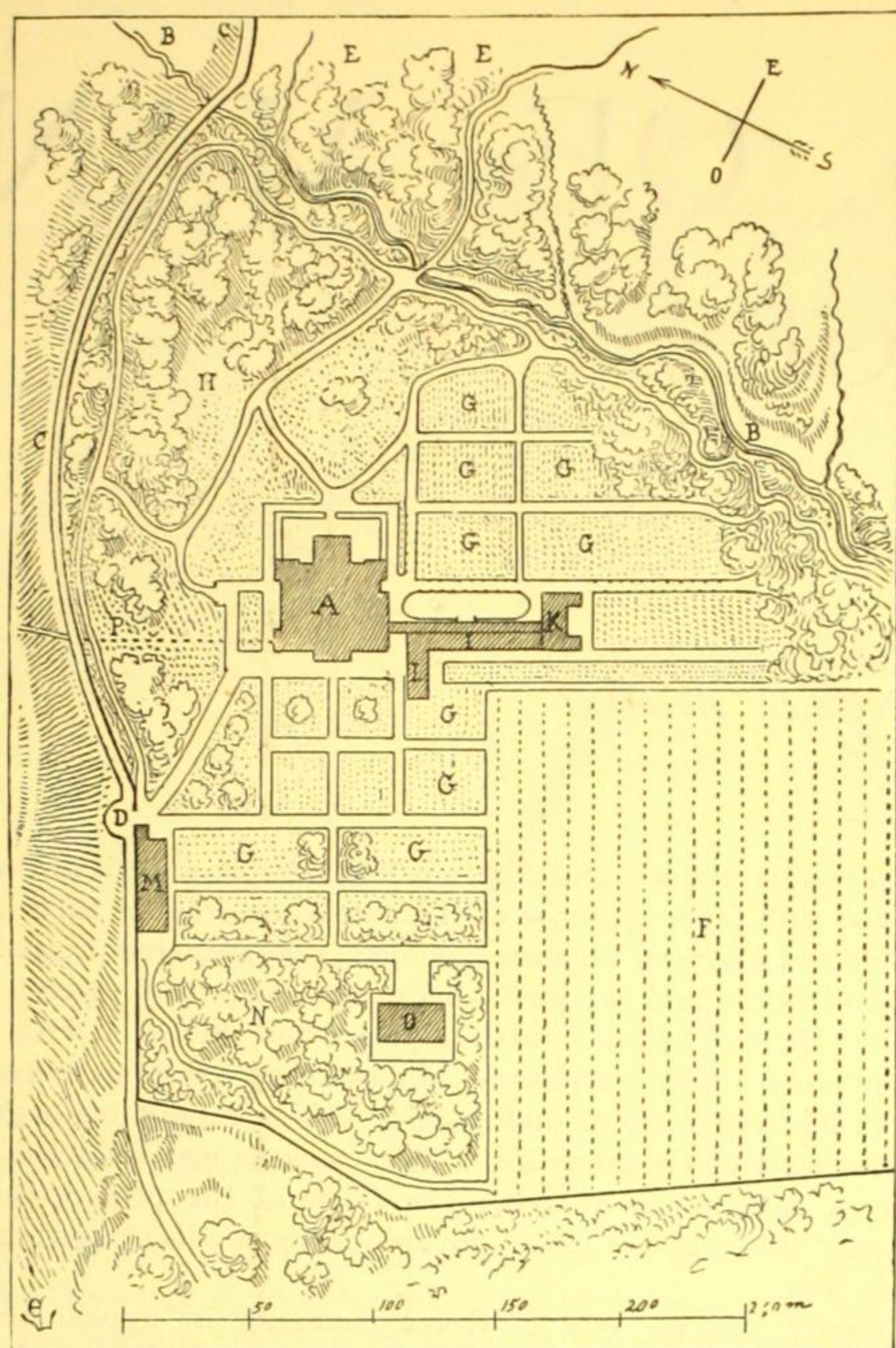
Not far from Rome, on the slope of the mountains which separate ancient Latium from the country of the Volsci, and near a small town called Lanuvium, might be seen at the epoch referred to a *villa* of moderate size, recently built for a certain Mummius, a wealthy patrician. This Mummius, after having played an active part in the civil war, has, like many others, finally selected his party on the strength of those recent events which have invested Augustus with the supreme power; and withdrawing from public life, he has devoted himself to the tranquil enjoyment of the good things that have fallen to his share.

His *villa* comprises a large extent of land, occupied partly by vineyards and woods, and consisting, in part, of open fields in the plain, cultivated by *coloni*. This beautiful estate, which is watered by the Lanuvius, is approached by the Appian way.

Fig. 68 presents the general plan of the villa. The ground rises rather abruptly towards the north-west, so that the principal building A is sheltered from the violent winds coming from the sea, and the keen blasts from the north.

The Lanuvius, which rises at a short distance from the estate, is seen at B, flowing southwards towards the Pontine Marshes. The road, which branches off the Appian way, describes a wide curve at C in order to avoid the sudden changes of level, and abuts on the enclosed gardens at D. The woodland extends on the north-east side

at E as far as the Appian way, while F is occupied by vines. At G are the orchards and kitchen gardens; the pleasure gardens being at H. From the principal building A, extends a long gallery I, with *xystus* (a covered promenade) to a smaller building K, which serves as a retreat for the proprietor when he wishes to be alone. At I are the



GENERAL PLAN OF ROMAN VILLA.—FIG. 68

quarters for the slaves attached to the service of the house; while those who have the care of the gardens, inhabit the building M, near the entrance-gate. A grove of olive trees extends along the hillside at N, and at O is a small building for the oil and wine presses.

Let us now examine the abode of the proprietor (Fig. 69.) At A is a long vestibule, barrel-vaulted, and by its position adapted for the convenience of visitors awaiting an audience, who may walk about or rest on the benches placed in the two *exedrae* (semi-circular rooms or recesses) at the ends. This vestibule is very simply decorated with a few paintings. The entrance B is kept by the porter whose room is at C.

At D is a waiting-room for the accommodation of those who are not introduced into the *atrium* E, with its *impluvium* in the centre. It is there that the clients assemble when they are waiting for the master to accompany him anywhere, or to consult him on their affairs. The great *impluvium* is at F, surrounded with porticos supported by stone columns. In the centre is a basin and fountain surmounted by a bronze statue, and near the north end an *exedra* of white marble looking due north, and where, when the air is cold, persons may rest and converse in the sunshine.

At G, an inner vestibule leads to the great *triclinium* G, in which from fifteen to eighteen guests may be easily accommodated. The small private *triclinium* is at H. At I and J two rooms serve—one for a cloak-room, the other for a pantry. A vaulted library is placed at K; and the room U, also vaulted and receiving light from a circular orifice contrived in the centre of the hemisphere, serves as a place for family gathering during the heat of the day, being cool and lofty.

At T is a strong-room, in which plate and jewelry are kept. The bed-chambers are at K.

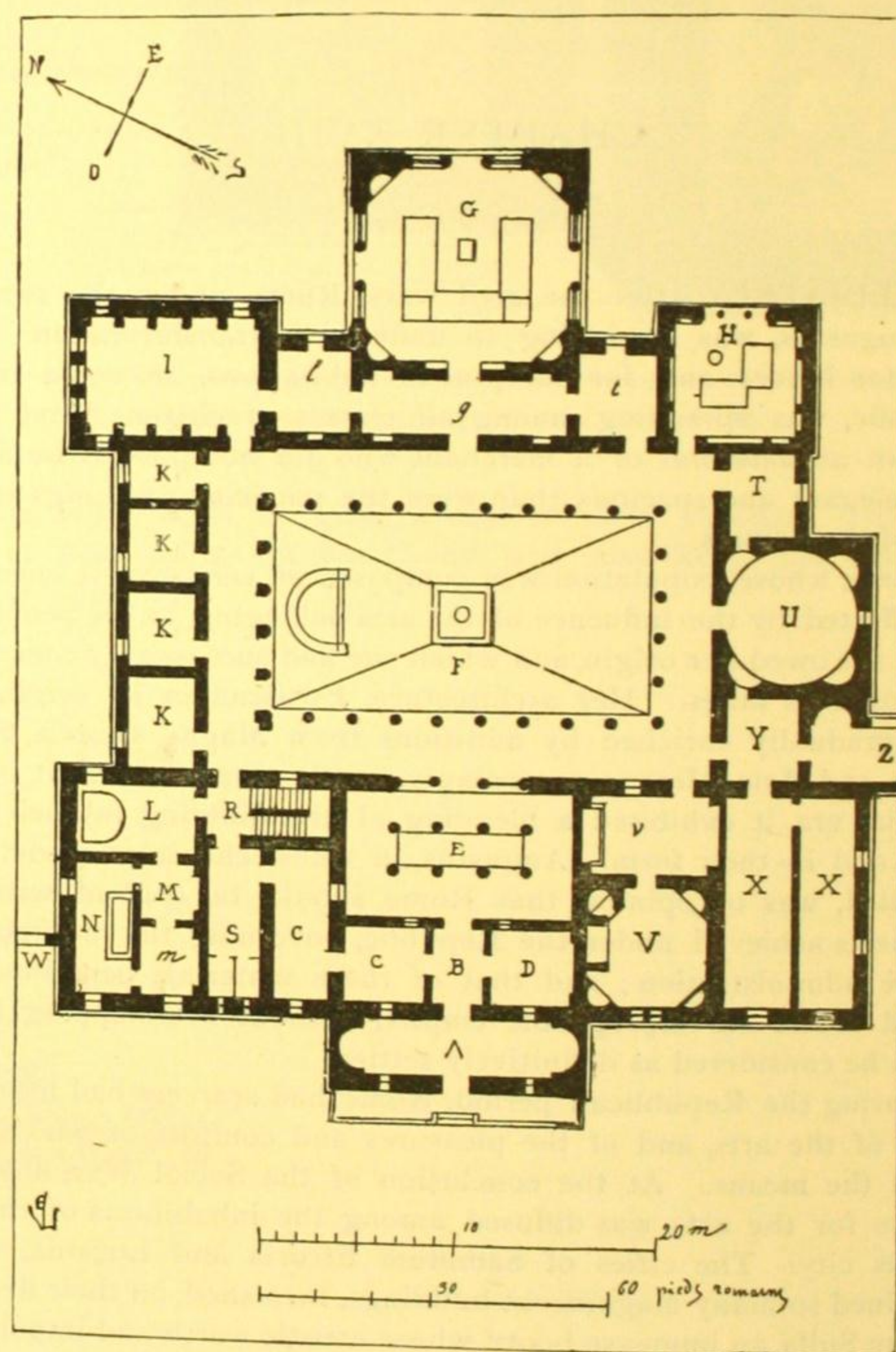
The baths comprise a first room or *frigidarium* L, with a large basin of cold water; next, two rooms M and m for hot vapor, and the room N intended for tepid baths.

Over the *frigidarium* is placed the reservoir supplied by the waters of the aqueduct W. At S are the latrines.

The kitchen is placed at V; it is arched, and its octagonal vault is terminated by a flue which carries off the odors and the smoke. The dormitories of the slaves who are specially attached to the service of the proprietor are placed at X X. But several of them are every night on guard in the different parts of the house, and are stationed in the *triclinium*, or under the porticos.

At R are two flights of stairs; one leading down to the cellars, the other ascending to the upper story, which is raised over the whole of the north-west wing. This first floor is occupied by bed-chambers. A fosse cuts off from the garden all the eastern part of the dwelling, on which side are the great and small *triclinia*. Vine-covered trellises screen the alleys along the *xystus*, and in front of the entrance. (See the General Plan, Fig. 68.)

From the building K, which serves for a retreat, the prospect is delightful. Over the woods, which slope down towards the south, the view comprises nearly the whole course of the Lanuvius which winds among tumbled rocks; beyond, the Pontine Marshes, resembling an immense green carpet dipping into the sea. In the back-



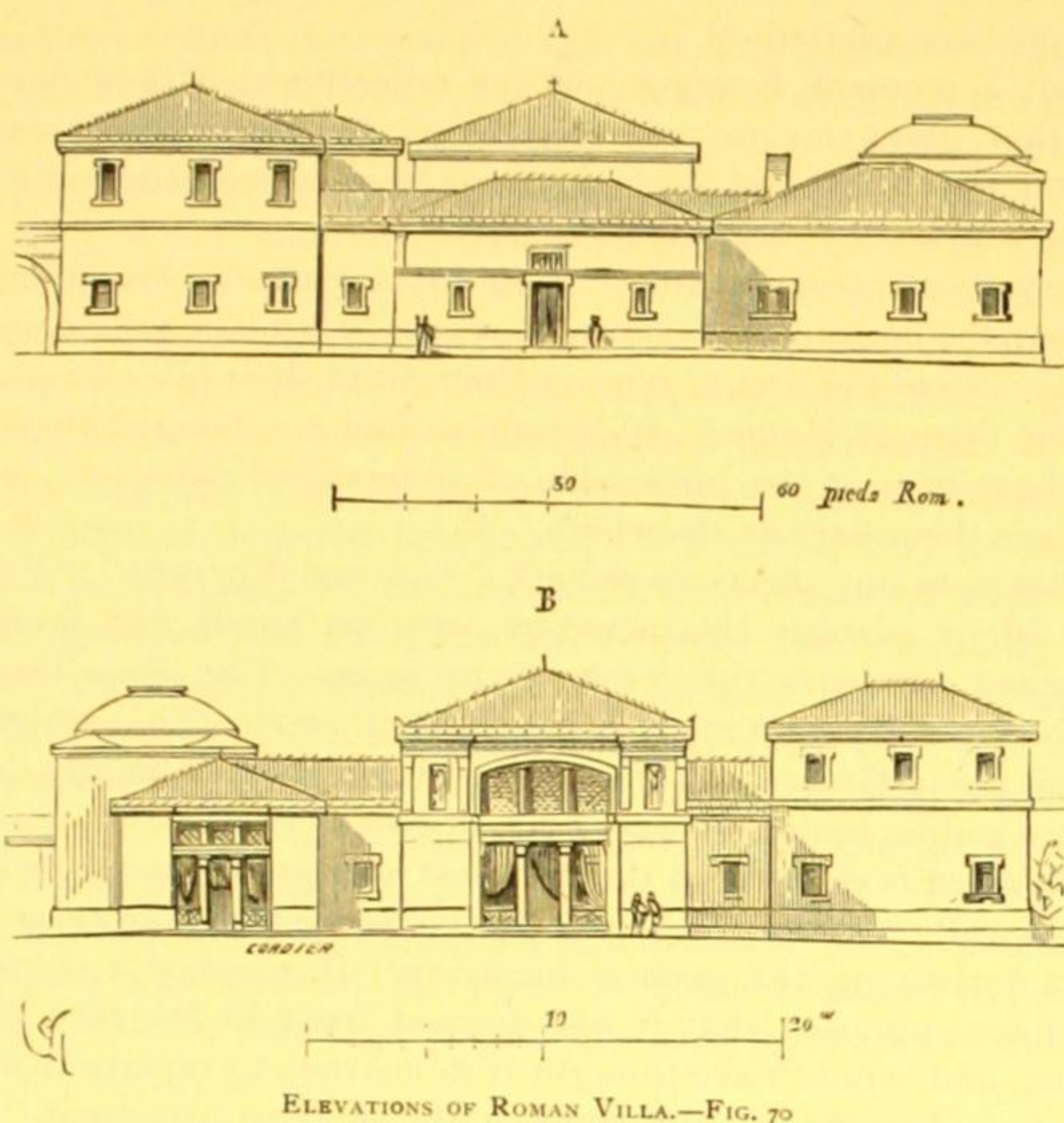
PLAN OF THE HABITATION OF ROMAN VILLA.—FIG. 69

ground, the Volscian mountains and the rugged summit of the Circaean promontory. It is during the Saturnalia that the master is most inclined to retire to this little sanctum; for, at that time, the house is filled with noise and bustle. This building contains a small *triclinium*, a room open towards the south, a small library, and a few bedrooms. The long gallery and the museum afford a covered promenade in bad weather, since the museum is completely shut in on the western side, whence comes the rain and the sea-wind.

Even during the later summer heats there is nothing to be apprehended from the pernicious air of the Pontine Marshes; for the *villa* is considerably elevated above the plain.

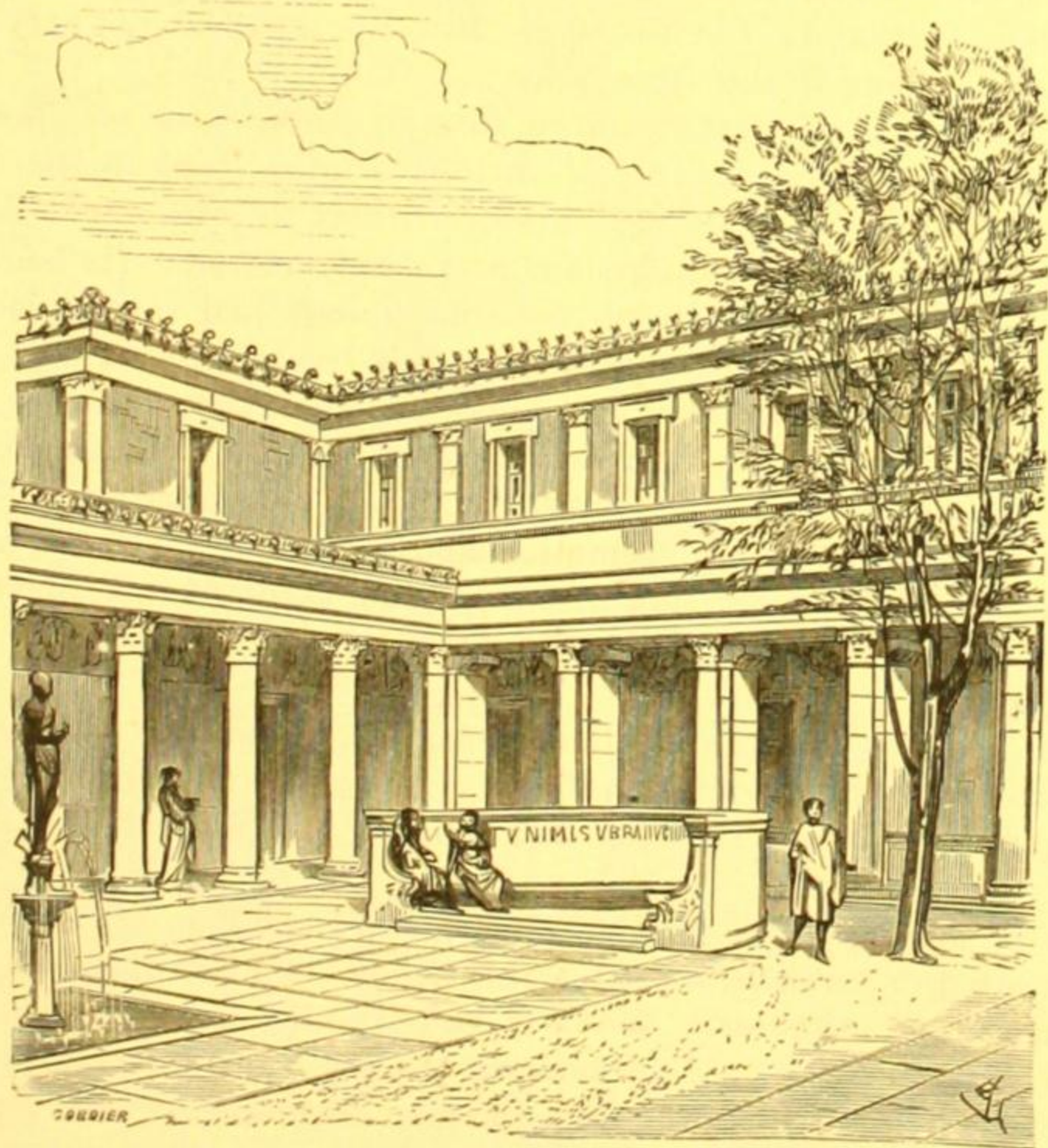
Externally these buildings affect great simplicity, particularly on the entrance side, as the elevation A (Fig. 70) shows.

The opposite front B, on which the *triclinium* opens, has more pretension; but Mummius has reserved for the interior all the more striking decorative features of the mansion.



ELEVATIONS OF ROMAN VILLA.—FIG. 70

The great court, with its *impluvium* in the centre, and its *exedra*, is one of the parts of the *villa* which presents a particularly attractive appearance (Fig. 71). Two aged laurels, which Mummius has decided on preserving amid these new buildings, afford a little shade in the court, which is, moreover, refreshed by the fountain in the centre. The portico of the north side, having to sustain the story situated above, consists of columns attached to piers terminated by brackets. These piers and columns are of stone, finely coated with stucco colored red and white; whilst the walls at the back of the portico are



INTERIOR VIEW OF ROMAN VILLA.—FIG. 71

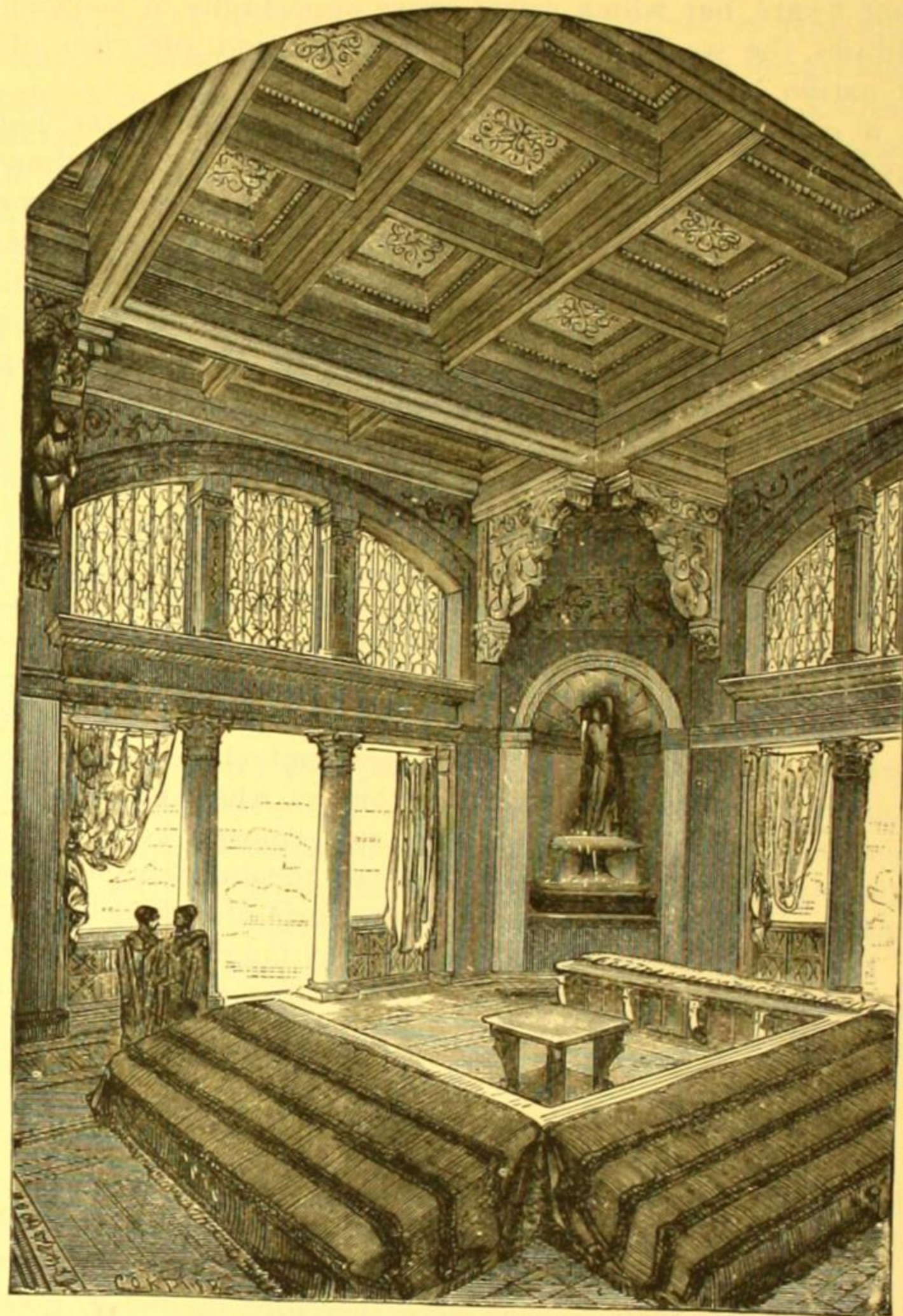
covered with painting in which dark tones predominate. The entablatures are, in like manner, made of stone stuccoed and painted. All the walls are of brick, with colored stuccos outside and inside.

The large *triclinium* and library are certainly the finest part of this villa. This *triclinium* (Fig. 72) commands the country on three sides, through three large arched openings divided by marble col-

umns surmounted by their entablature and by pilasters. All the upper part of these openings above the entablature, is closed with extremely fine trellis-work of bronze, filled in with colored glass. Eight large brackets of carved wood support, at the corners, a wooden ceiling covered with paintings of a subdued tone. The mosaic pavement is most carefully executed, and all the walls are adorned with paintings. On the four narrow sides of the octagon are left niches, each of which contains a statue of a nymph pouring water into a porphyry basin.

In bad weather the openings between the columns are closed with thick curtains. But the aspect of this hall shelters it from the disagreeable winds, as well as from the excessive heat of the sun; the *villa* being also sheltered by the mountain on the north side.

Mummius having almost completely withdrawn from public life, pays only very short visits to Rome, and passes the greater part of the year in his Lanuvian *villa*, devoting himself to study and the



TRICLINIUM OF ROMAN VILLA.—FIG. 72

chase, and entertaining a few chosen friends there. At less than two hours' distance is Antium, whence all kinds of supplies can be procured—fish, spices, and commodities from every quarter; so that all the conveniences of life are readily obtained, and only a moderate staff of slaves is required.

The relations kept up by Mummius with friends in Greece have enabled him to collect in his library and museum Greek manuscripts, statues and pictures, of which he is a great amateur; and a portion of his means is devoted to the acquisition of these works of art. It is, moreover, a fashion with the Roman aristocracy thus to collect the marbles, pictures and manuscripts which Athens continually produces, and for which the Romans pay pretty dearly.

Mummius has in his employ a Greek freedman, who instructs his children, acts as his secretary, and takes care of his collections.

This freedman, whose name is Caustis, is an intelligent young man who has ingratiated himself with Mummius by his satirical impromptus apropos of everything; for Mummius, like most persons who have retired from public life after having taken an active part in it, is inclined to criticise the present state of affairs, and likes to be surrounded by censors whose conversation does not spare the favor-

ites of fortune. Caustis, who is often sent to Rome on business, reports to his patron the news of the great city, the topics of conversation among the senators, and the epigrams uttered by the populace; and loud and long is the merriment that ensues.

Mummius thus avoids those melancholy humors which, as he thinks, solitude usually induces in minds long habituated to active life.

Caustis knows everybody in Rome, and is welcomed everywhere, because he makes it his business, while flattering the persons in whose company he happens to be, to depreciate others; and this with a grace and address that disarm resentment. This freedman is very intimate with Epergos and Doxius, who are at present settled in Rome; and when these three meet at the tavern when Caustis visits the city, there is interminable talk about the past and the present, about Greece and Rome. At heart Caustis is a thorough Greek, and beneath his perpetual banter is concealed a profound hatred of the Romans; a hatred of whose extent he himself is, perhaps, not aware, but which seizes every opportunity of showing up the oddities, the weaknesses, the pretensions and the vices of the "great nation."

On a certain evening, Epergos—who had divined the hidden feelings of his acquaintance, at the commencement of their intimacy—after having let him pour out his whole heart, began to talk earnestly to him, and to speak of the brilliant days of Athens, and the genius of her people—of the rank it had achieved in the domains of intellect, of its influence in the world, and, lastly, of its faults, the cause of its misfortunes. During this discourse Caustis was silently weeping, for Epergos had deeply probed the ever-open wound which the poor Greek had for years concealed beneath a flow of raillery; and from that moment these two were united in a close friendship which the unrelenting bitterness of Doxius only served to increase.

Doxius, who found himself very much out of his element in this world of perpetual progress, having been a witness of the decay, one after another, of those powers which he had so long considered as the guardians of order, in the direction of human affairs—the Assyrian and Persian empires, and the dynasties of Egypt, which had been regarded by him as the supreme embodiment of wisdom—had conceived an admiration for the Romans, whose uniform administration, unyielding though protective rule, colossal works and great strength—for Doxius was always disposed to side with the strongest—seemed to him the ultimate and only form of well-being among men. He was, therefore, little disposed to laugh at the sallies of Caustis, when he was exposing any of the plague-spots on the body of Roman greatness. Then would ensue interminable discussions, in which the wit of Caustis would call forth bursts of laughter, in spite of the predictions of Doxius on the fatal influence of the critical spirit of those incorrigible Greeks.

The freedman had spoken to Mummius of his two friends, and of the pleasant hours they had passed together, of the extensive knowledge of Epergos and the crotchets of Doxius; so that the proprietor had a desire to see them. They were, therefore, invited to go to the *villa*.

From Rome it was but a three hours' ride on horseback, and they reached it on a fine spring morning, by the Appian way, which was bordered with tombs as far as half the way to Albano.

Caustis took them to the rooms which had been prepared for them on the ground-floor near the library; and about mid-day, Mummius received them with the urbanity of a well-bred Roman. After the siesta which followed the repast, he showed them all the parts of his *villa*, not omitting a single detail; and when the heat of the day was over, they sat in the shade of the great *triclinium* to enjoy the landscape, which was exquisitely beautiful on that side, and to converse while waiting for the evening meal.

"So then," said Mummius, "it is thy opinion that my *villa* will compare with the rural habitations which thou hast seen in thy travels through Greece and Italy."

"Assuredly, Mummius," answered Epergos, "thou hast built a beautiful residence, pleasant and convenient, worthy both of a patrician and a philosopher who loves study, and in which life should pass tranquilly and agreeably."

"And what sayest thou of my museum—thou who hast traversed Greece, Asia and Egypt?"

"If thou wilt pardon a candid answer, Mummius, I will confess that I have not yet been able to reconcile myself to that love for collections of works of art which is so much in vogue in the cultivated class of Roman society. I like to see works of art in their proper place; so that when I find them thus assembled in a gallery, my thoughts involuntarily recur to the buildings from which they must have been carried off."

"Wait a moment, Epergos; all the objects which thou hast seen were either given me or were purchased by me: Caustis can tell thee what they have cost me, for it was he who succeeded in getting them, or who went to buy them for me."

"Very true!" said Caustis. "Can any one charge Mummius with despoiling the buildings of Greece of works of art when the Athenians themselves were the first to remove them from their place with a view to selling them at Rome? If Mummius had not bought them, they would have been in the possession of some other patrician; we may as well see them here as elsewhere."

"That does not affect my remark," returned Epergos. "Forcibly carried off, or adroitly abstracted by covetous hands, and bought by enlightened amateurs, the result is the same. The place for which these works of art were made is deprived of them. That which used to charm me in Greece was the taste with which the temples, habitations and public buildings were embellished."

"These edifices, even in the minutest details, appeared to form a whole so well composed that nothing could be taken away or added without destroying the general harmony. If you saw a statue, you might have supposed that it had formed itself in the very place it occupied, and would have thought it monstrous to replace it by anything else. I might say the same of the smallest ornament. These Greek edifices, of all orders, might be compared to those trees in our orchards which produce the fruits proper to their kind—whilst museums always affect me more or less like the sight of a fruit stall where the finest products of the gardens are carefully arranged, but separated from the branch that bore them. I prefer the sight of an orchard to that of a fruit-stall—that is all. This, however, does not prevent me from admiring beautiful fruits systematically arranged on shelves."

"Certainly," said Caustis; "the great point is not to put pumpkins by the side of almonds." * * *

Mummius found pleasure in the conversation of his guests, and kept them several days at his *villa*. But Epergos was not very fond of remaining long in the same place.

He wanted to visit some large Roman colonies, to see how the veterans mingled with people of various origins, lived in the midst of barbarians. As for Doxius, his desire was to return into Asia—to that vast empire of the Persians now dismembered. He had been assured that there, at least, no sensible change had taken place for centuries. While Epergos was attracted towards what was new, Doxius, on the other hand, was equally disposed to seek for that fixed immutable point which he imagined must exist somewhere to enlighten feeble humanity with its steady illumination. They, therefore, took leave of Mummius and returned to Rome, where Caustis, with the permission of his patron, accompanied them and remained some hours longer with them till the moment of their departure.

Before going to dine at the tavern, Caustis wished to show his two friends some of the quarters of Rome little frequented by strangers, and which Epergos and Doxius had not had leisure to visit.

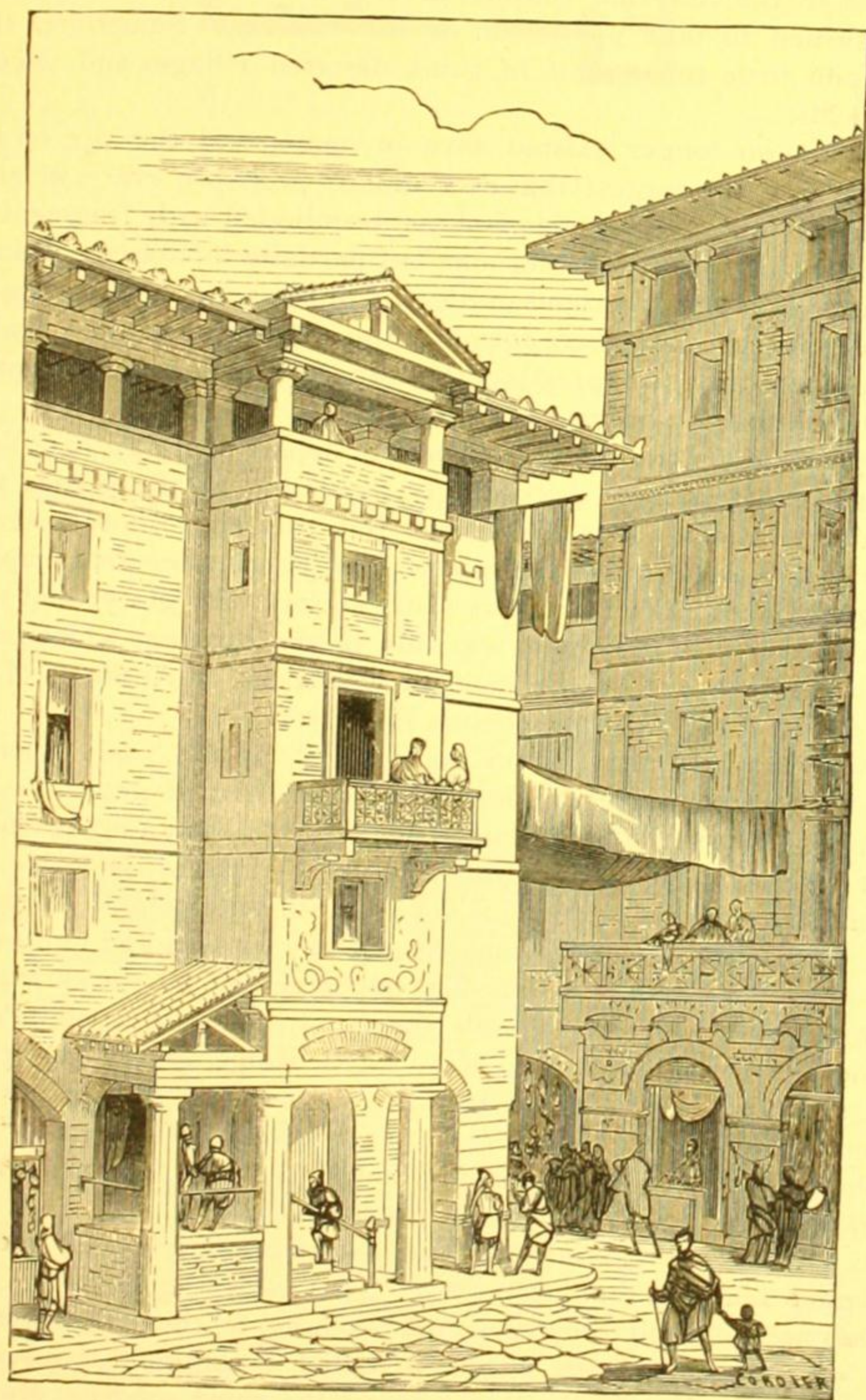
"You think you know Rome," said the freedman, "because you have visited its temples, its public buildings, its Forum, and some of its finest thoroughfares. Well! it is only the ornamental side of Rome that strangers are accustomed to see. But there is an old Rome which the divine Augustus has not been able to visit with the hammer of destruction. Old Rome—where some large houses belonging to the patricians still remain standing, though they take good care not to live in them now, but let them to tenants; and where may be found buildings of all ages, in every form of confusion and superposition along narrow and tortuous alleys. This mass of buildings, for the most part of a mean and squalid appearance, is inhabited by dealers of all nations. Jews, Egyptians, Greeks, Armenians, and merchants from the Adriatic, may be seen there. The

streets swarm with traders speaking all known languages. The houses reach as high as five stories, and are inhabited from top to bottom. It was from these quarters that, in the times of the Republic, those swarms of vagrants issued, who, on certain occasions, filled the precincts of the Forum or the Campus Martius, intent on mischief."

The three friends then went to visit the thoroughfares which surround the Theatre of Pompey, and which the *Ædiles* had the greatest difficulty in rendering even tolerably passable. At some points the goods piled in front of the shops nearly blocked up the street. Elsewhere wagons were unable to pass, and the brawling was incessant. Itinerant dealers in fish or fruit were crying their wares with deafening vociferation. Most of the houses, built of wood or brick, overhung the thoroughfare, and would have embraced their opposite neighbors but for the timber props that kept them upright.

Doxius sighed, thinking of the streets of the Egyptian cities, whose houses, of no great height and for the most part having only a ground-floor, closed on the outside, and interspersed with courts and little gardens, had an appearance of order and tranquility which singularly contrasted with the deafening hubbub of this human ant's nest. Epergos recalled the streets of Athens which were also narrow and crowded, but which were bordered by small neat houses with lively colors glowing in the sunlight, and of so cheerful an aspect, even in the poorest quarters.

And what a difference in the two populations! The remembrance which Epergos cherished of the pleasant moments passed in listening to the jokes of the Athenian populace, which were always truly hu-



STREET VIEW IN OLD ROME.—FIG. 73

morous and improvised, and the facetious sallies of the peasants coming to sell their vegetables and fowls, made the brutality of this Roman populace shocking by contrast. He could scarcely understand the talk of these people who were jostling each other with anxious looks, for they spoke all kinds of corrupt dialects. Soon wearying of the

scene, the three friends entered a tavern situated at the corner of one of the five centres of this populous quarter. On their right arose one of those lofty houses with several stories raised one over another, presenting a gloomy aspect on the whole, notwithstanding the rich balcony in front of the windows of the first story. Opposite the tavern a house of less dismal appearance formed the corner of the street (Fig. 73).

While the repast ordered by the freedman was being prepared, Epergos was contemplating this house with curiosity, and seeking to understand the various elements of which it was composed.

"It appears, my good friend," said Caustis to him, "that the house of Balbus has a special power of attracting thy attention. For the building thou art looking at is none other than the first habitation of Cornelius Balbus, the friend of Cæsar. Since his elevation, as I need scarcely tell thee, he no longer lives here."

"But what a singular *mélange* of architecture," observed Epergos.

"Singular, indeed. It was formerly not unusual in Rome to put the lowest step of the stairs of a house in the street, as here, allowing the erection of a covered porch slightly raised above the ground, and beneath which the clients used to wait. Recently the *Ædiles* have prohibited these projections because they obstruct the thoroughfare.

"If thou shouldst ask me whence come these columns of stone which surround these steps, I must reply that I have no idea; but that they were certainly not made for the purpose they now serve. They are brought from some building that has been destroyed. Thou wilt often observe appropriations of this kind in the houses of the old quarters of the city that have undergone many changes. The fronts were originally quite covered with painted stucco; at this day we find only traces of it.

"The building is composed, in great measure, of debris collected from all quarters. This balcony, for instance, with its balustrade of white marble, so finely worked, and whose origin must be looked for on the shores of Asia. By the side of this highly finished work, remark that third story with its projecting bay constructed in simple fashion with timber framing. Then look above at the garret corridor supported by small marble columns that seem to have come from Greece. Oh! I assure you the Romans are not very fastidious in such matters! they take what suits their purpose wherever they find it; and there is not a merchant galley that does not bring as ballast from Egypt, Greece, or Asia, some columns or fragments, which they can sell at a very good price to the bourgeois who are having houses built. The mason manages to put them into the building, and each party gains something by the transaction; those who demolish some old building no longer in use, to sell its remains, the merchant who buys them, the bourgeois who pays for them, and the gaping idler who stares at them."

"In fact, it is only the artist who designed the building thus destroyed who has any reason to complain, and those, perhaps, who admired it."

"Oh! as to that, the artist died long ago, and what is now most admired is hard cash. Greece itself—Greece so proud of its public monuments—sells them in fragments and by auction to Roman brokers; and if, perchance, an earthquake destroys one of her temples once held in such veneration, you will see the municipal authorities bestirring themselves, not to restore it, but to sell the ruins to the highest bidder; and in default of earthquakes they help the building to fall if its vitality is too persistent. This is an important branch of Greek commerce now-a-days—together with the reproduction of the *chef d'œuvres* of Phidias, Praxiteles and their compeers."

"But the gods who were worshipped in those temples—what do they say of this traffic?"

"Epergos, my good friend, there is scarcely any other god but one—that is the great, the incomparable Plutus. Aristophanes used to say so at Athens even in his time, and things are much worse now."

"It may be so at Athens, perhaps, and I am not surprised at it," said Doxius; "but Rome has a sense of respect for the Deities, and scrupulously observes the sacred rites."

"Doubtless, doubtless," replied Caustis; "but some gods are gone out of fashion even in Rome; and the Roman does not greatly concern himself as to whether the columns or friezes which he buys to adorn his dwelling are from a temple or a portico." The three friends did not separate till night, when each went his way.

CHAPTER XIX

NORTHERN SYRIA

MORE than three centuries had passed away, and the seat of Roman empire had been established at Byzantium, in the midst of those Greek, Phrygian, Bithynian and Lydian populations which were formerly on the confines of the Roman possessions, but which had then become the heart of the colossus. Rome believed that it had no more to fear from the Germans beyond the Danube; but the eastern provinces were continually increased by the dense masses of barbarians who occupied all the countries to the north of the Euxine. Byzantium was the key of Asia Minor, Armenia, Mesopotamia and Palestine; and the Lower Danube formed a line easy to defend. The empire, therefore, sought to secure its power for all time to come by abandoning Rome and settling on the shores of the Bosphorus.

Ever since the emperors had been installed at Byzantium, the trade between the Persian Gulf and the coasts of the Ægean had vastly increased. Caravans were incessantly traversing the long route which, ascending the Tigris, passed by Hatra, Tharrana, Edessa, Hierapolis, Antioch and the shores of the gulf of Issus. There the merchandise they brought was embarked in ships, which transported it to Constantinople. Other caravans coming from Arabia or Egypt traversed Palestine and also reached Antioch by way of Damascus, Emesa and Chalcis. Now the country situated between the Upper Euphrates—that is to say, between Hierapolis, Chalcis and Antioch, is an arid region; for during several months of the year, it is watered only by a single stream—the Chalcis—which empties itself into a lake near a city of the same name. At the end of summer it remains almost dry. Nevertheless, to supply the wants of the numerous caravans which traversed the country, many small towns had been erected on this ungrateful soil, and enjoyed a degree of prosperity; for they supplied themselves with provisions from Antioch and sold their commodities at a high price to the traveling merchants. Of agriculture there was scarcely a trace in this part of Northern Syria; and only a few herds of ill-fed cattle found a scanty pasture during the winter and spring.

The population was partly of Syrian, but predominantly of Greek origin—and it was Greek that was spoken between Antioch and the Upper Euphrates.

Doxius considered the Christians as disturbers of the empire, and approved of the persecutions to which they had been subjected under the reigns of certain emperors, blaming the latter for not having exterminated at one blow a sect which he deemed abominable, and which was tending to nothing short of the destruction of Roman society. When he understood that Constantine was abandoning paganism, he thought that the Western world was approaching the most frightful cataclysm the world had ever seen, and with his heart full of sorrow he returned to his dear Egypt, hoping that its population, at least, would not allow itself to be hurried towards the abyss. His disappointment was great, and Alexandria seemed to him worse than Athens. Of that ancient order of things, political and religious, which he had so much admired, there remained not a trace. The Greeks took the lead, but at their side were to be found sects religious and philosophical without number. Everything was subjected to discussion, and the people seemed to him struck with vertigo. Epergos was pleased with Alexandria, and when Doxius intimated his intention to return to Asia, he had great trouble in inducing him to accompany him. However, the disappointment of his companion amused him, and he did not wish to leave him alone. Both took the road to Babylon, and on the way Doxius had abundance of time to discourse on the approaching fall of the communities of the West, and the glorious future reserved for the nations who had the sense to preserve the principles of authority and respect for traditions, and who did not waste their time in idle discussions about everything.

"But," responded Epergos, "I think I remember that while we were among the Ninevites at the epoch of their glory, thou didst accuse me of urging them to the application of things that were then new. Thou canst not but remember a visit we paid to the palace of the king. Vaulting was in question, and thou gavest me a complete demonstration that the erection of those gigantic constructions, at

the cost of thousands of human lives, was an abuse of the power accruing to certain men over their fellows."

"I did not approve those things then, and I do not approve them now; and in view of the deluge of new ideas that is overwhelming the West, the vertigo that seems to have seized on those nations, and the calamities that arise from it, I maintain that the principle of uncontested authority, and an absolute respect for tradition, are still preferable to that love of change which has taken possession of the Western world, and of which those detestable Greeks were the first promoters."

"The admiration thou now expressest for these Asiatics is, therefore, only relative?"

"Certainly; of two evils it is better to choose the less."

"Well; dost thou also remember thy question one evening while I was looking at the Colossi—bulls with human heads—which decorated the portals of the same palace, what those monsters were saying to me, and to which question I did not reply till later on?"

"I think I remember."

"I now finish that reply. The bulls seemed also to say to me: 'We are stone; we are strong and durable; but what is this strength as against the piles of clay which stand around us and above us? We are a pebble by the side of a mountain of earth which time must soon reduce to dust. Our strength and durability will not be able to hinder the vast and irreparable ruin of that which we seem to support.'"

Meanwhile, the farther they advanced, the more desert the country became. One might have imagined that the nomades who, previous to the Assyrian Empire, alone traversed these vast plains, had returned to take possession of the country. Sometimes they came upon little towns half in ruins, deserted villages and uncultivated fields.

Babylon no longer existed save in name; and the site of this immense city, the largest that ever did, or probably ever will exist, was marked only by mounds of clay intermingled with fragments of terra cotta. A forlorn-looking and but partially inhabited collection of houses, occupied the thousandth part of the area once surrounded by those ramparts that were formerly the admiration of the world.

The scene was so depressing that Epergos had not the heart to rally his companion on his chagrin.

Dejected and silent, Doxius wished to depart next day, and Epergos made no objection. Accordingly, ascending the Euphrates, they bent their steps towards Palmyra. But this city, whose splendor they had witnessed under the rule of Diocletian, when that emperor had vast edifices built there, was sadly shorn of its glory; and what little life was kept up there, was due to the caravans which called there on their way from Seleucia to Damascus or Antioch. They, therefore, bent their course towards the latter.

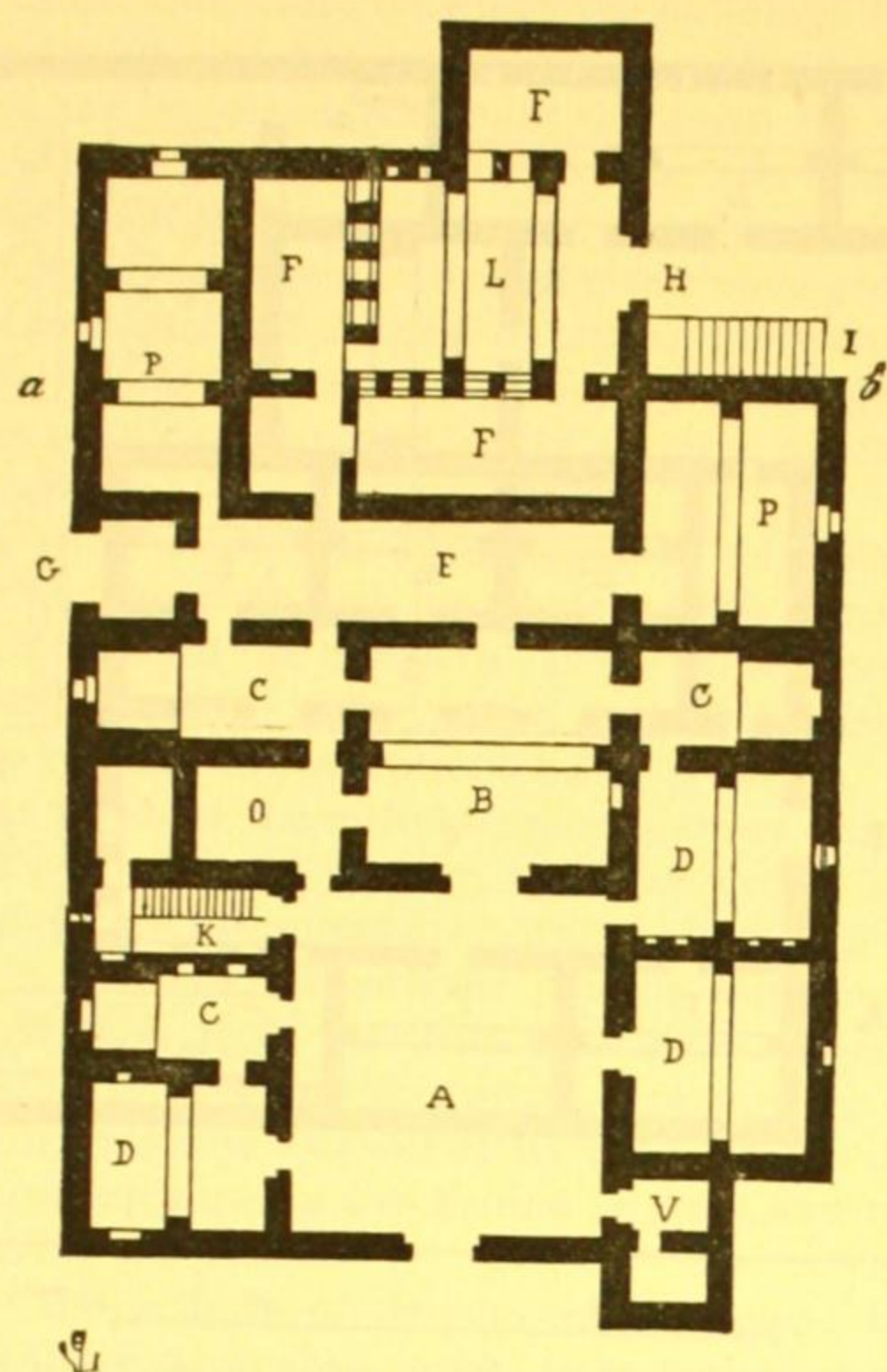
"What we have seen within the last few months," said Epergos, while they were crossing regions which were almost desert, "ought to convince thee of this truth, my friend: that liberty only is fruitful—that by it alone are men elevated and made better. Have we ever seen nations rise and acquire a noble moral energy under despotic rule? What has Egypt become, despite the wisdom and uniformity of its theocratic government?—The receptacle of all the corruption of the known world. What have the empires of Assyria and Persia become?—Almost a desert. We visited Rome in all her glory, when, tired of civil wars and factions, she confided the direction of the commonwealth to an emperor. What has she become, and what will she become, with that unwieldy body of hers, in face of the more and more audacious enterprises of the barbarians?"

To this speech Doxius only replied in monosyllables, and his companion failed to rouse him.

They went on till they came one evening to the large country-town of Androna, whose well-constructed, rectangular houses, all with terrace-roofs, were built nearly on the same model. Most of the habitations of this town, like those of all the inhabited centres of Northern Syria, afford lodging to strangers and supply them with food; since the country produces literally nothing, and is so completely devoid of streams that the rain-water has to be collected in large tanks during the rainy season, which lasts about two months; and this is the supply for the whole year.

The house at which the companions stopped was one of the largest.

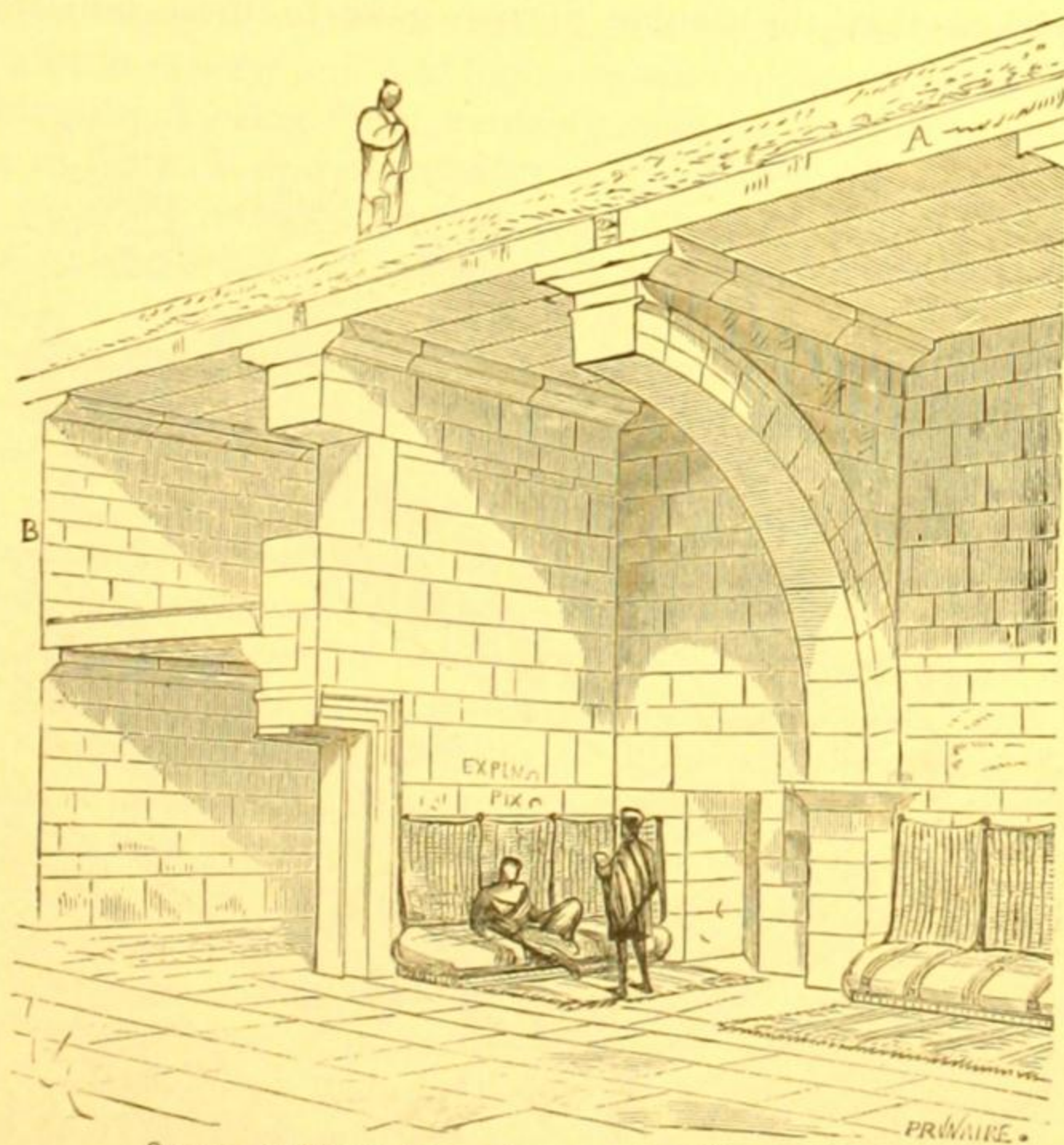
Here is the plan of it (Fig. 74). A somewhat spacious court, A, is entered, at the end of which is a large hall, B. The dwelling-rooms of the family are at C. At D are rooms intended for various uses, and for keeping provisions. The kitchen is at O, and at K a flight of steps conducts to the upper story, which rises on the



Plan of North Syrian Stone-roofed House.—FIG. 74.

buildings only as far as the line *a b*. The large hall occupies the height of the ground-floor and of the upper story.

Strangers admitted into the habitation enter at *c*, and are accommodated in the hall *E*, and the rooms *P*, which serve as dormitories. At *L* is the stable, under cover, with the stalls for the animals at *F*, and mangers between the pillars. The horses enter by the door *H*.



SECTION OF NORTH SYRIAN STONE-ROOFED HOUSE.—FIG. 75.

At *i* is a flight of steps leading on to the terrace that covers the stable. At *v* is a tower affording a view of the country; the upper terrace of this tower is reached by wooden ladders.

But these habitations present this peculiarity in their construction, that they are built entirely of large stones, there being no avail-

able timber in the country. This accounts for the arrangement of the plan, which presents only rooms of narrow dimensions, or divided by one or more semi-circular arches that receive the large slabs forming floor and roof.

Fig. 75, which gives a perspective section of the large hall, and the hall *E* in plan, explains this method of construction. We said that the great hall occupied the height of the ground-floor and first story; accordingly, the slabs *A*, which form its ceiling, support the terrace made of gravel and tempered clay.

At *B* is seen the room which, on the first floor, comes over the hall *E* of the plan.

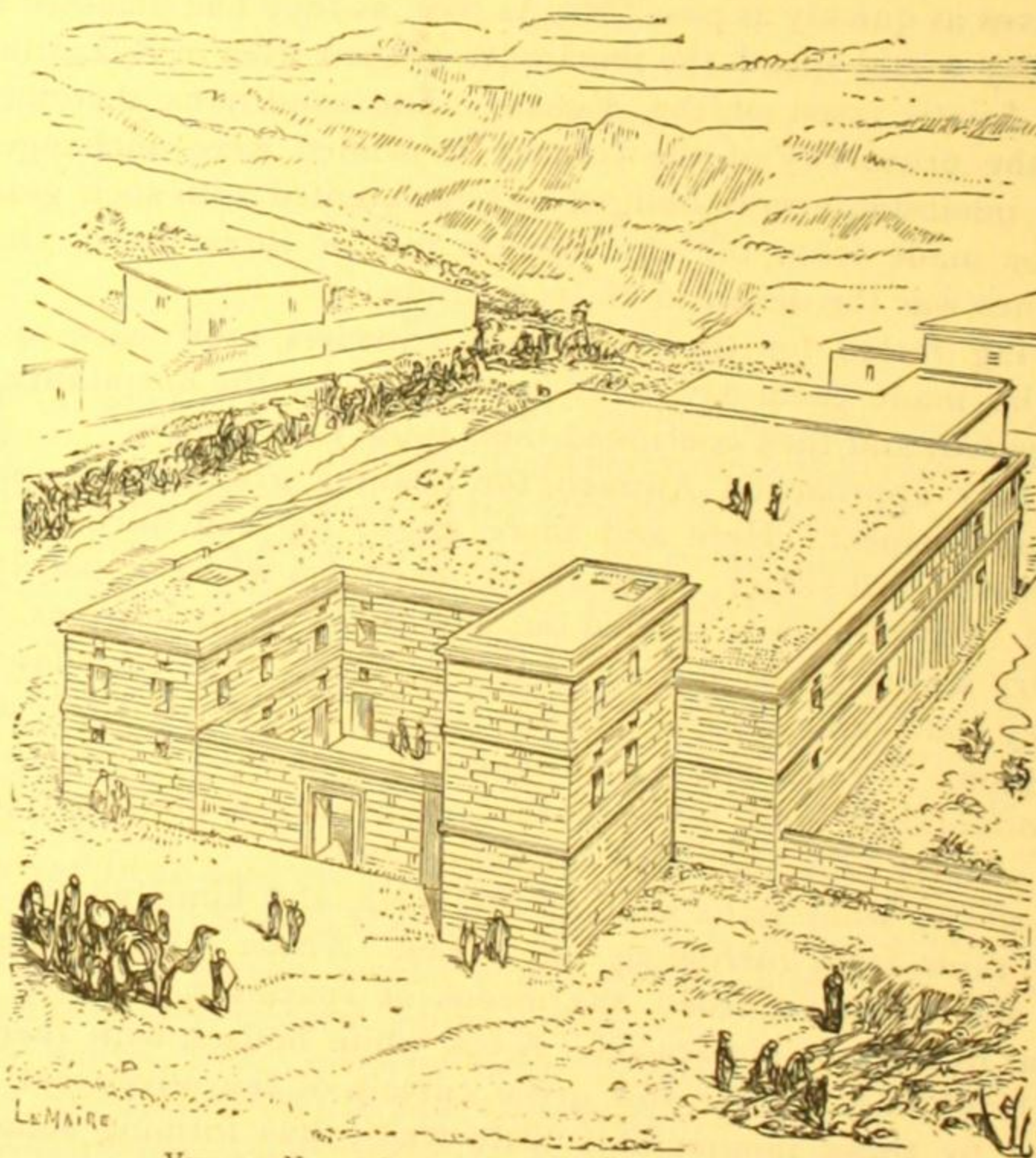
Cupboards are made in the walls of most of the rooms; for the furniture consists only of very low wide benches—covered with mattresses, along the walls, with mats fastened to these walls forming a back—a few small tables and some of the most indispensable utensils of pottery and bronze. Wood is so scarce in the country that the doors are often made of stone slabs turning on pivots.

Fig. 76 represents the exterior view of this habitation.

Its proprietor is a Greek; he is affable, a good talker, and receives his guests with cordial politeness. When the horses are stabled, the servants go to fetch water from the tank under the court, and to which there is a flight of steps, *K*. This tank is built exactly in the same way as the rooms; that is to say, with a longitudinal wall, on which rest the arches that support the slabs, and the coarse concrete which composes the area of the court. The rain-water is led into the tank by means of stone channels.

As during eight or nine months of the year the country is very hot, these houses, made entirely of stone, afford their inhabitants a perfectly cool retreat, and preserve an equable temperature during the rainy and variable season.

Epergos, when examining this building, could not help remarking the arrangement of the plan, which reminded him, in miniature, of that of the Ninevite habitations which he had formerly visited. It had nothing in common with the Greek dwellings; and yet most of these habitations—varying in size, but designed on the same plan—were inhabited by Greeks.



VIEW OF NORTH SYRIAN STONE-ROOFED HOUSE.—FIG. 76.

In the centre of the town was a Christian basilica—for the country had been Christian more than a century—and not far from the church was a monastery, also with a chapel. Epergos wished to visit this establishment, and his host was willing to accompany him. Doxius, more depressed than ever, pretending fatigue, remained within the house. The idea of finding himself in a Christian country was unbearable. . . . But whither could he retreat? The world seemed to be undergoing a transformation; or rather seemed to him to be rushing into an obscurity full of danger and ruin.

The monastery scarcely differed, either in plan or aspect, from the large houses of the town; except that the upper story was divided into cells, the great hall was replaced by a chapel, and the courts were larger.

These monks received travelers who were too poor to pay for lodging and entertainment. For this purpose they had erected a special building; and their means of livelihood were the gifts bestowed by the wealthy inhabitants of the district; the caravans even contributing, when they returned satisfied with the results of their traffic.

Accompanied by his host, Epergos had an opportunity of appreciating the affability and intellectual development of the inhabitants, surrounded as they were by deserts and living on so sterile a soil. Although their dwellings were very simple, they were convenient; and in those which had most pretensions, the luxury consisted only of beautifully woven stuffs and of exquisitely-wrought utensils brought by the caravans coming from Persia. Slavery was maintained among them, in spite of the Christian law; but it must be remarked that it had rather the character of domestic service imposed without severity, and that the slaves made part of the family. The only out-of-door recreation which the inhabitants of these towns and villages, possessing no gardens and scattered along the route of the caravans, could indulge in, was that of killing the birds of passage in spring and autumn, and hunting beasts of prey and the gazelle.

These expeditions were, it must be understood, conducted on horseback; for none but the poor went on foot. For transport, camels and asses were employed.

Life, therefore, was not spent in idleness; for the continual passage of caravans, the necessity of providing for their subsistence and traffic, diffused a constant animation through that little town. But this picture had its shadows! Eager for gain, both rich and poor, got as much as they could out of the travelers. Obliging and obsequious to those by whom they expected to profit, they were hard and un pitying towards those who were unable to pay for the services they solicited. The wealthiest practised the most extortionate usury; and Christianity had done little to mitigate these abuses. Besides, most of the Greeks living in this country came there only to enrich themselves as quickly as possible. As soon as they had amassed large sums, they would spend the remainder of their lives in Byzantium or on the Asiatic coast of the Ægean. The conditions, therefore, on which the prosperity of the country depended were unchangeable; and its inhabitants were obliged to be contented with such gains as could be made from the caravans on two or three lines. Outside these lines was the desert in all its solitude.

Having rested for three days, the travelers took leave of their host, who made them pay a full equivalent for the hospitality they had enjoyed; and they continued their route northwards.

As they approached Antioch, the country gradually assumed a less naked aspect. Here and there might be seen olive-trees and vines on the hill-slopes; a few rustic dwellings where a poorly productive cultivation was carried on; and flocks in the bottoms, where grew dry scanty grass, and where thorny bushes were abundant.

They soon came near to Chalcis, lying in a comparatively attractive region. To the left, the horizon was broken by a long chain of blue mountains; and towards the right, gardens terraced on the slopes of lofty hills, indicated careful culture.

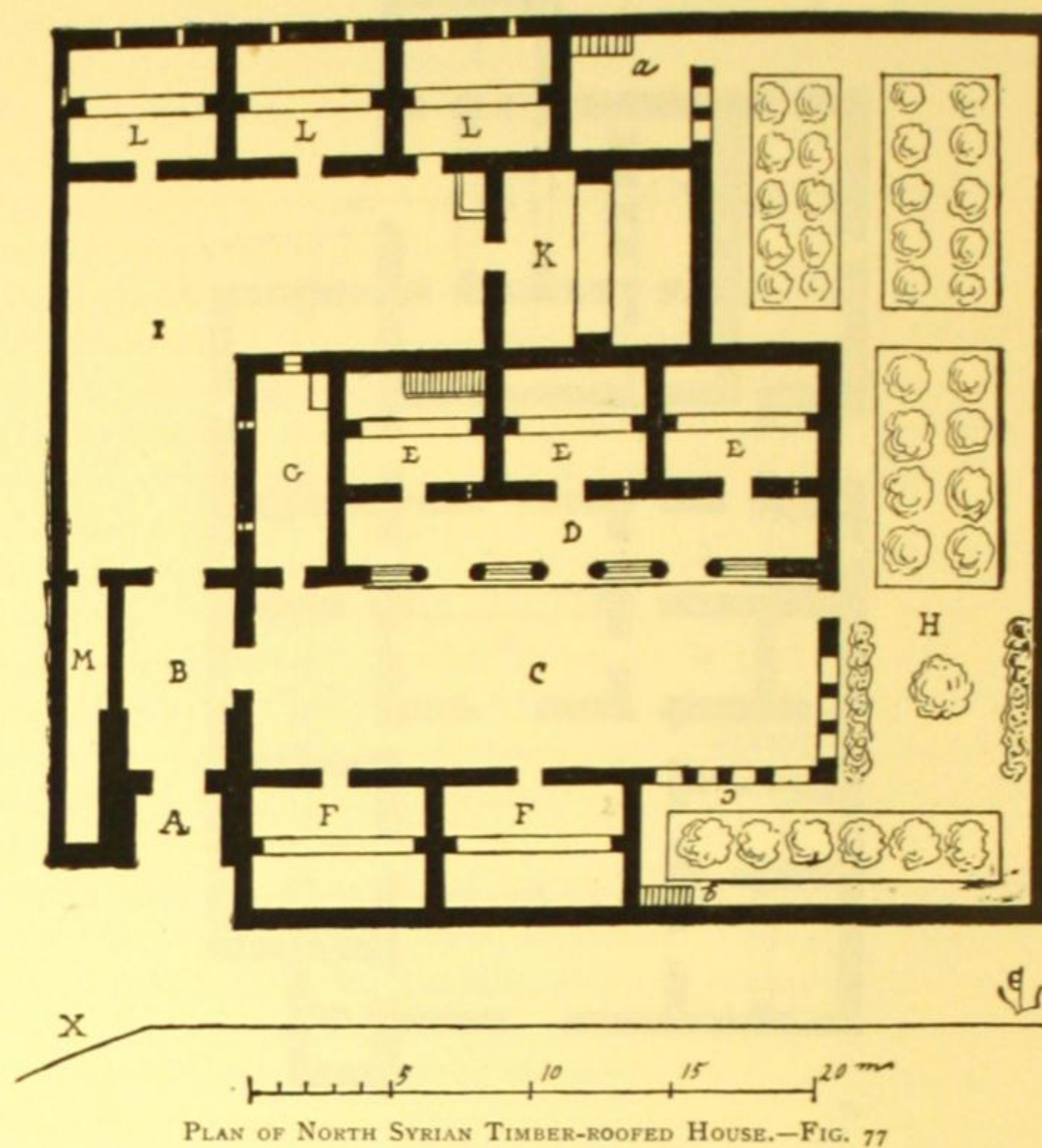
Small dry stone walls kept up the earth, and hindered the heavy winter rains from furrowing the slopes. These rains, collected in tanks and basins, afforded the means of sparingly watering these gardens during the hot season. A few white houses, with their tiled roofs, brightened up the dull green curtain of the olive-trees, which was cut by those innumerable little walls, thus forming something like the steps of an immense staircase.

Epergos and Doxius halted in a large village, two hours' walk from Chalcis; for their host had given them a letter of introduction to one of his friends who lived there, recommending them not to sojourn in the town, where they would be very badly lodged just now, on account of a great market which was being held there. Chalcis is, in fact, the junction point of all the routes which form the south, the east, and the north-east approaches to Antioch.

The houses of the village were not covered with terraces like those of Androna. The roofs, made of timber, carried tiling; and in

every habitation, a small garden, planted with olive, fig, pomegranate, orange trees, and vines, gave these dwellings an aspect of cheerfulness, which contrasted with the barrenness of the small towns our travelers had just quitted.

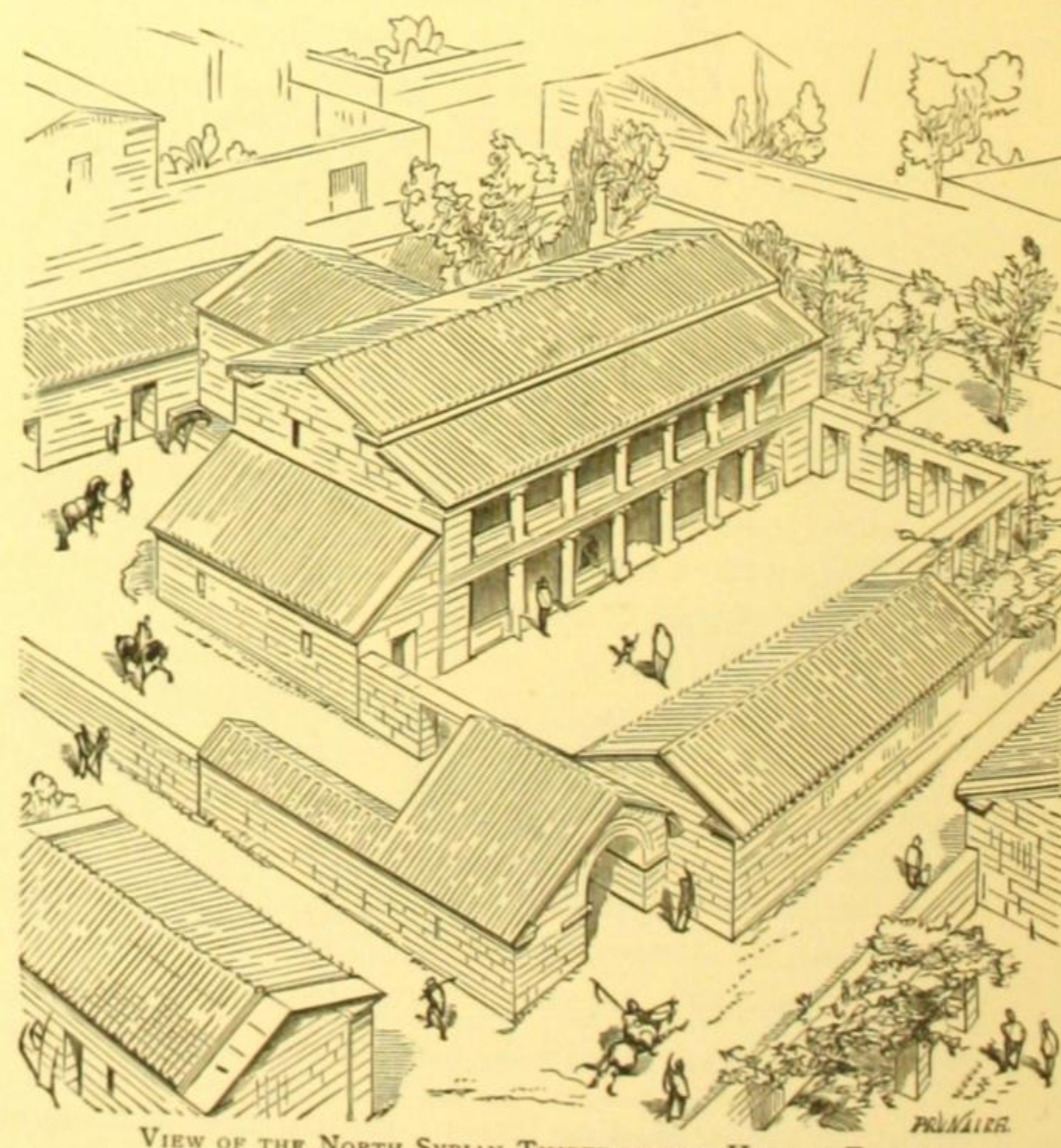
The house of Theagenes, better arranged than that of the wealthy proprietor of Androna, consisted of an arched entrance A forming a



PLAN OF NORTH SYRIAN TIMBER-ROOFED HOUSE.—FIG. 77

porch on the highway (Fig. 77), of a fore-court B opening into the principal court C, bordered by a portico D, and three chambers E. In one of these chambers, a flight of steps ascended to the first story, arranged similarly to the ground-floor. The fore-court B gave entrance into the yard I, with quarters L for those attached to the house, and large stable at K. Gardens occupied the space H, and at M were latrines.

Fig. 78 gives a bird's-eye view of this habitation, taken from the point x. The floors were made of stone, like those of the houses at Androna, and the rafters of the roof were carried by arches. It must be remarked that the double portico gave to these buildings an



VIEW OF THE NORTH SYRIAN TIMBER-ROOFED HOUSE.—FIG. 78

appearance of elegance not possessed by those of which we have just seen a specimen. A mingling of Asiatic and Greek traditions was observable which highly pleased Epergos.

Well built with large stones laid without mortar, the building had an aspect of solidity by no means to be undervalued in a country where earthquakes are frequent. Two tanks situated beneath the rooms F and L, to which the steps *a* and *b* (Fig. 77) led down, afforded means for watering the gardens; for they were supplied during a considerable part of the year by a stream of water filtering through the calcareous strata on which the buildings stood.

The interiors of this habitation did not otherwise differ at all from those of the houses of Androna; there was the same very simple furniture, the same display of rich stuffs. As to the inhabitants, although their chief occupation was the supplying of the caravans, and traffic, they, nevertheless, cultivated a few olive-groves, vines and orange-trees, and were not obliged to buy or get from a distance all the necessaries of life. Accordingly, they were less greedy for gain than were the people of the wild, dusty country which Epergos and Doxius had just left.

Theagenes was short; his eyes, bright as two black diamonds, were in continual motion, and his whole person seemed moved by springs. He welcomed the travelers—at the same time giving orders to his servants, busying himself with everything, inquiring about everything and answering all questions in a breath. To have the horses stabled, to show the visitors their quarters, to question them as to the purpose of their journey, and give orders for the repast, was but an affair of a few moments. And while Epergos and Doxius were resting in the shade beneath the portico, and were being served with cold water and fruit, the little man went hither and thither, calling the women, scolding the grooms, remarking that such or such a piece of furniture was out of its place, that a sheep must be killed, that a certain caravan was behind its time, and that it was the hour for watering the garden.

Thanks to the activity of the master, the house was spotlessly clean. The walls, lime-washed inside, were without a stain; and the servants, taking example from Theagenes, were not at rest for a moment. These active ways differed so much from the nonchalant habits of the Orientals, among whom the travelers had lived for the last few months, that they wondered whence this stirring little man could possibly have sprung.

When, during the evening meal, the family were assembled, Epergos and Doxius, after having answered the numerous questions of their host, could not refrain from complimenting him on his activity and the excellent order of his dwelling, or from asking him if he was born in the country.

"Oh, no," answered Theagenes; "I was born at Samos. I have long been engaged in trade, coasting from Smyrna to Tyre. Having made a little money, and wishing to spend the remainder of my days in tranquility, I came here, knowing that, on these highways from Persia to Antioch, one may, with energy, double his substance in a short time. I rebuilt this house, which was dilapidated when I bought it; and I hope, in a few years, to return to Samos with a fair fortune."

"So," said Epergos, "you do not belong to the country?"

"No, certainly; what can one do here? It is a place of passage, where life is hard, where more thieves than honest men are to be found, and where the population is continually changing. One must make a fortune as quickly as possible, and to do that, keep a constant and sharp look-out; otherwise one is quickly ruined. Three-fourths of the estates you see in this country are in the hands of usurers, who have ultimately dispossessed the original owners; and if this goes on, the whole land will belong to the wealthy people of Antioch, who lend their money only at a dear rate of interest. They let their estates at a high rent to the Greeks and Armenians, who find it very difficult to make both ends meet, and often decamp without paying. Thus the love of gain and the want of money, which each day makes itself felt more and more among the people of Antioch, tend to deprive that fine city of its source of wealth; for what would become of Antioch without all these stations, which enable caravans to come in such great numbers across Arabia, to convey thither the products of Persia?"

"And can you suppose that men will continue to live in these sterile regions, unless they can hope for great profits?"

"But," interrupted Doxius, "is not this wealthy population of Antioch Christian?"

"Assuredly; but Christianity has not caused the people to lose its usurious habits, in spite of the bishops and councils that have tried in vain to cure this Asiatic plague among the new converts. But so inveterate are these customs among us, that many families among the most considerable and affluent have had for generations no other means of keeping up their rank and fortunes than usury. Thus, most of the free men, who live by their toil, see all their gains fall into the hands of the idle rich people of their great cities which are resplendent with luxury. It is not less true that the stations situated between Palmyra, Epiphania and Antioch are being depopulated. At the same time, persecutions commenced against certain Christian sects, since Byzantium was made the seat of empire, have brought back to these countries families that were forced to leave the capital."

"What!" returned Doxius, "are Christians already persecuting one another! They have been dominant in the empire only for a few years!" Theagenes merely smiled, and wishing his guests "Good-night," alleging that he had to get up very early the next morning, he left them to their rest.

When alone, Epergos and Doxius discussed their future plans. What should they do? Where should they go? The West had nothing new to offer them; they had visited every quarter of it. They, therefore, determined to continue their explorations eastwards, passing north of ancient Media and Bactriana, crossing the upper courses of the Indus and the Ganges, keeping along the range of the Emodi mountains, and continuing eastwards to the extremity of the earth. This plan was agreeable to Doxius, who had taken a dislike to the West, especially since the empire had embraced Christianity.

"We shall see, in passing," said Epergos, "what has become of our friends of the Upper Indus; their habits must have changed since the time we visited them."

"Let us hope they have not," said Doxius.



CHAPTER XX

BUDDHIST INDIA

"TO what purpose, then, did Siddhârtha, the Buddha, come among you inculcating poverty and the renunciation of earthly goods; why did he clothe himself in a tattered shroud taken from a corpse; to what purpose did he enjoin charity on the rich, patience on the poor, fasting for six years and acquiring at the foot of the Tree of Understanding the character entitling to the name of Buddha and attaining the Triple Science—since I behold throughout the country nothing but sumptuous palaces, temples magnificently decorated, convents provided with all the comforts of life, proud priests taking no thought for those who are without shelter or food, Schatriyas bent only on war and the destruction of men, and privileged castes who hold in contempt their less fortunate brethren?"

Thus spoke Doxius amidst a numerous assemblage gathered at Benares to discuss certain points of doctrine.

His words were received with murmurs of disapprobation. Doxius continued: "What says Siddhârtha?"

"All human beings, whether of the lower, the middle, or the upper castes; whether excellent, indifferent, or detestable in point of character, may be ranged in three classes: one-third is in Error, and will continue in it; one-third is in the Truth; one-third remains in uncertainty. Thus, a man standing on the shore of a pool sees lotuses below the water; others at its surface; others again elevated above the water. Whether I teach or do not teach the law, those who are settled in Error will not know it. Whether I teach or do not teach the law, those who are settled in the Truth will know it; but those who are in uncertainty will, if I teach the law, become

acquainted with it; whereas, if I do not teach the law, they will not know it.' Who, among you, then, are the lotuses that are on the level of the water, and that flourish above its surface?—the good and the undecided? I see only those who are in Error: since no one recognizes the law, or if he does know it, is willing to submit to it. Charity, taught by Buddha and practised by himself, ought to extinguish every selfish feeling in the human heart; whereas I see that among you none thinks of any one but himself. Buddha says that we ought not to utter falsehoods or even indulge in vain and frivolous discourse; whereas I have heard nothing but deceitful or idle talk.

"Siddhârtha preached humility of heart, and said to the professors of religion: 'Conceal your good works and avow your sins;' yet no one confesses his sins twice a month, with a loud voice, in presence of the congregation. The law of Buddha is simple and definite, a child can understand it. But you! What have you done? you have buried it in obscure casuistry. . . ."

On this, cries and threats succeeded murmurs, so that Epergos had great difficulty in getting his friend safe out of the assembly.

"I must say," observed Epergos, when they had reached a place of safety, "that I cannot at all understand thy proceedings. When we were in the West, the Christians had no great share in thy esteem, and now thou art full of zeal for Buddha and his precepts of morality!"

"It is thou," replied Doxius, "who never seest further than thy nose. Buddhism is true, for it tends to arrest what thou callest the upward impulse of the human mind; it tends to thrust man back into the nothingness which he should never have quitted; and when I see those who profess to follow the precepts of Buddha, much less eager to attain Nirvâna than to build sumptuous temples and monasteries for their monks, and palaces for their nobles, and giving themselves up to all kinds of pleasure, I cannot repress an indignation which is only too much deserved."

"Ah! my friend, I beg you once for all to let humanity follow its destiny. Thousands of years have passed away since the time when we were on the plateaus of Mount Mérou, and all thy efforts, thy wraths and thy counsels have not arrested the progress of that humanity. Thou mayst, perhaps, have been able to throw a few pebbles into the torrent: thou hast seen the water boil up for a moment, and hast fancied that the current was going to stop. These beings, believe me, are not made to resign themselves to nothingness, and to consider that as the supreme good. They will abandon Buddhism, for they wish to live, not only in this world, but in eternity."

Doxius's invective, which had excited the anger of a great part of the assembly, produced, nevertheless, a somewhat profound impression upon the mind of some of those present. Among them was a very rich merchant, named Kalanta. He had founded several sanghârâmas (places of assembly) for those who wished to discourse on the law; he practised charity, and had a great affection for holy persons. The words of Doxius aroused in Kalanta's mind a great desire to have a person in his house who seemed to know the law so well, and whose solemn deportment inspired him with respect. He sought him out, therefore, enjoining on his messengers to show the greatest deference for Doxius's knowledge, and to entreat him to take up his abode for some days in the palace of Kalanta, that he might consecrate it by instructing his family. Prostrate on the ground, the messengers informed Doxius of their master's desire. Epergos, who wished to take advantage of this occasion to see the palace of one of the richest inhabitants of Benares, joined his entreaties to those of the envoys of Kalanta; so that the two companions, mounted on an elephant brought for the purpose—for the mansion of Kalanta was outside the city—found themselves in the evening in front of this splendid abode. Epergos passed for Doxius's secretary.

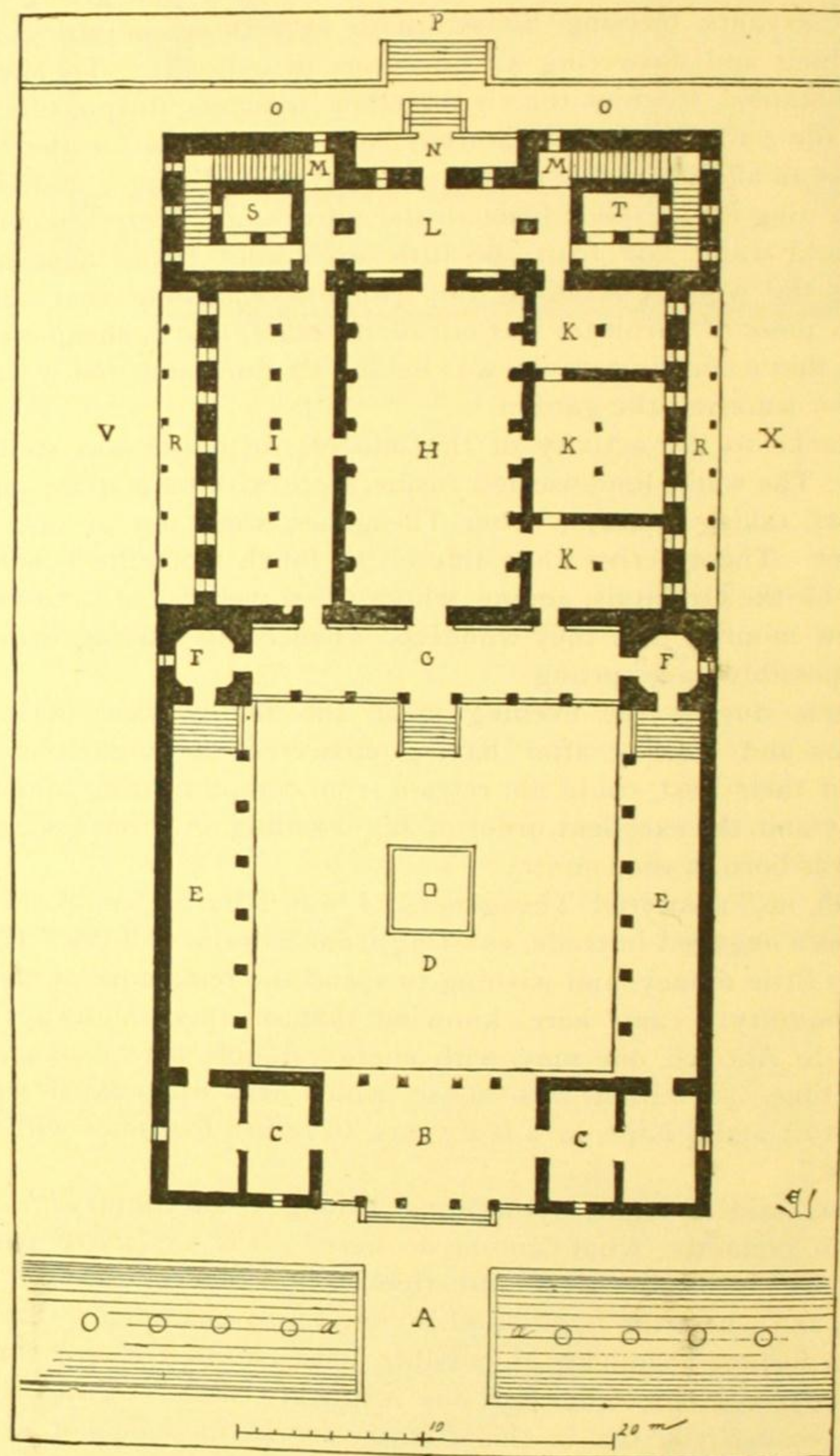
The vast gardens of the palace of Kalanta extend as far as the Ganges, and venerable trees overshadow its banks. From the habitation, situated on slightly elevated ground, there is a view of the broad river, losing itself in the west in a plain covered with vegetation of the most brilliant verdure. Towards the north appear the first slopes of the Himalayas lost in a warm haze; and on the west, the city of Benares, with the wall that surrounds it, its storied

buildings, shining in the sun, and the thousands of boats moored along its houses and its squares covered with tents, great parasols, and awnings of all kinds. The purity of the air enables one to distinguish, even at this distance, the crowd moving along the banks of the great river.

Arrived at the turn of the road that leads to Kalanta's residence, this magnificent panorama is suddenly displayed before the eyes of our travelers, who cannot refrain from giving utterance to their admiration.

"Here," said Epergos, "we have a holy man who has made an excellent choice of a place upon earth in which to wait for annihilation, to which he doubtless aspires. And thou seriously believest, Doxius, that when one has such a spectacle daily before his eyes, he can easily resign himself to quit it for Nirvâna!"

"Silence! Epergos! Nirvâna is to human beings the end of their probation; all who are endowed with wisdom ought to desire to reach the threshold of that palace which is the termination of all evils."



PLAN OF HINDOO PALACE.—FIG. 79

"Come, I see that thou art exactly in the mood to edify our host; and if he does not take thee for Buddha, he must be very unreasonable."

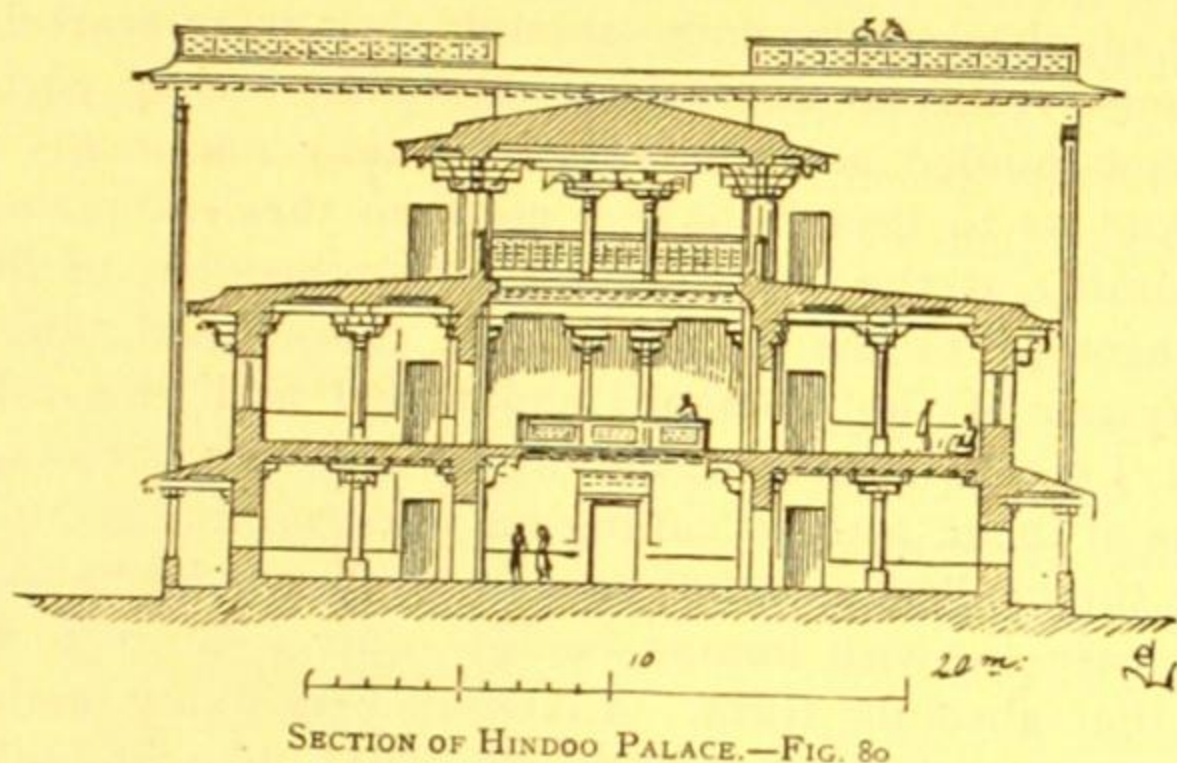
"Cease thy scoffing!"

"Oh, don't be alarmed! I will not compromise thee."

The travelers and their escort enter the gardens, which are admirably well kept. They soon reach the banks of a canal supplied by a number of fountains (Fig. 79). A bridge A is thrown across it in front of the principal entrance to the habitation. Epergos and Doxius having dismounted from their elephant, are introduced into the portico B, which serves for a vestibule to the palace. On the two sides of the open portico, the rooms C are appointed for the porters' lodging, and as places where the master's orders may be waited for.

From these rooms there is an approach and an ascent by steps to the main building through the porticos E, or through the court D, ornamented in the centre by a basin with a fountain. The porticos abut on two small rooms F, where the servants await their master's exit, and an elevated portico G, which gives entrance to the great hall of assembly H. To the left of this hall, at I, is another hall, divided by a range of pillars, which serves for a promenade, and where the servants of the palace habitually stay. At K are some of the dwelling-rooms. At S and T are kitchens and stores for provisions. Two flights of stairs M conduct to the first story which contains, above the apartments I and K, bedrooms opening on a projecting balcony at the side of the great hall, for the latter rises from the bottom. At L is the vestibule for the servants, with its steps N and a terrace O, rising to the level of the upper garden which is a platform. At R are exterior porticos or covered promenades. Fig. 80 exhibits a section through VX, which shows the arrangement of the rooms and of the great hall. The latter receives light and air from above the terraces which form the roofing of the apartments of the first story. The stairs ascend to the level of two platforms, whence a view can be obtained of the whole country. Fig. 81 gives the interior of the great hall towards the far end.

Kalanta, seated in the portico G, with his legs crossed, on a rich carpet, was awaiting his guests. Without rising he signed to Doxius to seat himself opposite to him, while Epergos and the persons of his suite remained standing.



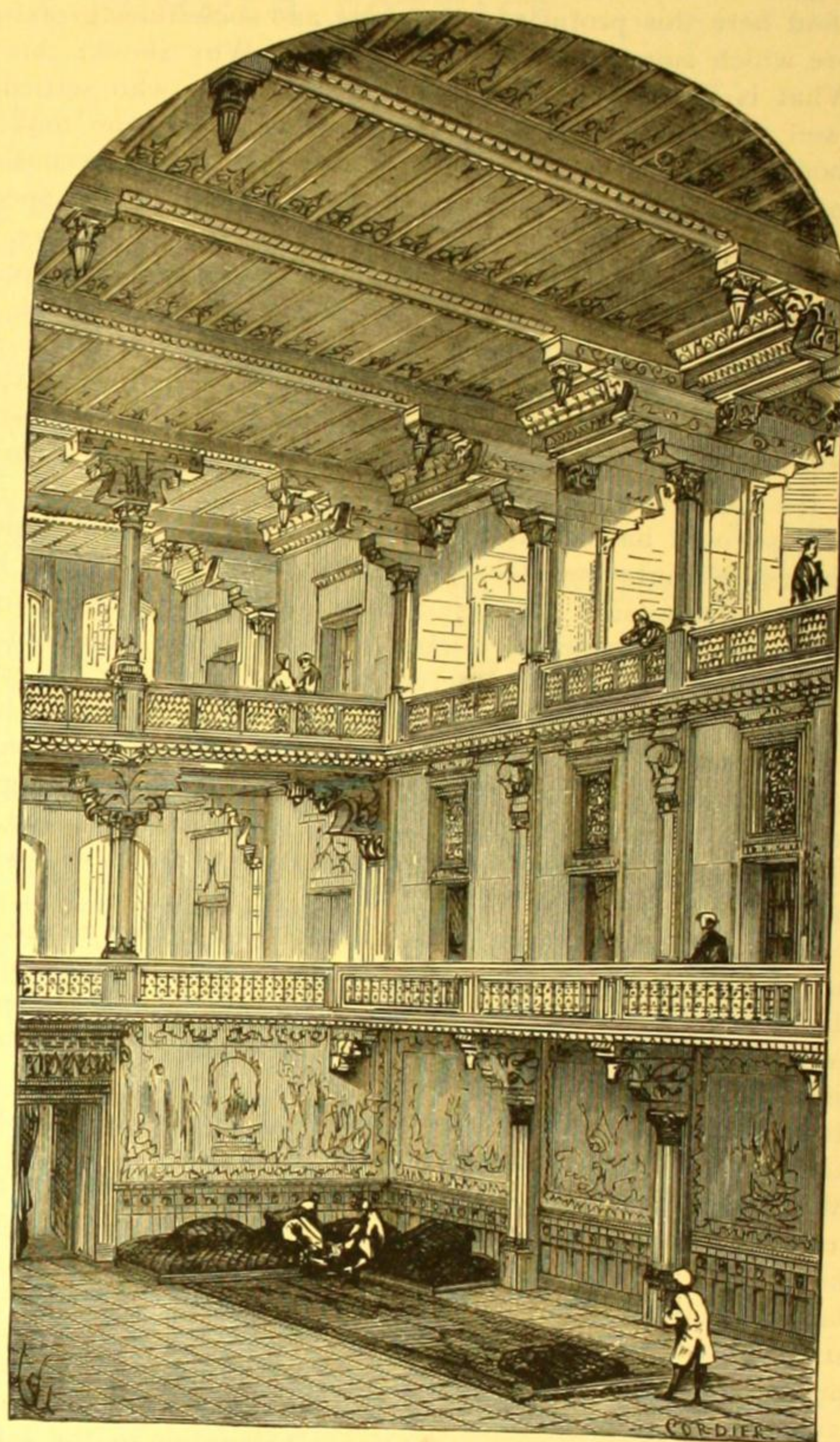
"My dwelling, Doxius, is honored by thy presence. Thy discourse is that of a saint, and I am anxious to converse with thee respecting the interpretation of the law." Then having made a sign to his attendants, they left the master and his guest alone. Epergos, it would seem, was more curious to visit the palace than to know what the two sages said to each other, for he followed those who had conducted him thither, under the pretext of arranging Doxius's apartment conformably to his simple habits. We do not know what Kalanta and Doxius found to say to each other during the two long hours that followed. We must suppose that their conversation had a great interest for themselves, since it gave Epergos time to go over the palace from top to bottom, accompanied by a person who acted as steward, and was very desirous of exhibiting the beauties of the mansion to the pretended secretary of the saint. The whole structure was of stone, bricks and wood. The columns, cut out of hard stone, were eight-sided, polished with the greatest care, and surmounted by capitals delicately sculptured. The walls, built of bricks, with facings of stone outside up to the height of a man, were plastered without and within; the ceilings were composed of pieces of timber; corbelled out and ornamented with sculpture.

Notwithstanding the external beauty of this building, Epergos did not fail to observe that it resembled in principle the rude structures which he had seen formerly on the shores of the Upper Indus.

The composition of the great hall attracted his special admiration. The timber corbellings, so well adapted to relieve the bearing of the great beams, and to form shelters outside; the arrangement of the interior balcony which gave access to the bedrooms of the first story; the sort of double gallery which closed in the back of the hall; the admirable distribution of light in this vast interior, the whole of whose lower part was immersed in a soft half-light; the comparative coolness of this lower part; the floor spread with

carpets; the sobered brilliance of the paintings; the rich appearance of the ceiling resplendent with gold and azure; and the quiet of the place—all tended to breathe into his mind a kind of vague but delightful ecstasy.

On the pretext of arranging certain very important notes which Doxius had entrusted to him, he asked the steward to leave him alone for a few moments, and seating himself on one of the divans which occupied the corners of the hall, he began to meditate



INTERIOR OF HINDOO PALACE.—FIG. 81

"What a strange being is man!" said he to himself; "he can forget nothing; and in spite of the vast improvements which the course of time introduces into his works, the trace of his first efforts, or of the first influences to which he was subjected, always recurs. Two branches diverge from the same trunk, one in a south-westerly, the other in a south-easterly direction; the one reaching Media, the other India. The first bears with it traditions of a construction in wood, but it is developed in the midst of peoples who hollow out their dwellings in the ground, or raise a kind of den of clay; it constructs those Assyrian palaces with their vaultings and their thick earthen walls, exhibiting all the time in this concrete structure the trace of its primitive wooden buildings. The other branch is developed among those races which are inferior in power of mind, but among which the handicrafts have reached a considerable degree of perfection; and while remaining faithful to its traditions, it makes use of the means employed by the peoples whom it subjugates. Is there not here some vestige of the construction which I formerly observed in the house of that fat Fau who showed us the door, and that, too, mingled with the Aryan traditions of the conquerors? And did not the Ionian architecture itself exhibit some striking relations with what we see here? The great hall, the courts surrounded by por-

tics, are persistent features which I find among the Aryas at their very cradle, among the Egyptians, the Ionians, the Greeks and the Romans, in Persia, and again here. All present differences, and yet are substantially the same. Infinite variety in unity.

"And why do those primary elements of construction reach a purer form among the Greeks, whereas elsewhere they tend to become obscured? Why, among the Greeks, do we find that rational selection and moderation in regard to form, that sobriety which is so charming, and which leaves the wish for fuller development? Why do we find here this profusion of strange and sometimes grotesque sculpture which suggests abuse and satiety? Why should this be so? What is its cause? Is it because the Aryas who settled in Greek soil mingled with a certain race, whilst those who took up their abode here found another already powerful? Must we consider the products of human intelligence as proportioned to the special aptitudes of each race and its admixtures? The more I observe, the more complicated and difficult of solution do these problems appear to me! And in the course of ages, if all these nations which are scarcely known to each other, should come to have frequent and intimate relations, what will be the result of the mingling of these traditions and of these various influences? Will it be for the better, or for the worse? Will it be the irremediable decay or the culmination of the products of human intelligence?"

Epergos would have continued his monologue for some considerable time, if Kalanta and Doxius had not entered the great hall. Their conversation must have left a deep impression on their minds, for neither of them appeared to be conscious of the beauty of the place in which they found themselves. The sun now near its setting was darting its last rays in a horizontal direction, through the large and lofty openings of the hall; and above the luminous dust, the ceiling, all sparkling with gold, appeared to rise to a prodigious height. Every projection shone forth in brilliant relief, and the pavement seemed a mirror reflecting the mixture of colors with which the walls were covered.

Epergos advanced to meet his host, and bowing down to the very ground, said: "Give permission, sire, to the humble secretary of the sage Doxius to beg his master to consider for a moment the splendor of the place in which he is." Doxius, appearing to start from a dream, raised his eyes.

"It is, in truth," said he, "very beautiful; but what is it in comparison with the Triple Science?"

"Well," said Epergos to himself, "he is decidedly insane, or at any rate he is endeavoring to render our host more insane than he was before."

During the three following days, sleep alone interrupted the conversations between Kalanta and Doxius. Epergos took advantage of the mystic absorption of his companion to visit the environs of this beautiful abode; he ascertained and was not greatly surprised at the fact that the houses of the inhabitants belonging to the inferior castes were of very different character to the magnificent palace of his host. For the most part, they were wretched huts made of bamboos or of tempered clay with rushes or thatch.

"I can very well understand," said he to Doxius one evening, "how the inhabitants of this country who occupy the miserable dwellings I visited this morning, should be eager to accept the law of Buddha, and that they should aspire to annihilation as the end of their miseries; but I can scarcely believe that Kalanta and all who live like him can long remain its adherents. If they followed it to the letter, the first thing incumbent upon them would be to distribute their wealth to all these poor wretches, and to live like them on a footing of equality. Hast thou succeeded in persuading Kalanta to do so?"

"If thou wast acquainted with the doctrine of Buddha, thou wouldst know that all creatures, in proportion to their merits or faults, pass through successive states more or less approaching or removed from perfect knowledge and wisdom. If Kalanta is in a position to meditate on Nirvâna in complete security and free from cares, it is because he has already in other bodies passed through the trials necessary for attaining that degree in the scale of humanity, in which he is able to repose and meditate until his death. If he fails to fulfil all the precepts of the law, he may fall back into the miserable condition in which those are of whom thou hast been speaking; and similarly these, by searching for truth during their time of probation upon earth, may return to it in a better condition. Buddha never preached equality among men, for all are not placed in the same grade of wisdom and knowledge. But he preached charity, for all can ascend higher in the scale in the series of trans-migrations they undergo; and it is even a duty to facilitate their acquisition of the means of so doing."

"And at the top of the ladder what is to be found?"

"Nirvâna; that is to say, the end of trials—that end which is the nothingness from which the world issued."

"It is, then, not worth while to mount so high."

"Thou wilt never comprehend these mysteries, Epergos, for thou art narrow-minded and altogether absorbed in earthly things, and affectest to disdain supreme wisdom."

"What dost thou say? We have already seen so many of these mysteries, we have listened to so many who have pretended to the knowledge of absolute wisdom—though they were scarcely agreed among themselves as to where it resides—that for my part, without being narrow-minded, as thou allegest, I may reasonably have my doubts. And as to thyself, have I not seen thee embracing in turn and proclaiming as the acme of wisdom the theogony of the Egyptians, the theology of the Assyrians, and subsequently the politico-religious system of the Romans? and now I find thee a Buddhist. Very good; I see no harm in it; but do allow me the liberty of belonging to none of them, without calling me narrow-minded."

"What thou callest an infatuation for different forms of Truth, is in fact my case—as with human beings—only a desire to know and to attain that absolute truth. Like other thinking beings, I am ascending the steps of the ladder, and what thou imaginest to be contradiction is only transformation."

"I must not be surprised, then, if I see thee abandoning the doctrine of Buddha for another which thou deemest nearer to absolute truth?"

"Possibly!"

"Thou art in doubt, therefore, and we are not far from coming to an understanding with each other. How could the teaching of Buddha lead to absolute wisdom and truth—which merge in Nirvâna—if there might possibly be another teaching, wiser or truer than that? This system of doctrine, therefore, is only relative; and is it not allowable to doubt the absolute validity of that which is relative?"

"Thy mind, Epergos, has been profoundly corrupted by staying too long among the Greeks: I observe it continually."

"Permit me to say, Doxius, that when thou art come to the end of thy arguments, thou art wont to have recourse to abuse; and this has been thy wont, not since thy sojourn among the Egyptians or the Assyrians merely, but ever since the beginning of the world."

Next morning the travelers quitted their host, who loaded them with presents, and entreated Doxius to come to see him often, and confirm him in the knowledge of the law.



SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL MONTHLY

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{ WHOLE No. 6

FURNISHING AND DECORATING A SUMMER COTTAGE

BY ADELIA B. BEARD

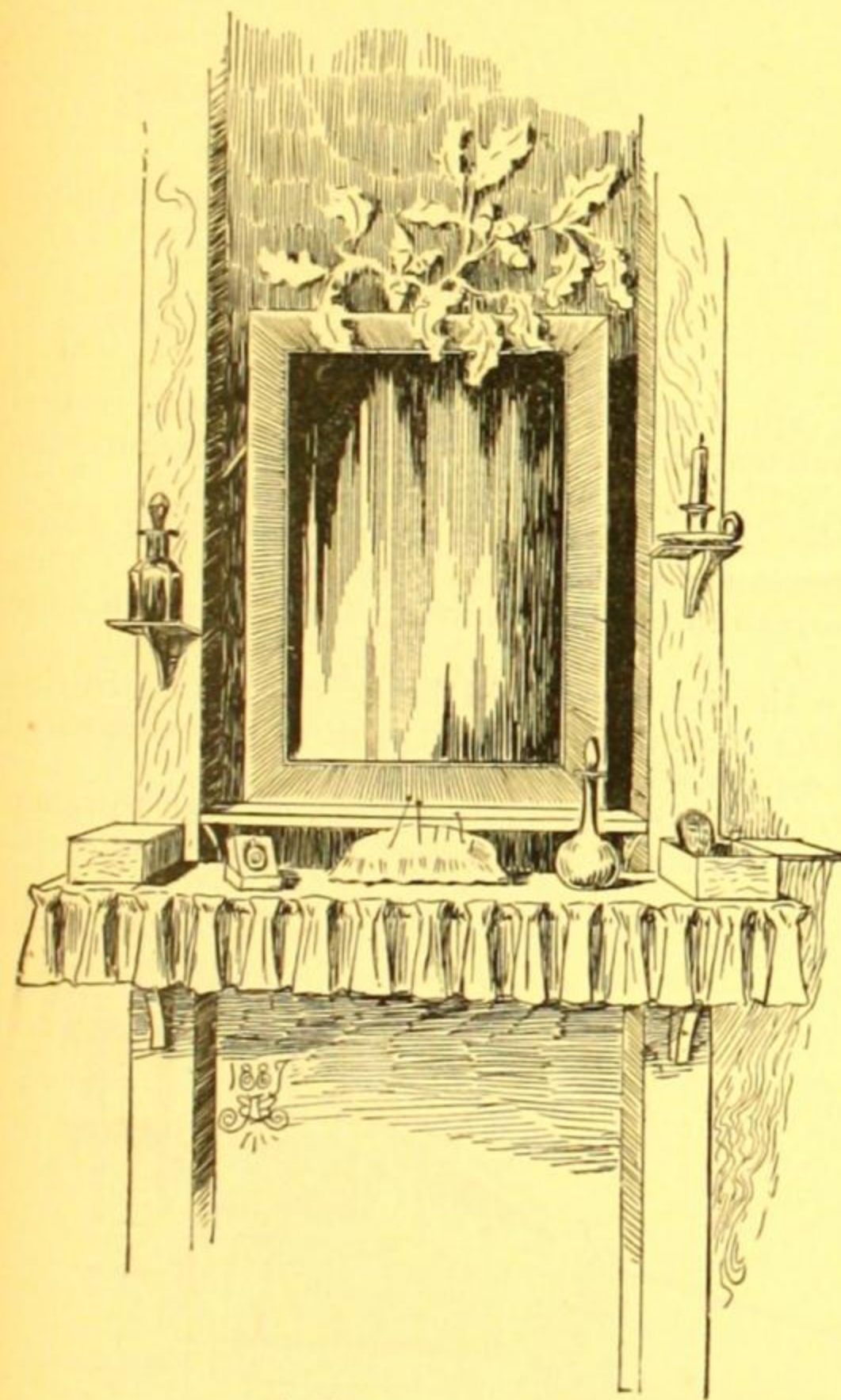
NO one wishes to expend a large amount in furnishing a cottage which is inhabited only a few months each summer, and for the rest of the year is left to take care of itself. Indeed, expensive furniture is decidedly inappropriate and out of place in such a house, but at the same time there is no reason why the little summer home need be barren of all decoration, nor why it should be furnished, as it so often is, without regard to taste or the eternal fitness of things.

It requires but a trifling expense to make of the cottage a pretty and inviting retreat, containing all of the necessities, many of the comforts, and not a few of the beauties of a home.

Some hints were given in a previous article in this magazine on how to treat a seaside cottage. The following suggestions will be found appropriate for the furnishing and decorating of a cottage among the mountains.

The majority of these houses, or "boxes" as they are sometimes called, are small, and it has been my endeavor to adapt the furnishing to their limited space as well as to their peculiarities of structure.

The first illustration shows an original design for a dressing-stand. It is made of two plain pine shelves, two segar boxes, two small brackets and an ordinary mirror. The shelves are fastened to the wall with braces or brackets made of pine. The larger shelf is covered with cretonne, and has a plaiting of the same around the edge. On each end of this shelf is tacked or screwed a segar box, used for holding brushes and combs. These boxes,



A Dressing-Stand

as well as the upper shelf and small side brackets, are painted the prevailing color of the cretonne. The larger shelf reaches across, and is fastened to the two upright wall joists, while the smaller one fits in between the joists, and is fastened to the wall. The mirror is hung over the small shelf and rests upon it. Small squares of pine board are used for the side brackets, and they, like the shelves, rest upon wooden braces.

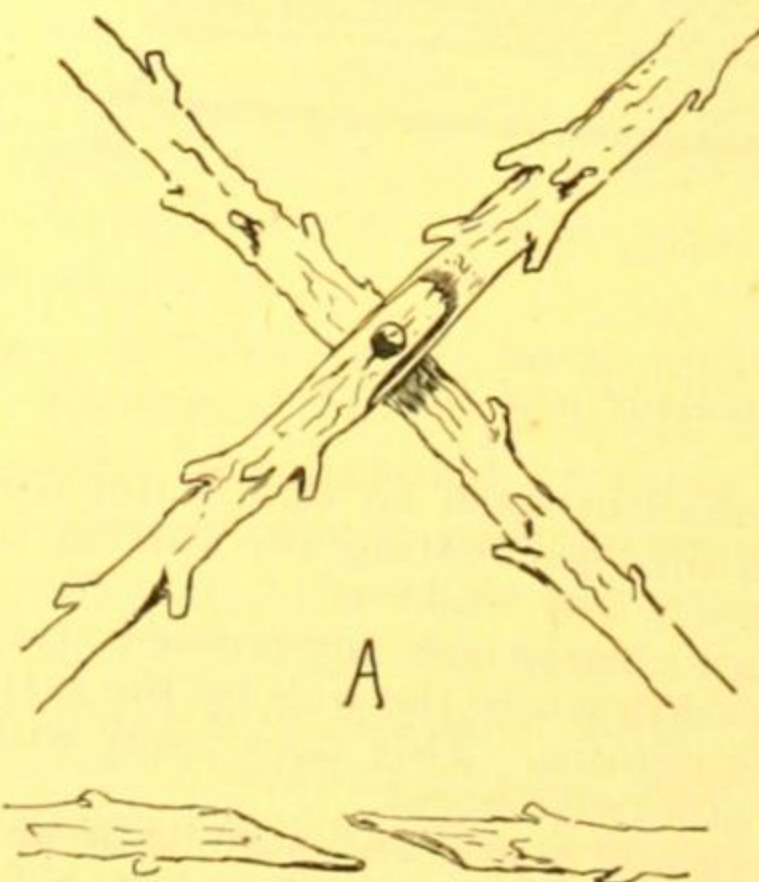
The second picture shows a wash-stand, simple in the extreme, yet not unattractive in its simplicity; one that occupies but little space and requires but a short time to construct.

A wide shelf fitting in between the upright joists, supported by

strong braces, forms the wash-stand proper. This shelf has a round hole directly in the centre, which is large enough to admit the lower half of a wash-basin, and is covered with marbled enamel cloth. The edge of the cloth is cut in points, then turned over and tacked to the edge of the shelf. The brackets on either side of the shelf are also covered with the enamel cloth. Two broomsticks fastened together and hung by a heavy cord form the towel rack. The top stick is a trifle shorter than the other, but both are long enough to reach across and rest against the two joists. This allows space at the back and gives plenty of room for the towels.

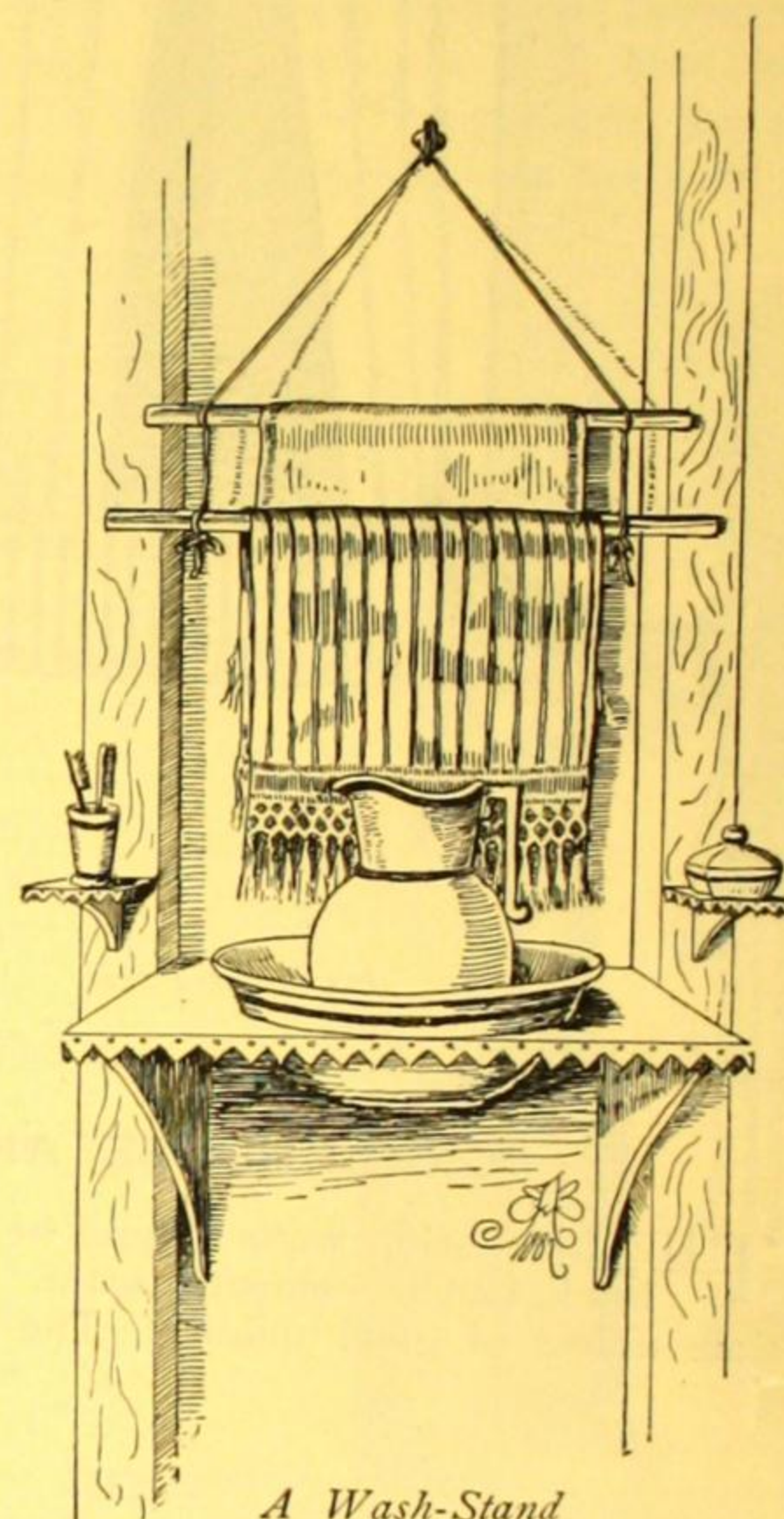
A convenient form of corner clothes-press or closet is shown in the third illustration, which will, perhaps, be appreciated by those who, while domiciled in a summer cottage, have felt the woeful need of some place to hang their clothes where they will be out of sight and free from dust.

This clothes-press is simply constructed, as the plan shows. Two boards about four feet long and one wide are placed across the corner of the room, one near the ceiling, the other resting on the floor. They are secured by hooks, which are fastened at each corner of the boards, and rings screwed in the wall. A corner shelf resting upon cleats nailed to the wall, or on braces, is fastened in the corner; under this, flat against the wall, fitting into the corner, is a row of hooks. Hooks are also fastened to the edge of the shelf. The drapery of cretonne or cotton flannel is fastened on the inner edge of the top board, and falls to the floor inside of the lower board. Both of the boards are covered with a box-plaited quilting of the material used for the



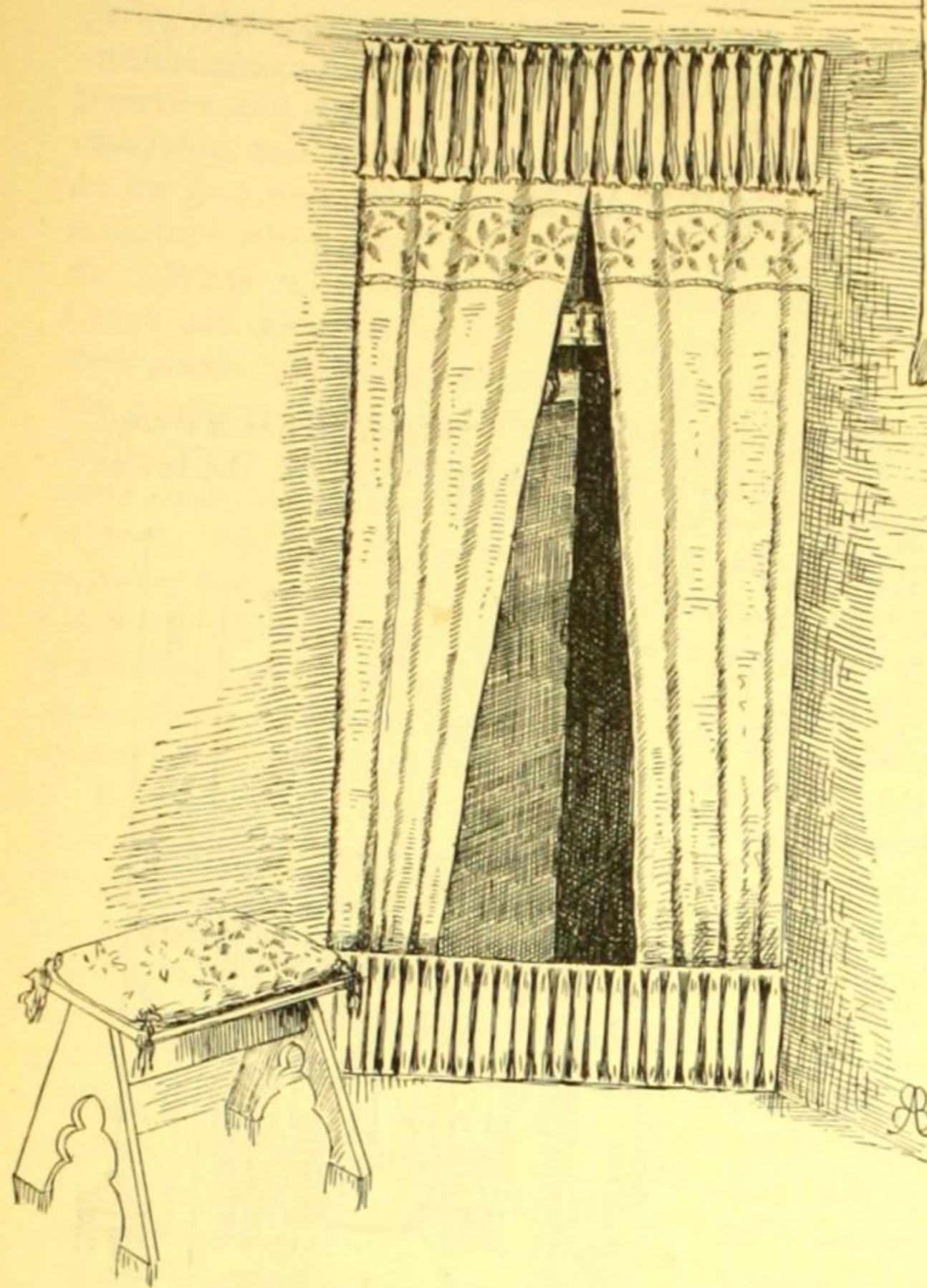
drapery. The curtains, although parted in the illustration to show the interior of the press, should be full enough to fall together and enclose the opening.

Only some pine twigs, a piece of bamboo fishing rod, two yards of cheese cloth and a dozen brass rings are necessary to dress a

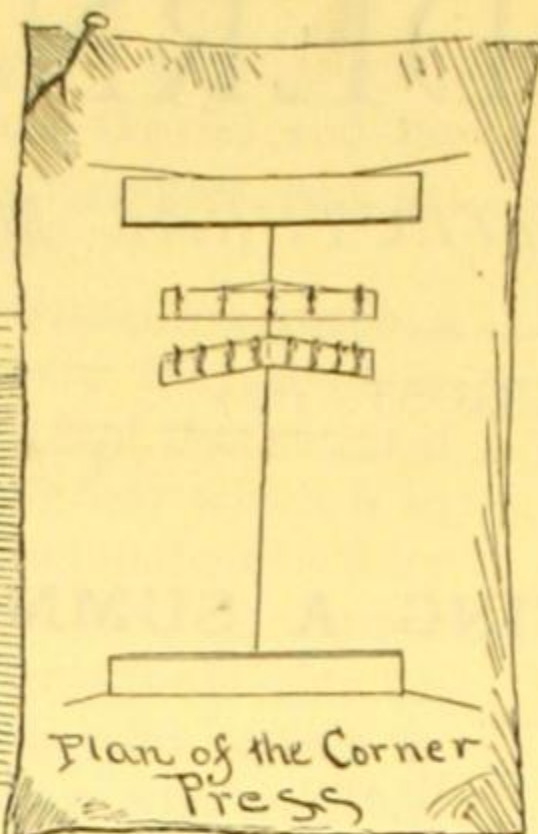


A Wash-Stand

window like that in our fourth illustration. It is a pretty and suitable window decoration for a mountain cottage and anyone can manage it. The twigs for the lattice work



A Clothes-Press.

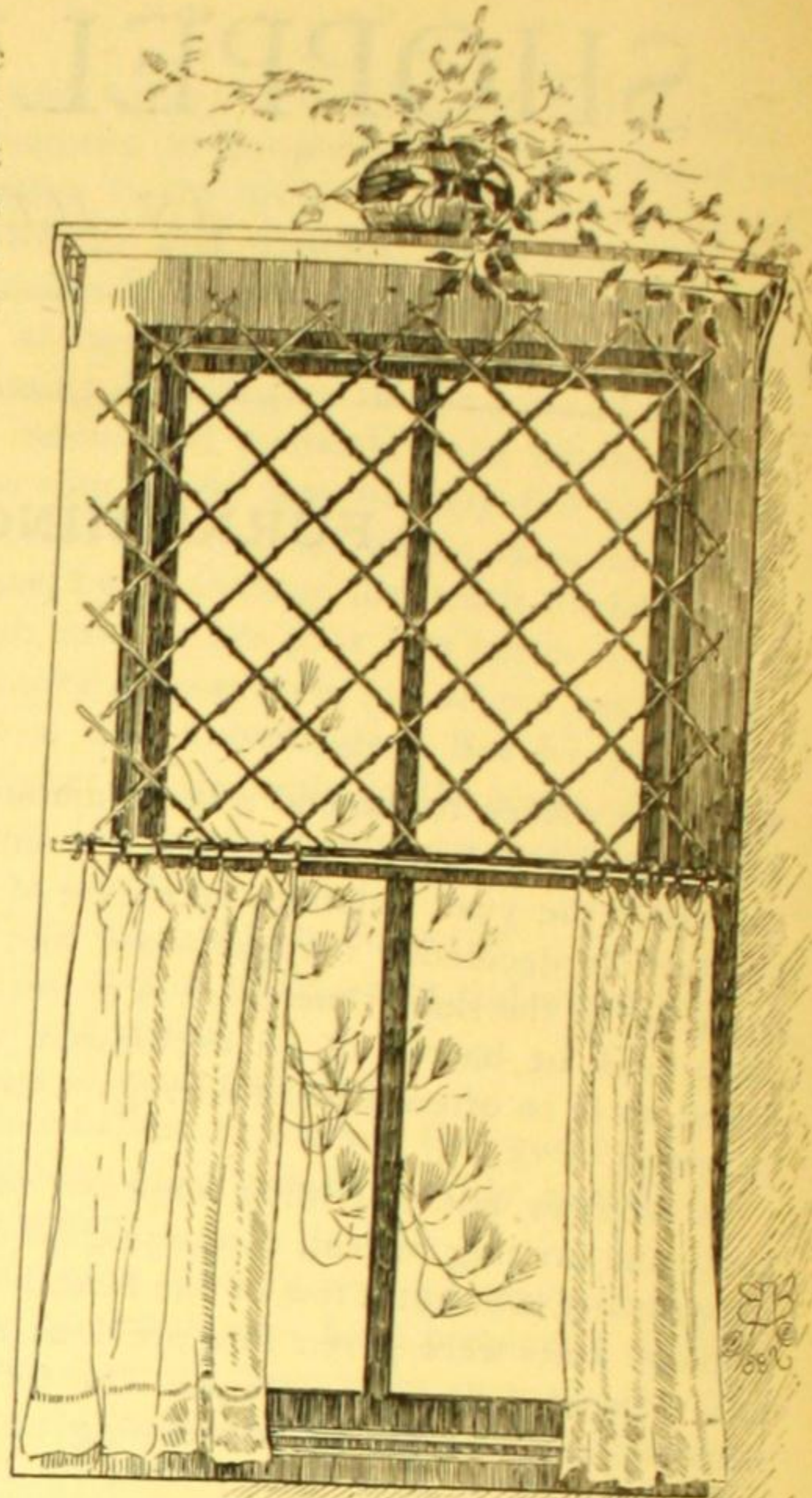


are tacked together where they cross, and, as they must necessarily be short ones, they are joined at these points, as shown in diagram letter A. The lattice is made entire before it is fitted to the window, and requires to be tacked to the window-frame only at the corners. This allows of its being removed when the window is washed. The bamboo rod from which the short Dutch curtain is

suspended rests upon two brass hooks, screwed into the window-frame on either side of the window.

The curtains, made of cheese cloth, are hemstitched at top and bottom. The same kind of lattice work as that used for the window may be used as a transom in a doorway just above the portiere. An alpenstock or mountain staff should be used for the pole, held in place by bands of birch bark tacked to the door jamb. The portiere to be made of momie cloth or canton flannel.

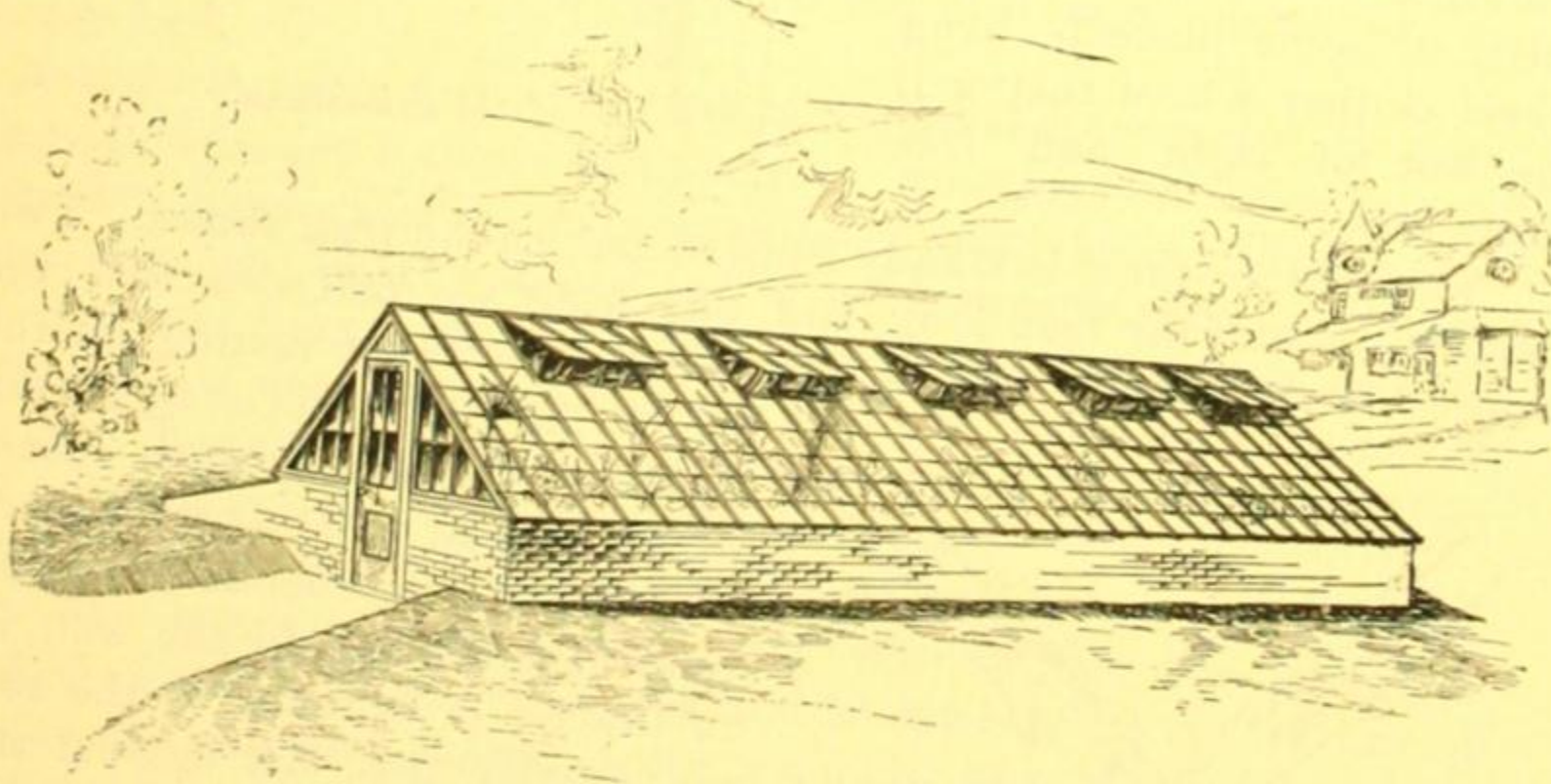
Although I might continue this subject to the filling of many pages, limited space necessarily restricts me to the few items given, but they will serve as examples of what may be done with little expenditure of either time, labor or money. Taste and ingenuity is the capital upon which to draw when furnishing and decorating a summer cottage.



Rustic Dressing of a Window.

GREENHOUSE AND HOTBEDS.

THE foundation walls should be built of the best hard burned brick, laid in cement mortar. The bricks will crumble after a time unless of good quality. The topping out of the foundation



Perspective View of Greenhouse and Hotbeds.

wall should be of cement, with a sufficient wash so that water will not be retained on top of the walls, thus preventing the rotting of the timbers on which the sashes rest.

The section of sash muntin shows clearly how any condensation on the under side of the glass is carried down to the wall by the little grooves or gutters in the sides of the muntin. This does away with the unpleasant dripping that would otherwise occur.

The building should extend north and south, and may be of any desired length; the building shown is 30 feet long and 12 feet wide, inside dimensions. When it is impossible to run the building north and south it should have the ridge tree near one side, with almost the entire sash exposure sloping to the south, so as to obtain the greatest sun exposure.

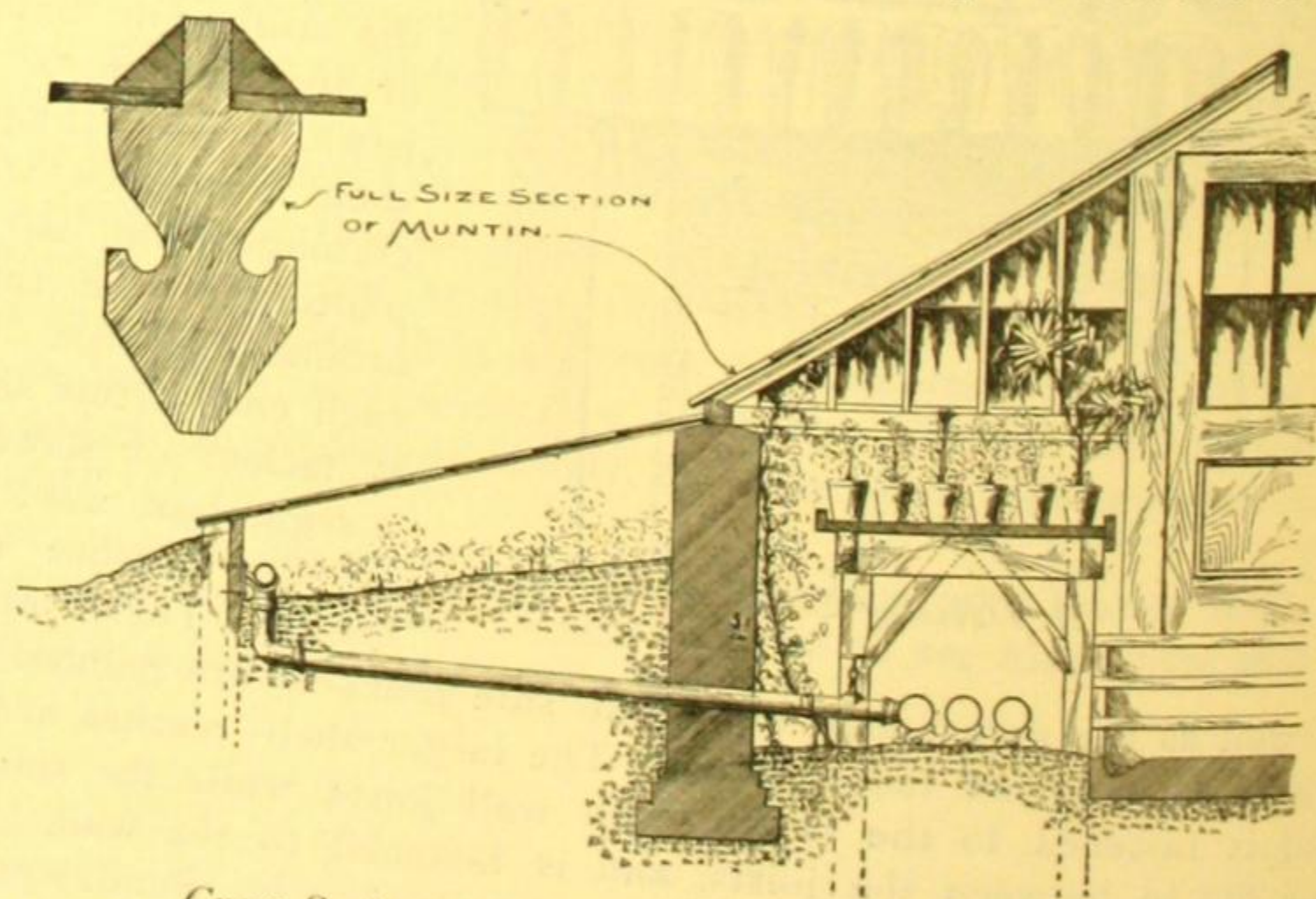
The hotbeds are formed by posts set in the ground, at short intervals, with planking (coated with tar or other good preservative) spiked to the posts to form the sides, and ordinary hotbed sash placed thereon.

Several good heating apparatuses are in use. The best results are obtained by using hot water circulating in pipes. Steam cools off too rapidly.

The ventilation may be secured by using iron bars, having a saw tooth edge, hinged to the lower end of the ventilation sash. This will hold the sash at any desired angle by having the saw tooth edge fit into suitable stops.

The pathway through the centre should be of concrete. In this design it is somewhat wider than ordinary, but is none too wide when it is desired to exhibit the plants, etc., to visitors.

The benches for flower pots should be just wide enough to reach all the plants handily from the walk, and as high as convenient.



Cross Sectional View of Greenhouse and Hotbeds.

The top of benches should be made of narrow planks, laid with spaces between, so that water can not accumulate on them and surround the bases of the pots.

The cost of the greenhouse shown is estimated at \$315, exclusive of heating apparatus and patent sash openers. Flower benches are included. Cost of the hotbed, \$35.

HINTS ON HEATING AND VENTILATION

BY CHAS. F. WINGATE, Sanitary Engineer.

TO warm an ordinary dwelling, the householder of moderate means may choose between open fires, stoves and furnaces. Steam and hot water apparatus are excellent for large buildings, but they are costly as compared with the other methods. Hot water heating is the ideal method, as the temperature is kept at a uniform degree, and on mild or muggy days one is not made uncomfortable by excess.

Open fires are very delightful from the æsthetic standpoint, and are excellent as an adjunct, but they are not sufficient alone to warm large rooms. Most of the heat is wasted and goes up the chimney, while there are apt to be drafts along the floor which annoy delicate persons and cause cold feet. Yet, every house should have one or more open fires, both for comfort and to assist ventilation.

Close stoves supply ample heat, but they "burn" the air and make the atmosphere of a room unfit for breathing. A Franklin stove with an open grate is the best form of stove, as it serves for ventilation as well as for warming. What is known as the Fire on the Hearth stove is a good example of this form of apparatus, and is commended by all sanitarians. A simple plan to overcome the defects of ordinary stoves is to surround them with a jacket of sheet iron, such as is shown by Figure 1, and to connect this at the bottom with a pipe running outdoors, so that a supply of fresh air can be brought in and warmed by striking against the heated base of the stove, when it rises and is diffused throughout the room. This avoids all chance of draft,

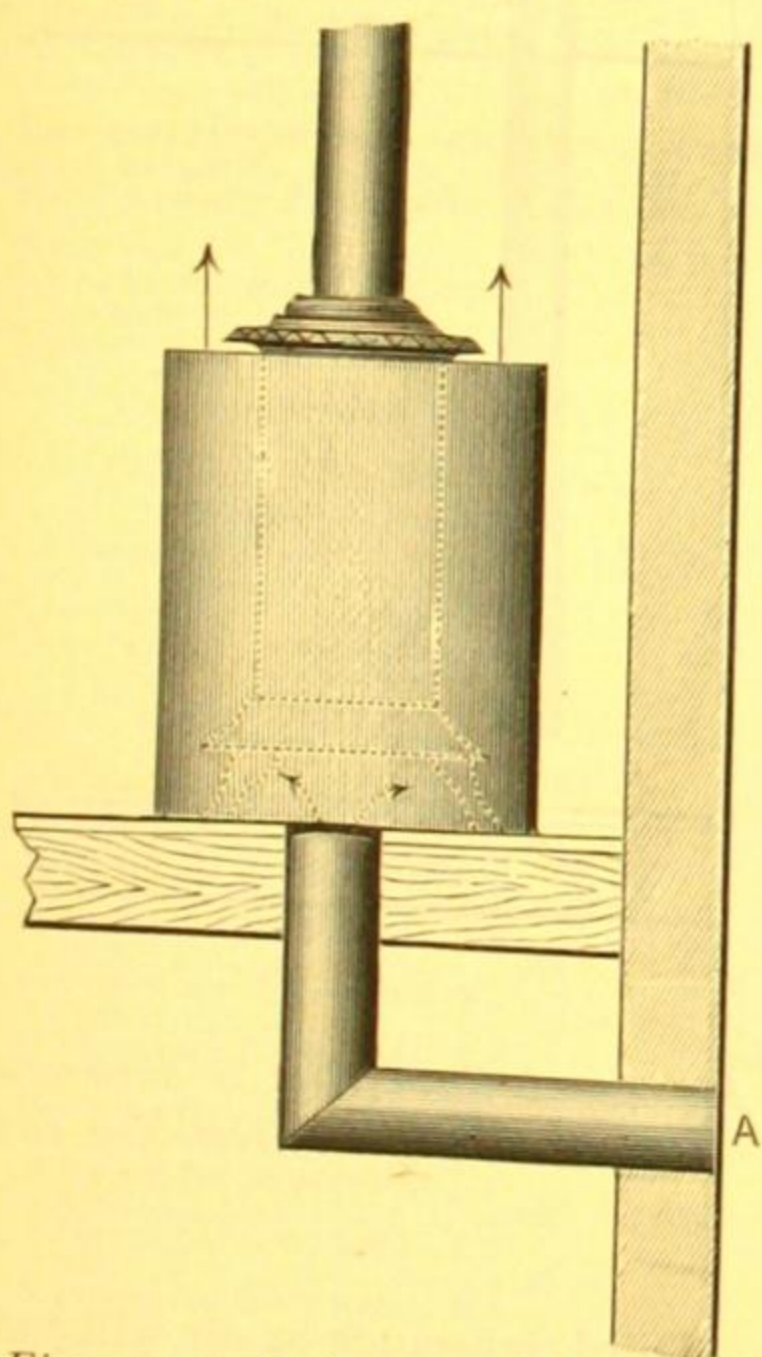


Fig. 1.—A Jacket or Metal Screen around a stove, so arranged as to afford an aid to ventilation.

and the supply can be regulated by a damper on the pipe A, according to the state of the weather. Some prefer to extend the jacket around only a part of the stove, and leave the door uncovered; or the jacket may stop at the bottom of the stove and be made fast to the latter at that point. The arrangement is equivalent to a "portable furnace," such as is usually placed in a cellar or a basement hall.

The same results will be gained by placing the stove directly in front of a window with a movable metal screen on the opposite side (see Figure 2). On opening the window sash cold air will enter and, quickly warmed by contact with the stove, will be diffused through the room without creating any draft.

These illustrations are taken from an essay on School Hygiene in the second annual report of the New York State Board of

Health, prepared by Dr. D. F. Lincoln, an accepted authority on the subject.

Figure 3 shows air brought in so as to be warmed by contact with a stove pipe. The inlet flue is enlarged and runs up with the stove pipe like a jacket, for some distance.

Figure 4 shows how a stove pipe may assist in removing injurious air. The diagram represents a two-story house with a chimney which

comes down to only a very short distance from the roof. The opening into the chimney for the stove pipe is enlarged so as to receive a much larger pipe, which encircles the stove pipe like a jacket. This jacket may stop short at the floor level or may be carried through to the floor level of the first story. It will secure a draft from either story, as may be arranged. A chimney into which a smoke flue discharges may be opened at any point below, and not too near the point where the smoke enters. Many rooms, for instance, have chimneys which reach to the floor, while the stove pipe enters near the ceiling. Such chimneys ought to lend their powers to the task of ventilating the room, by an opening near the floor. The latter ought to be closed when the fire is making.

But such devices will not serve in large houses, and a good furnace will prove far more satisfactory in the end. A furnace is simply a large stove placed in the cellar, so as to form a central reservoir of heat. Fresh air is brought in through a cold air box and, being warmed by contact with the hot chamber, it rises through flues and registers into living rooms. To work satisfactorily, a furnace should be big enough to supply ample warmth on the coldest days without heating it red hot. It should be near the centre of the house, so that the hot air will not have too far to travel. The flues should rise straight from the top and not run too near wood-work for fear of a fire. Cellar air should not be taken in, but fresh air from outdoors through a tight box.

Cold air supply boxes for furnaces are usually made of unseasoned wood, which soon warps and admits cellar instead of atmospheric air. Such boxes should be constructed of galvanized iron, or of well-seasoned wood, with joints made tight with white lead, putty or paper, and the whole well painted. They should not terminate at the street front of the house, if possible, as a purer supply may be obtained from the back yard. Most of the street air in our cities is largely made up of what Prof. Chandler calls "roasted manure," and the dirt which is found in cold air boxes is apt to be largely composed of organic matter. When exposed to fire it gives off an odor like burnt feathers. The ends of cold air boxes should not open just above a dark area, or under a veranda or stoop, where dust, decayed leaves, etc., abound. In Dr. John Hall's church, in New York, the supply of fresh air for the heating apparatus is brought from the top of the steeple, and is thoroughly purified by being passed through a spray of water before entering the furnace. By extending these

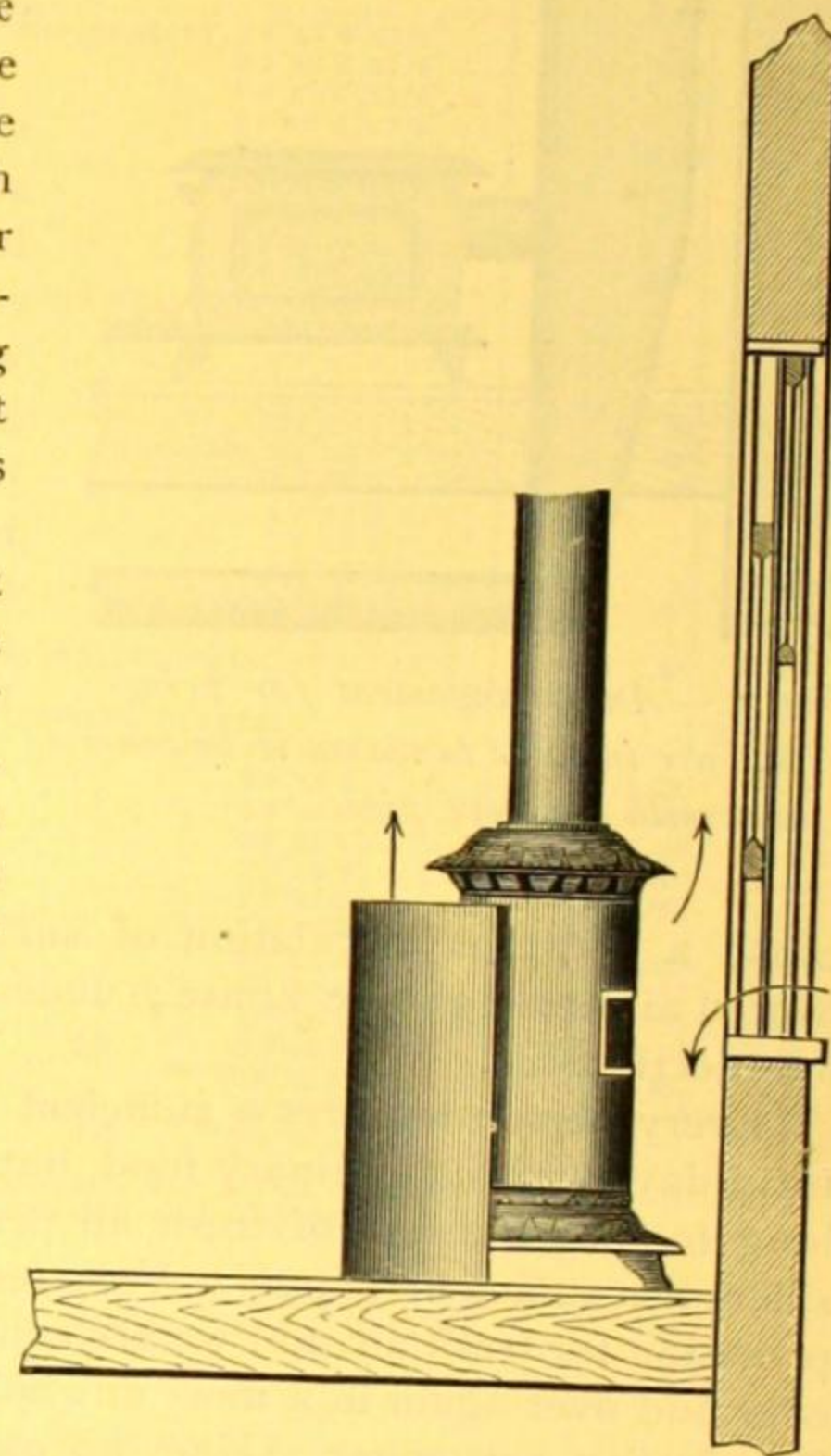


Fig. 2.—A Stove located near a window, and a semi-circular Screen of Metal so placed as to inclose the stove, except the side toward the window.

boxes in dwellings a few feet above the ground, the chances of drawing in damp ground air are greatly lessened.

Where there is a northern exposure, such an arrangement is specially advantageous, as it prevents too strong an inward draft, such as is often complained of. The ends of all cold air boxes should be closed by wire netting, preferably of brass wire, which can be readily removed and cleaned, as they soon clog up with dust. Cats, rats and other animals have a special liking for such receptacles as abiding places, and their remains are often found in them, and prove a source

of very foul odors. A furnace should never be started without thorough examination and cleansing to prevent such accidents.

Furnace cold air boxes are built often with but three sides, and fastened against the ceiling which forms the top. This is a very bad arrangement, as they are sure to sag in time and leave large openings along the sides for cellar air to enter.

Furnace air, *per se*, is not so unwholesome, but it is the absence of ventilation which makes it so. If a furnace is of sufficient size to warm a building without opening every draft and heating the fire pot red hot, and if the fresh air supply is taken from a proper source and not from a damp area or unclean cellar, and furthermore, if there are sufficient openings at the top of the house, to allow the impure air which rises to that point to escape and thus

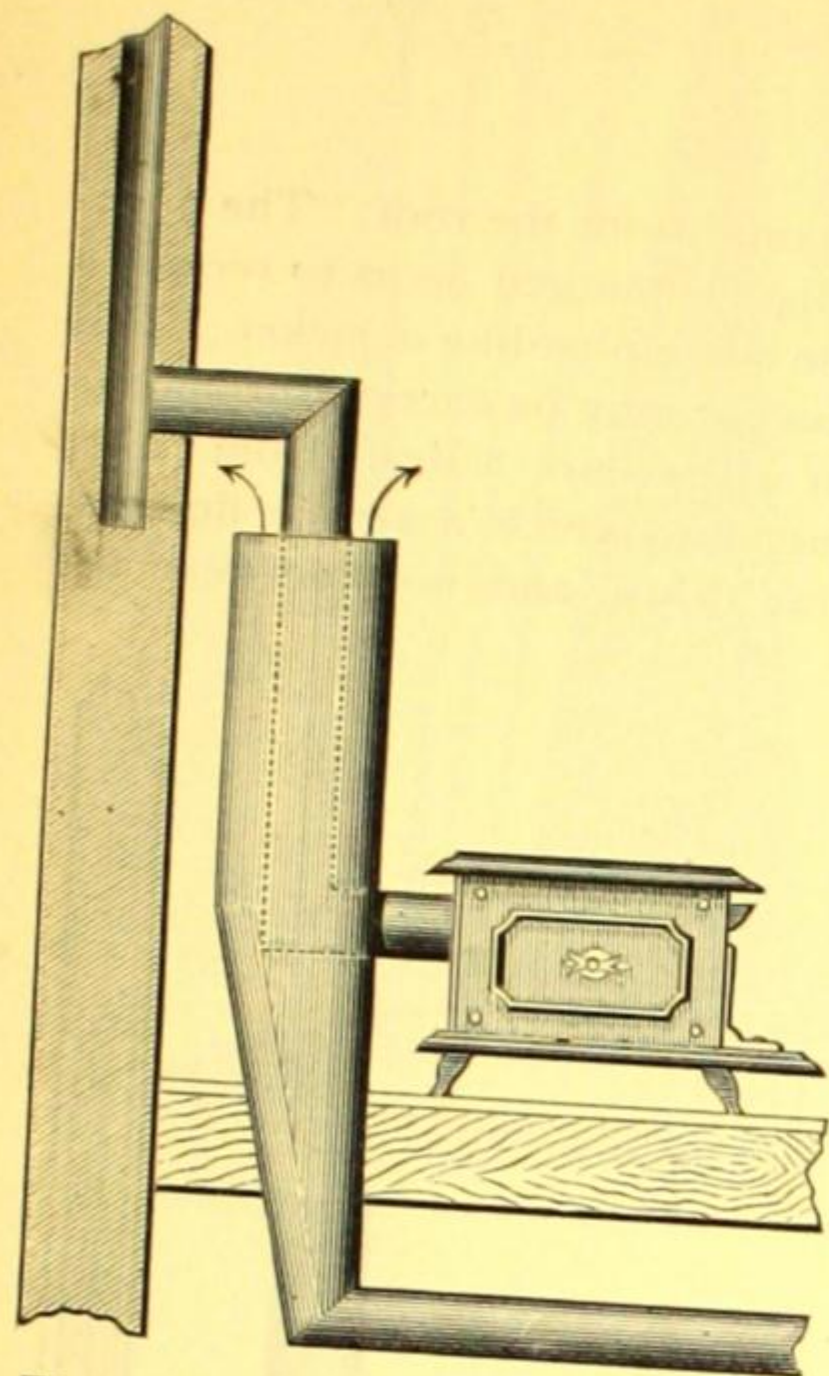


Fig. 3.—An arrangement for bringing air in so as to warm it by contact with the stove pipe.

cause a constant circulation of sufficiently warmed but not over-unobjectionable.

Every person requires a sufficient supply of air. A man can live forty days without ordinary food, but not half forty minutes without lung food. One foot of fresh air per second for each person is considered a sufficient supply. Very few living rooms make any such provision for fresh air, and we are content to breathe the same supply over and over again in a most unwholesome and disgusting manner. The Italian scavenger raking up garbage to eat is no whit worse than our nice people seated in a crowded theatre or concert room, or in a reeking street car in rainy weather with all the doors and windows closed.

Ventilation is one of the lost arts—if, indeed, it ever was discovered. The almost universal prevalence of catarrh, and the worn-out, wearied look of Americans which Herbert Spencer noted, may be justly charged to the bad ventilation of our houses. The chief difficulty about ventilating most dwelling-houses is that there are not sufficient means of carrying off the foul and heated air. If provision is supplied for doing this, then plenty of fresh air will leak in through window casings and cracks, as most of our houses are not tightly built. It is perfectly easy to prevent a draft by raising the sash a few inches and placing a narrow board in the space below, so that the cold air will enter between the upper and lower sash and be deflected toward the ceiling, without causing any annoyance to persons in the room. There are a number of patented devices for the same purpose, but the arrangement here described can be made by any one at the cost of a few cents.

People cannot understand that a circulation of air is necessary both for warming and for ventilation. When it is proposed to open skylights at the roof of a house, it will be complained: "Why, we shall feel too cold, as all the heat will escape." In reality, furnaces and stoves will act all the more briskly because of the escaping foul air, and the house will be warmer instead of colder, provided the ventilating cowl is of the proper construction and does not permit a down draft. I have found the Wing Ventilator well adapted for this purpose.

In hundreds of dwellings a skylight will be found on the roof over the main stairway without any opening into the air, or where there is an opening, the stained glass sash in the ceiling above the stairway will be closed tight, and thus the air contaminated by gas-lights, odors of cooking and washing, and by other impurities, will have no chance to escape, but will stagnate on the upper floors which are occupied as sleeping rooms. By raising the stained glass sash on small wooden blocks at each corner, this air will have a chance to escape through the opening in the skylight, and much relief will thus be afforded without any annoyance from snow or rain beating in. It is surprising how many houses are defective in this respect, although the remedy will cost only a trifle. In large dwelling-houses which have separate back stairs for the servants, running from the basement to the roof, the latter may be used as a ventilating shaft to advantage. The growing practice of placing galvanized iron flues with lanterns in them to ventilate water closets is a great step in advance. So also is the custom of providing flues in new houses for ventilating gas-jets. The cost of these is not great, while the benefits are remarkable.

Most ventilating flues are entirely too small and are badly built. They should be of ample size, made smooth on the inside, with the fewest possible bends or obstructions, and with a clean inlet and outlet. If there are a number of flues from different rooms ending in an attic, they should be joined together and protected from cold with an outlet above the roof, away from chimneys or side walls, which may cause a down draft.

Dr. Lincoln remarks: "How can we be sure that air will not come down flues instead of going up as desired?" First, the flues must be warmed; if this is not done there may be trouble. Second, a cap should be put over them, of some pattern suited to prevent the wind from descending. Third, inasmuch as air will not pass up these pipes unless there is air to pass, it is advisable to have a constant free supply of warmed air coming into the room. It is not worth while to place dependence upon any cap, cowl or hood, for the purpose of increasing the discharge of air from a ventilator. The safe thing to rely upon is the ascensional force of warm air in a flue.

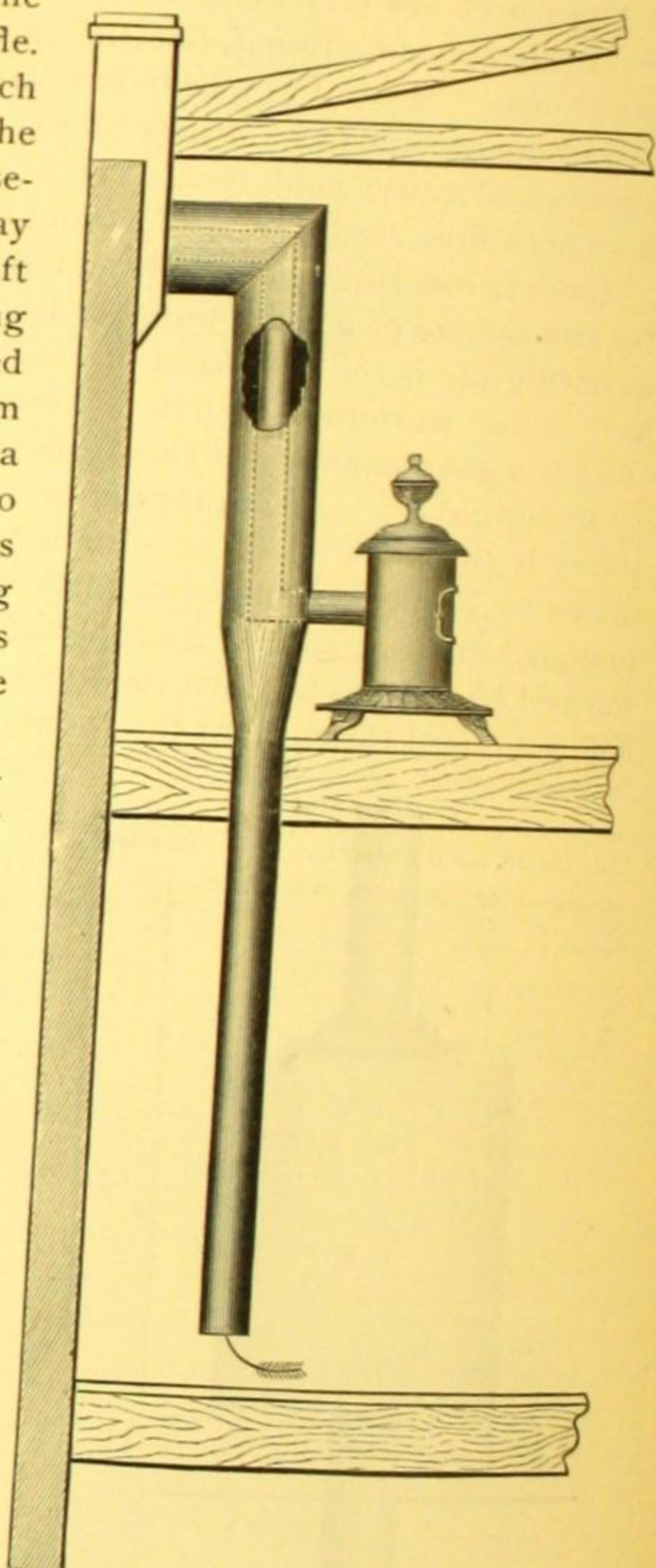


Fig. 4.—A Stove Pipe so arranged that it will assist in removing bad air.

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ESTIMATE OF DESIGN NUMBER 479—Continued

Quan. Price. Cost.				Quan. Price. Cost.				Quan. Price. Cost.			
Brought forward.....				Brought forward.....				PLUMBING.			
Doors, 5 panels for 2d story, 2'6" x 7'0" x 1 1/2"	4	\$2.65	10.60	Pipe stripping and casing, and bell board.....	30	.03	.90	Lin. ft., 4-in. cast iron pipe.....	40	\$1.18	\$7.20
" 5 " " " " 2'8" x 7'0" x 1 1/2"	5	3.25	16.25	Angle beads.....lin. ft.	30	.01 1/2	.45	" 2-in. " " waste.....	72	.12	8.64
" 5 " " " " 2'4" x 6'0" x 1 1/2"	1		2.25	Shelving, etc.....ft. B.M.	150	.03	4.50	Lead pipe for water and waste service throughout the house.....lbs.	600	.06	39.60
" 5 " " " " 2'4" x 7'0" x 1 1/2"	1		2.45	Picture moulding.....lin. ft.	394	.02	7.88	Lead traps.....	5	.50	2.50
" 5 " " " " 2'8" x 6'6" x 1 1/2"	3	3.00	9.00	Hatchway stuff, 1/2-in.....30 ft. B.M.				Finished brass cocks.....	6	.75	4.50
" 5 " " " " 2'0" x 6'0" x 1 1/2"	1		2.50	" 1 1/4-in.....20				Plain " stop cocks over boiler.....	2	.70	1.40
Cellar door, 3'2" x 6'8" x 1 1/2"	1		1.95	Yellow pine door saddles.....lin. ft.	50	.03	1.50	Rough "			

THE IMPORTANCE OF BUILDING

The desirability of building modern houses, especially those of moderate cost, to rent, to sell, or to live in, is now very well understood. But there are many who have given the subject no serious attention, although they have the means with which to build. Such persons make a serious mistake, and they will realize some day with regret that they have paid out for rent more than sufficient to have built desirable houses. There are no real difficulties in the way of building, even by those of no experience whatever, when drawings, specifications and the architect's directions are followed.

There are many whose savings will partly pay for building. If such an one will call upon some wise friend for advice (perhaps the head of the firm or an officer of the company that employs him) he will probably learn that it is wholly practicable to build, say, for instance, a \$2,500 house with \$1,000—perhaps even with a less amount. There is not space here to explain this to apply to individual cases, but the general plan is as follows: Fully pay for the lot and make the first and, perhaps, the second payment to the contractor; the capitalist who furnishes the balance of the money to make the remaining payments as they become due, taking a mortgage as his security.

But I object to giving a mortgage, says one. It would be unwise, certainly, to mortgage a house and speculate in Wall Street or engage in any risky venture with the proceeds; but to give a mortgage that will stop the paying of

rent is quite another thing. In the course of a few years the increased value of the property may more than equal the mortgage and provide for its removal.

Do not buy a house that is already built. It never thoroughly satisfies, and it costs more than to build one. It is generally said that the only way to get a handsome and convenient modern house is to build it. Remember that, until recently, nearly all the houses of moderate cost were built after one ill-looking and ill-arranged style. Do not become the owner of one of these, when, for the same investment, or for less, a really beautiful and convenient house can be built.

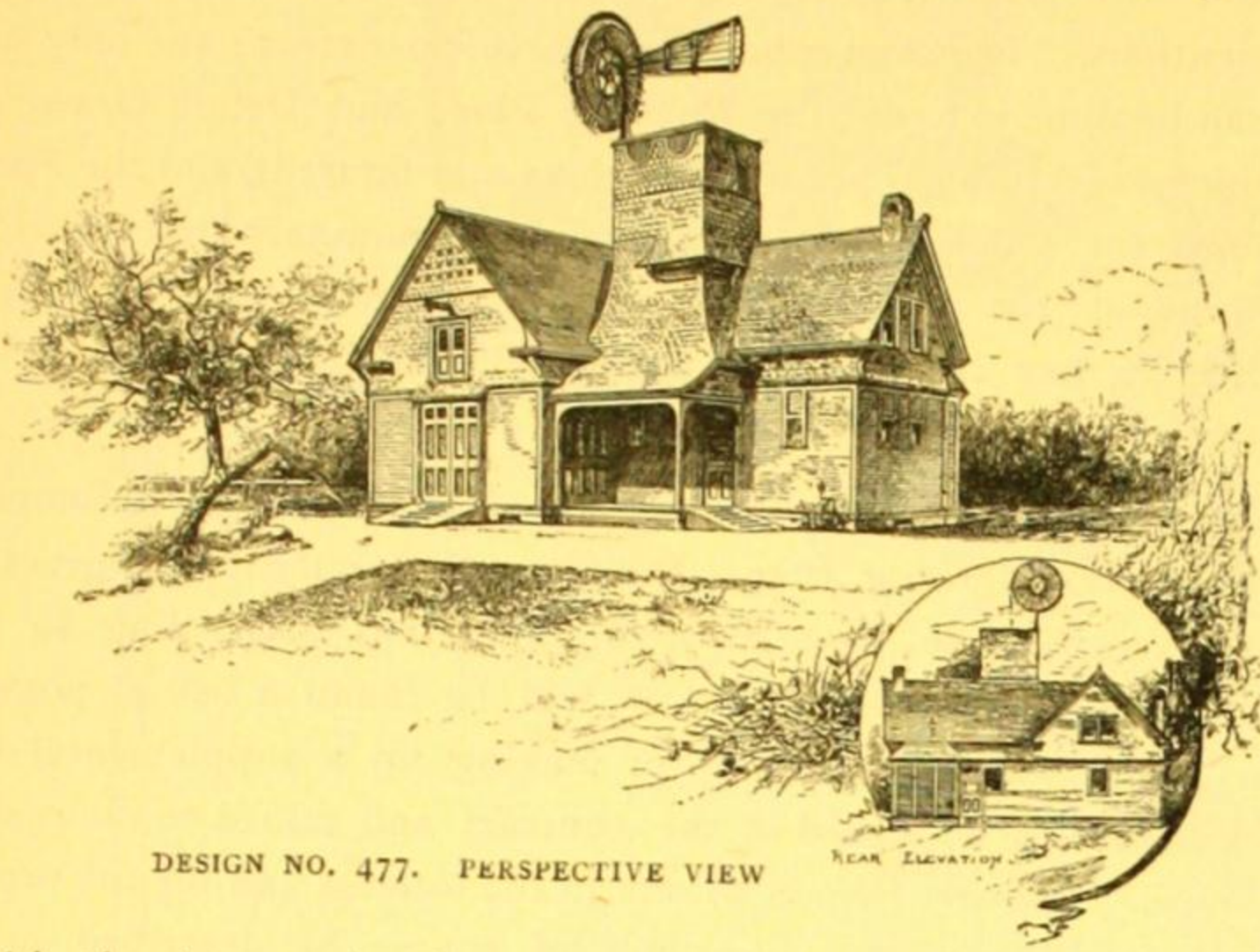
L. B. Blydenburg, Esq., of Palmyra, N. J., writes to the Co-operative Building Plan Association, of New York, to say: "While sitting in my cozy library looking at the storm, I am reminded of what appears to me a duty, viz.: to make my acknowledgements to you for some of the comforts I am enjoying. Have had a five months' trial of the house built from your Working Plans and Specifications, and am more and more pleased with the arrangement every day, and, what is unusual, have not discovered anything that could be changed for the better; the appearance and shape outside also is all that I could wish. It is the handsomest house in this place—so acknowledged—and many have come quite a distance to see it."

DESCRIPTION OF DESIGN NUMBER 477

STABLE AND CARRIAGE-HOUSE

SIZE OF STRUCTURE: Front, 52 ft.; Side, 31 ft. 4 in.

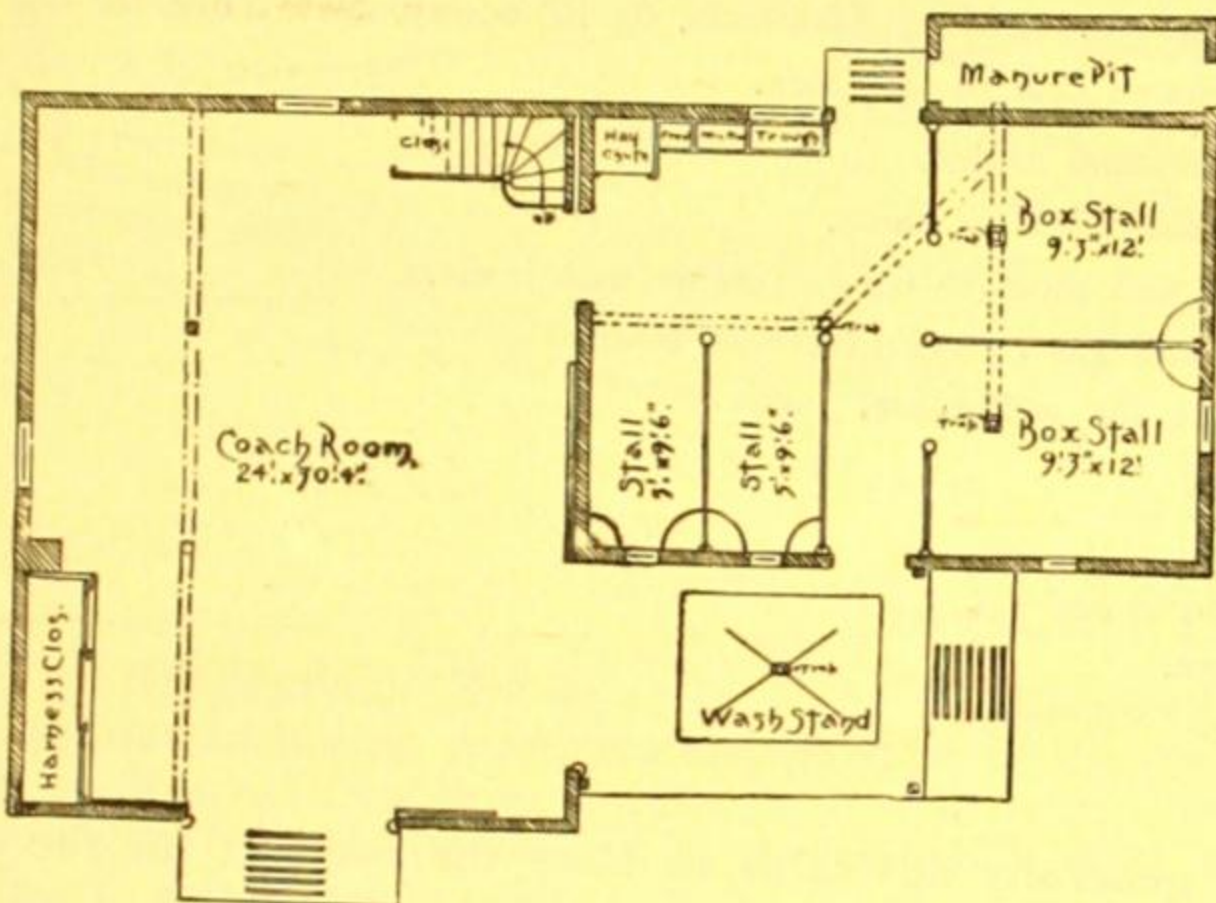
GENERAL MEASUREMENTS: Girt of walls, cellar and foundations (on centre line), 165 ft.; Manure pit, 21 ft.; First story (outside), 167 ft.; Second story, 167 ft.; Manure pit, First story, 21 ft.; Partitions, First story, 23 ft.; Second story, 71 ft. Height of First story, meas-



DESIGN NO. 477. PERSPECTIVE VIEW

ured in the clear, 10 ft. Surface measure of First floor (to outside of walls), 1,302 sq. ft.; Second floor, 1,302 sq. ft.; Porch or wash floor, 150 sq. ft.; Roofs, including porch and water tower, 3,300 sq. ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.



GROUND PLAN. NO. 477

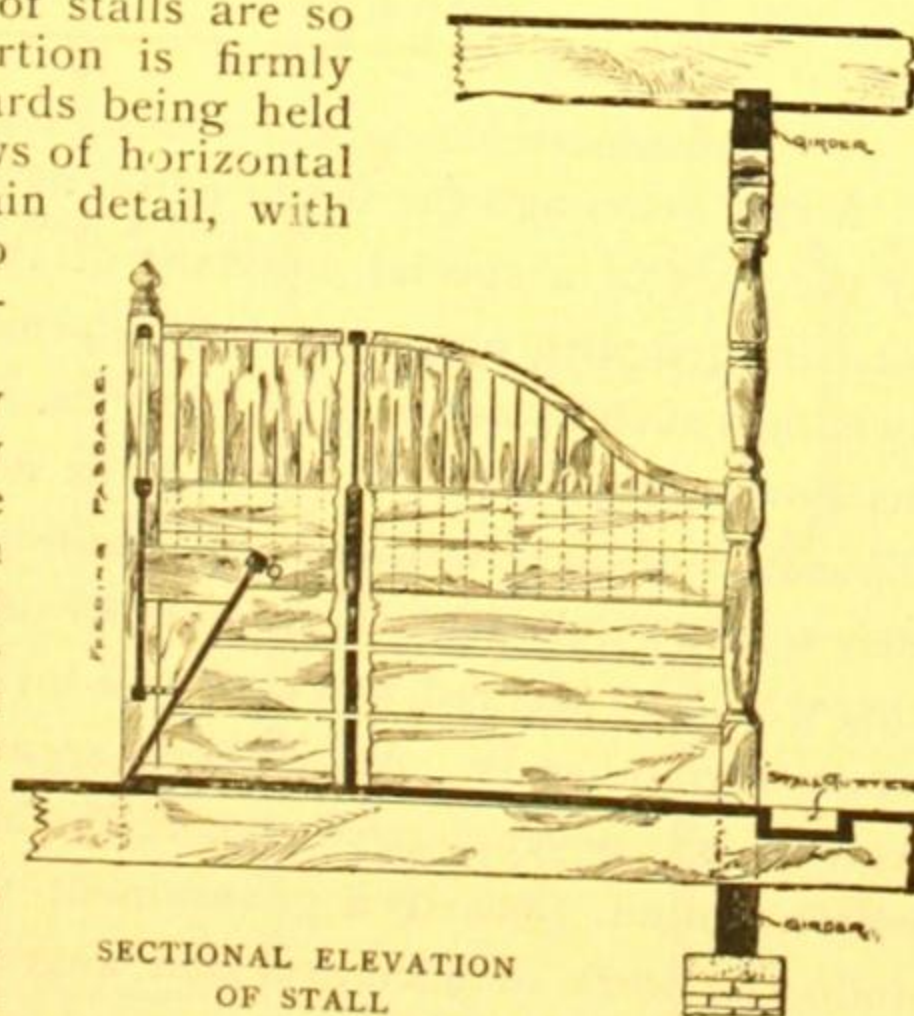
COST: \$2,330.14. See "EXTRAS" on page 8 for list of possible extras.

REMARKS: Designed to accommodate a windmill and tank, but these are not included in the estimate. These would cost about \$275 additional.

The sides or partitions of stalls are so made that the upper portion is firmly secured by the upright boards being held between the two upper rows of horizontal boards. The cap is of plain detail, with grove on the under side to receive the ends of the vertical boards.

The front of the hay manger is made perfectly tight and extended to the floor. The vertical partition and grating in the bottom of the manger are so arranged as to allow all dust and dirt to fall out into the feeding passage. This formation of the manger makes it impossible for a horse to get cast and to lacerate his legs. All woodwork liable to give an opportunity for a horse to "crib" upon should be covered with zinc or galvanized iron.

The posts are firmly secured to the floor joists, giving greater stability to the posts. The floor is so inclined as to carry all water to the stall drain. Upon this flooring cleats are secured, leaving



SECTIONAL ELEVATION OF STALL

about a half-inch space between. These cleats are so framed together as to be removable for cleaning purposes. The floor should be well caulked and made watertight.

The stall gutter should not be too deep, and should be of sufficient width to insure against danger of injury to the horses. The lower boards of side partitions should be set slightly apart, to secure better ventilation of stalls.

The cost of one stall (i. e., two side partitions, the front and manger, floor-grating and four posts) is about \$35.00, if done in yellow pine. Each adjoining stall would cost about \$22.00 more.

ABOUT PLUMBING.

"SHALL we have plumbing in the house, or shall we not?" is the question that arises to perplex the mind of every thoughtful man who undertakes to build for himself and his family, a dwelling that shall be in the highest sense a home.

There are great advantages and attractions in having every possible convenience and trouble-saving appliance within doors; yet, on the other hand, their introduction is often the introduction of disease. Their costliness looms up in frightful proportions, with visions of endless "bills for repairs." The wise man thinks of these things, and the more he thinks the more perplexed does he become.

To such we would say, you can have the plumbing without danger to health, at small original outlay, and with no repair bills, if it is designed and put in properly in the first place, and at the time the house is built. To put plumbing into an old house that was not designed to receive it is very expensive and troublesome work.

The great saving of woman's strength and patience when the house is provided with running water, stationary wash-tubs, bath, etc., is only appreciated by those who have had the care of a house not provided with them.

By running the water pipes on inside walls and taking care to protect them by packing where they are necessarily exposed, the danger of freezing and bursting will be done away with. Neglect of these precautions is the origin of three-quarters of the repair bills.

The supply to the hot water boiler must be so arranged that it cannot fail, else the water-back in the range will be burnt out. This can be done by having an indicator in the kitchen connected with the tank, to show how much water is in the tank, so that should the supply fail, the stop cocks at the top and bottom of the boiler can be turned, keeping the water from entering or leaving the boiler, and thus keeping the water-back full. The indicator is simply a wire attached to the copper float in the tank, which, as the float lowers, rises correspondingly, it being attached to the opposite end of the rod to which the float is attached. It is carried down over pulleys to the kitchen, and the end is fixed against a board marked off properly. A plummet weighing a little less than the float should be attached to the end of the wire to lower it again when the float rises.

Stationary wash-tubs should be of earthenware, galvanized or enameled iron, slate or soapstone. The wooden tubs, while much cheaper originally, get foul, and will have to be replaced after a few years' service.

The sink should be of galvanized or enameled iron or earthenware, for the reason that common iron rusts and never looks clean. A few dollars more spent in this way is true economy.

The water-closet should be of porcelain or earthenware, and of the "washout" pattern, with an overhead flushing cistern supplied from the main tank. These are manufactured under many different names, but are all about the same thing and equally good. No other pattern of closet is so simple, efficient and safe. The cost of a good porcelain closet with trap (made in one piece) and cistern is about \$25.00. The old style pan closet, with its weak, dribbling flush and foul metal bowl is an abomination, and a continual danger to the health of the householder.

The wash-basin should be oval, of size not less than 15x19 inches; the cocks supplying the same should not be less than 1/2 inch.

As the system of wastage is where the danger lies it should receive the greatest study and care. The main drain from the house to the street or cess-pool must be trapped outside of the house and a fresh air inlet provided. The soil pipe must be run up to and through the roof, so that a draft of air through the pipes will be insured. All fixtures must be separately trapped and the traps ventilated to prevent syphonage. A competent architect or sanitary engineer should draw up the plumbing specifications and make drawings if the work is at all complicated.

Wash-basins in bedrooms are dangerous, as sewer gas is subtle and will sometimes circumvent all plans and precautions against it. If they are very much desired there can be a small catch basin built to receive their waste alone. They should not be connected with the main drain, sewer or cess-pool.

The cost of fitting out a new house with tank, boiler, range, two earthenware tubs, galvanized sink, one water-closet, bath tub and basin—all work done in best manner—is about \$375.00.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL MONTHLY

No. 6.

NEW YORK.

AUGUST, 1887.

SHOPPELL'S MODERN HOUSES is published monthly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York. It is edited by R. W. Shoppell and Stanley S. Covert.

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BACK NUMBERS

This monthly publication is the continuation of the quarterly of the same name. The following back numbers of the quarterly, viz., Nos. 1, 2, 3, 4 and 5 each consist of 72 pages, and each contains over 50 designs for residences, besides much miscellaneous matter. Price of each, \$1.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION is an association of Architects and Builders, incorporated under the laws of the State of New York, for the purpose of furnishing architectural services for all kinds of structures. The special features are prompt services and low charges. Its charges are about one-quarter of the charges by other architects. Eight thousand houses have been built from the Working Plans and Specifications furnished by this Association.

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BUILDING PLANS AND SPECIFICATIONS

In connection with the publication of SHOPPELL'S MODERN HOUSES, the Co-operative Building Plan Association furnish plans and specifications for buildings of every kind, including Stores, Dwellings, Carriage-houses, Barns, etc. Full plans, details and specifications for the various buildings illustrated in this paper can be supplied.

Those who contemplate building are invited to communicate with the undersigned. Our work extends to all parts of the country. Estimates, plans, and drawings promptly prepared. Terms moderate. Address THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects, 63 Broadway, New York.

"EXTRAS"

In the building of a house, if the contract between the owner and the builder is loosely drawn, or worse still, if a great many things are left to a verbal understanding, there is sure to be a vexatious disagreement in the settlement of "extras." Two men will remember and will construe things in different lights, and both may be conscientious. The best plan is to have no extras; the only way this can be done is to use the Working Plans and Detail Drawings, (in which everything is accurately drawn and figured), and the Specifications, (in which everything required is minutely described), as the basis of the contract. If anything unusual (an "extra") is required it may be added to the specification or written in the contract.

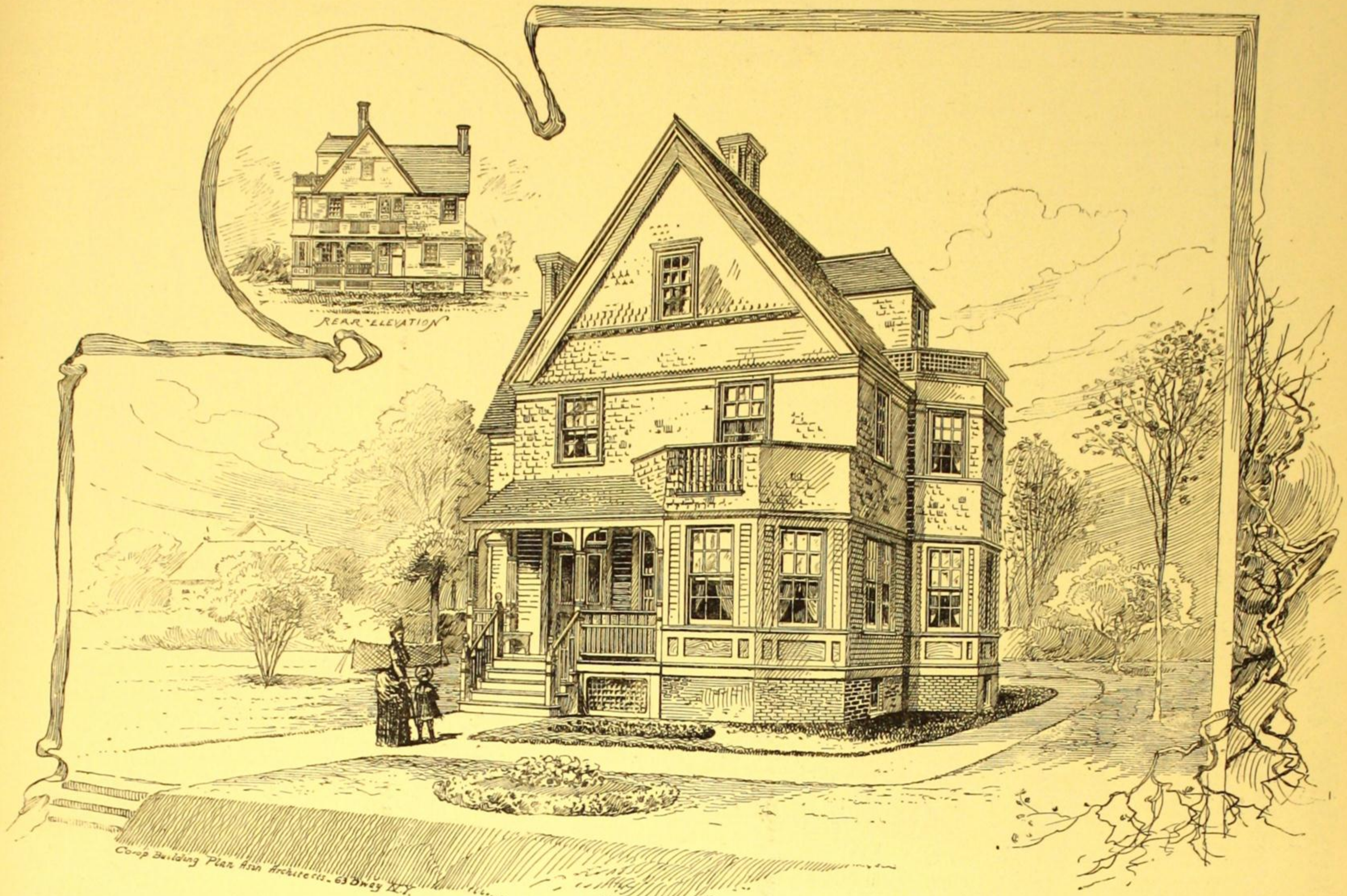
The "estimate of materials and labor" which should accompany every set of Working Plans, Details and Specifications, gives all items except those that may, or may not (according to circumstances) be required. Below will be found a list of possible extras to be used as a guide in making up a supplemental bill, which should be described in the contract and added to the cost of the house. The first item is wholly in the interest and for the protection of the owner, and need not of course be described in the contract.

Working Plans, Detail Drawings, and Specifications, including Color Sheet, Estimates of Materials and Labor and Blank Contracts supplied by the Co-operative Building Plan Association, Architects, 63 Broadway, New York, for one per cent. of the estimated cost of structure.

Cess-pool and drains.
Privy and vault for same.
Cistern and pipes to connect same with leaders.
Water and gas connections with main.
Flagging for walks, etc.
Grading.
Fences.
Range.
Furnace.
Grates.
Tank.

It is generally advisable to have the contract for the house include all these items, so that one man will be responsible for the whole, and that responsibility for delay may not be laid to another contractor. It is rarely that a saving can be effected by dividing the contract between several men, while the trouble to the owner is much increased thereby.

A FEW years ago the senior editor of this paper was complimented by the visit of a special emissary of the German government, who was charged with acquiring full information and plans for low cost dwellings such as are built in America. The German agent said that his government was considering the advisability of building many thousands of such dwellings and of selling them to German subjects on easy terms. Building a large number of such houses the minimum of cost would be secured, and the home-loving Germans could be depended on as purchasers. Altogether it seemed like a feasible scheme and, while it was never carried out, it left an indelible impression on the editor's mind, that, if a government wished to retard emigration, undo the work of socialists and anarchists, and generally to make its people happy and contented with their lot, it should provide them with homes. This may furnish a hint of policy for our own government if the disturbing influence of land theories or other property or social fallacies should become troublesome.



DESIGN No. 478. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 478

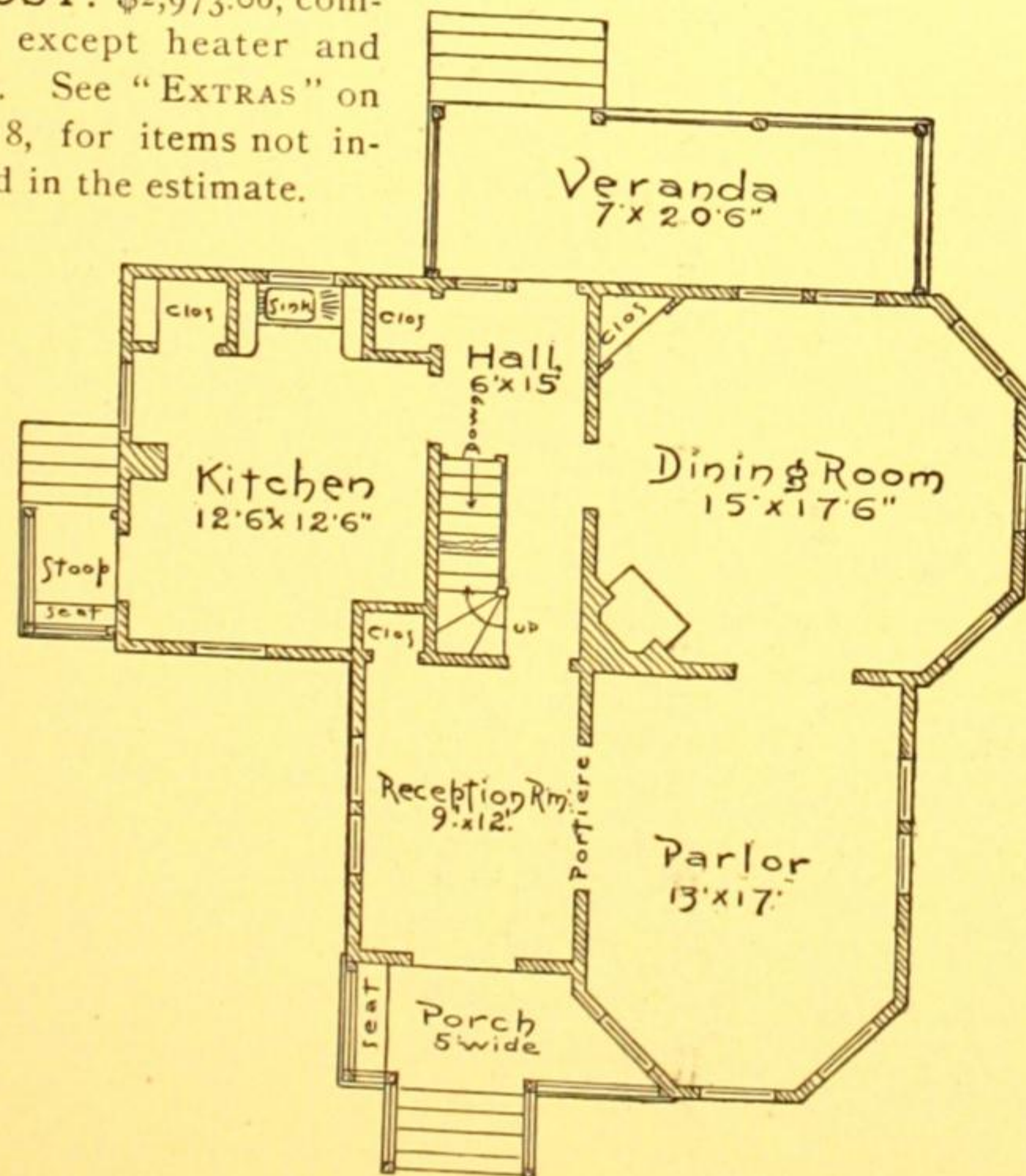
SIZE OF STRUCTURE: Front, 23 ft. 6 in. Width over all, 42 ft. Side, not including rear veranda, 33 ft. 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES (measured in the clear): Cellar, 6 ft. 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, 12-inch brick wall; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,973.06, complete, except heater and range. See "EXTRAS" on page 8, for items not included in the estimate.



FIRST FLOOR. NO. 478

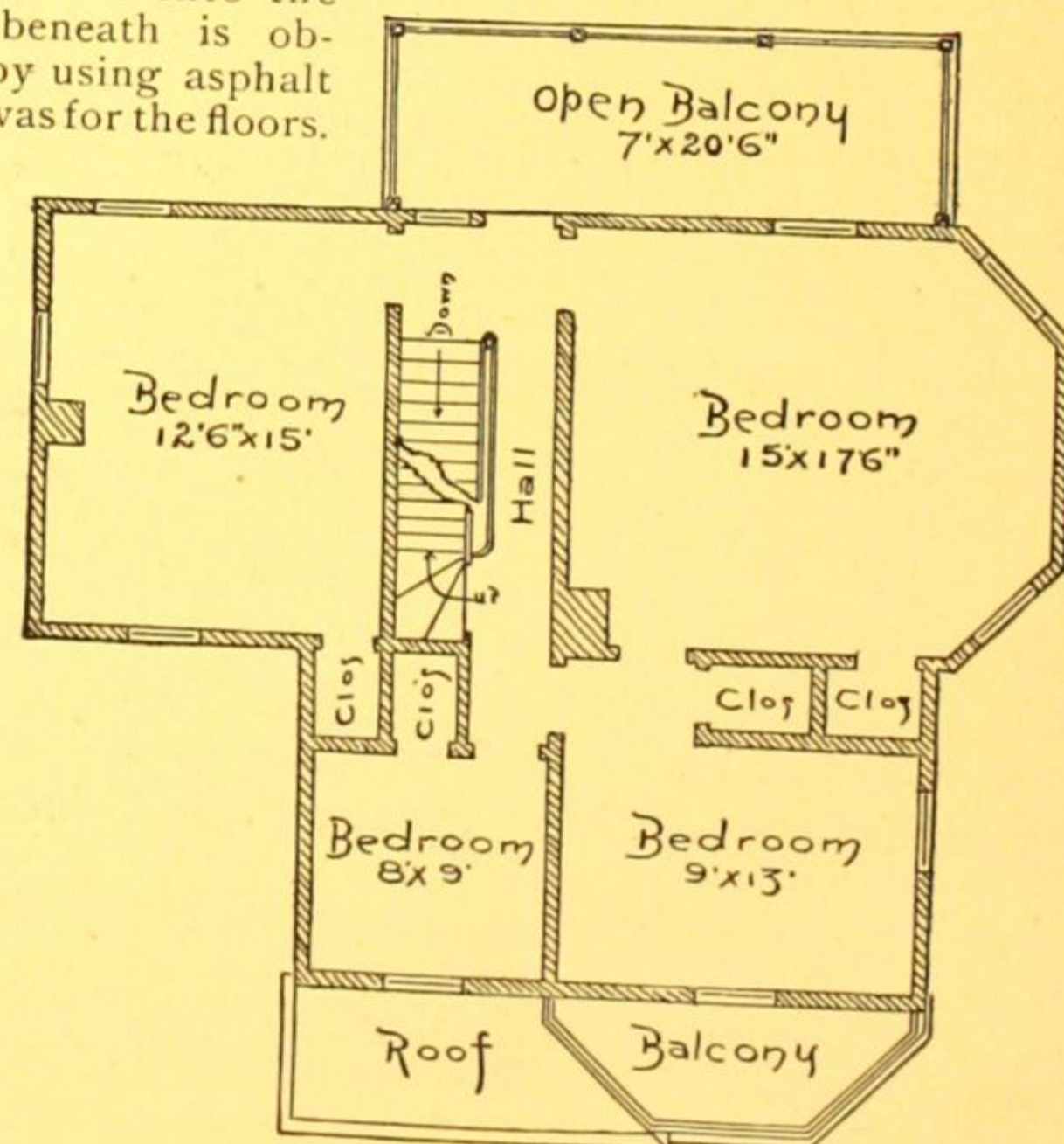
SPECIAL FEATURES.—Cellar under the whole house, with cemented bottom. Double folding-doors connect the parlor and dining-room. The stairway is placed in the rear hall to obtain a reception-room at the front.

The position of the stairway affords convenient access from the front, and obviates the necessity of a back stairway for servants.

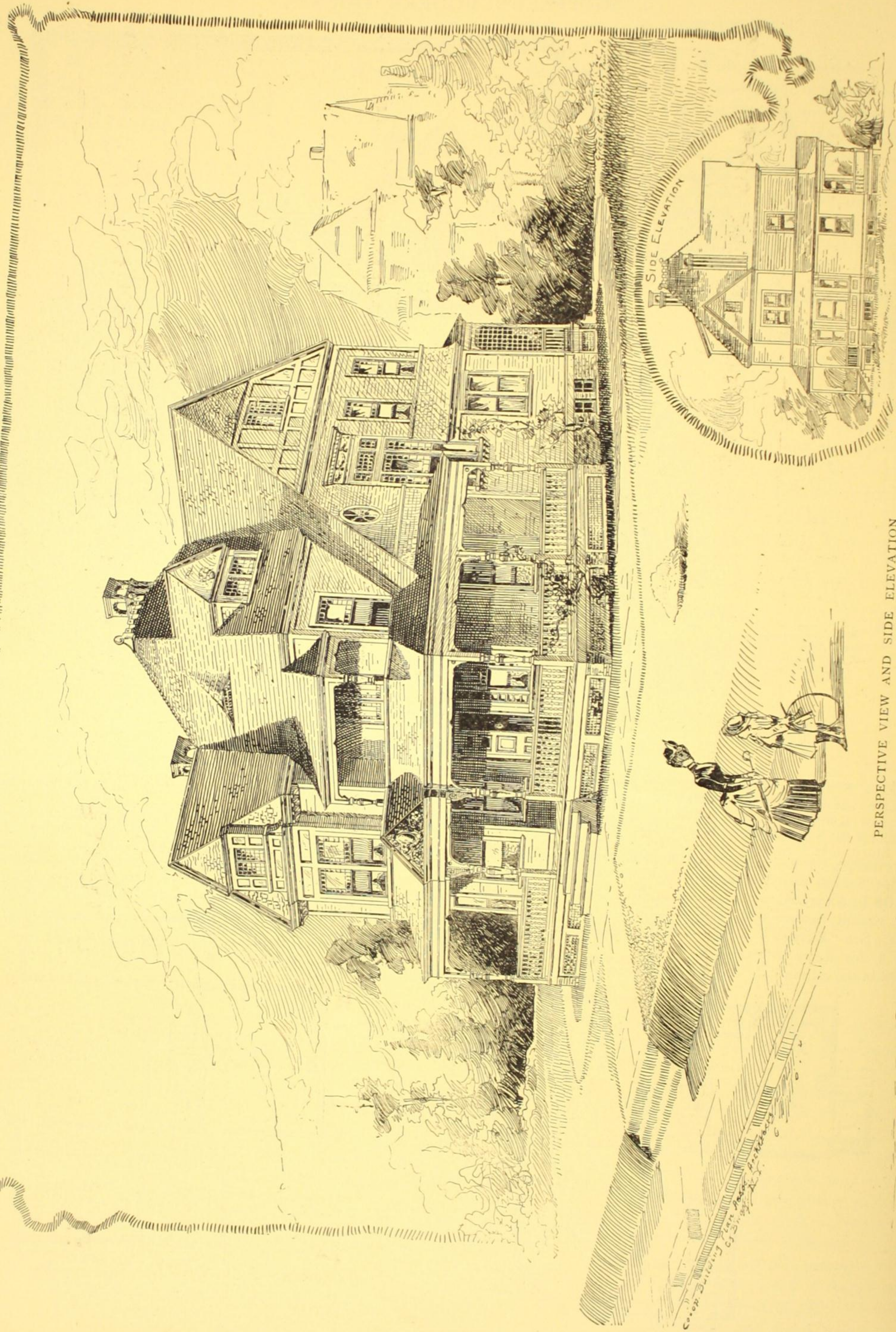
If the rear veranda and balcony over are not desired a small porch or stoop can be substituted with a saving of about \$150.

The attic is floored but no rooms are finished.

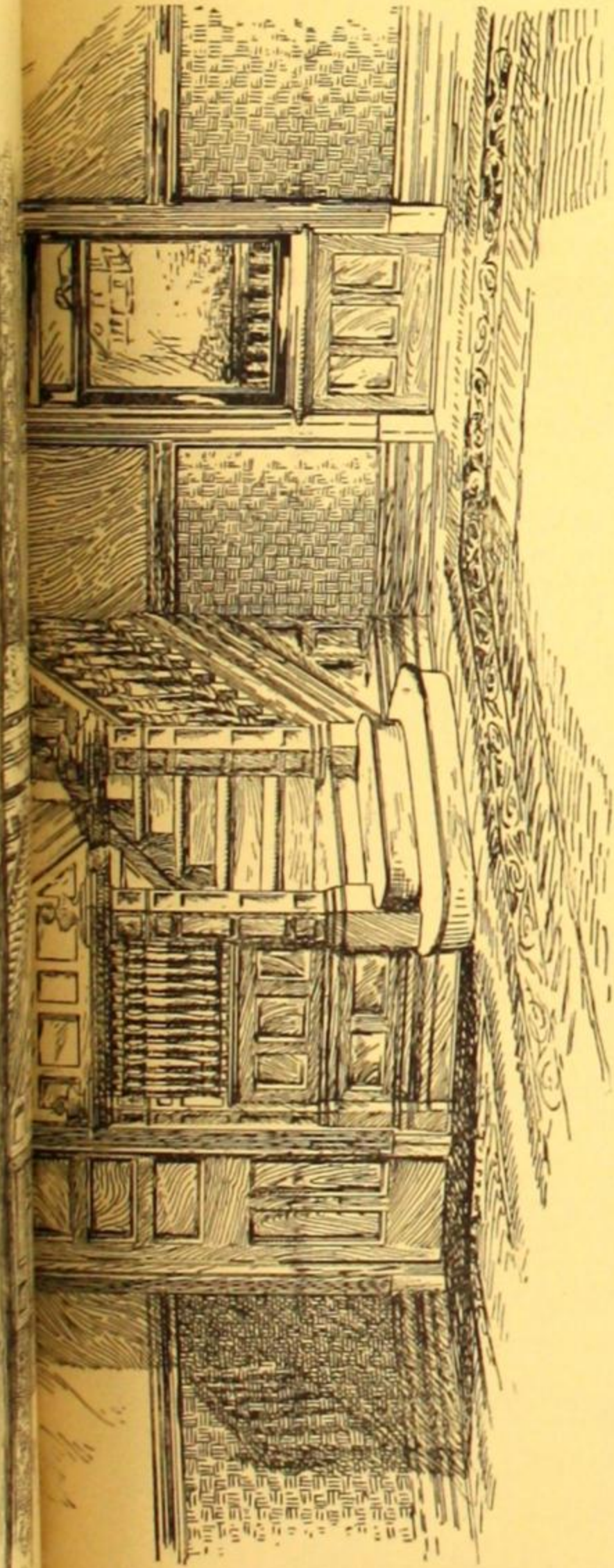
Absolute security against water leaking through the floors of the balconies into the rooms beneath is obtained by using asphalt and canvas for the floors.



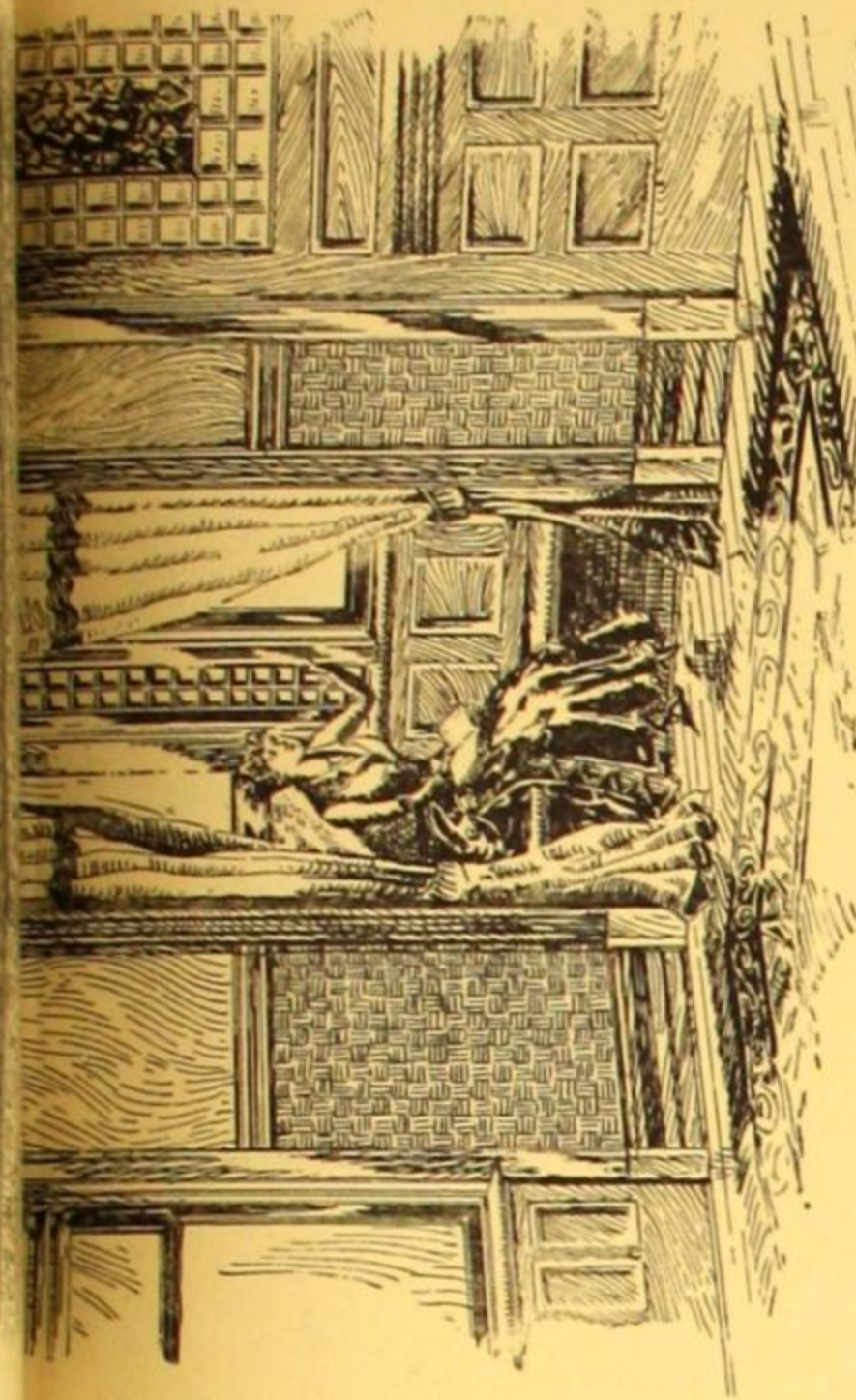
SECOND FLOOR. NO. 478



PERSPECTIVE VIEW AND SIDE ELEVATION

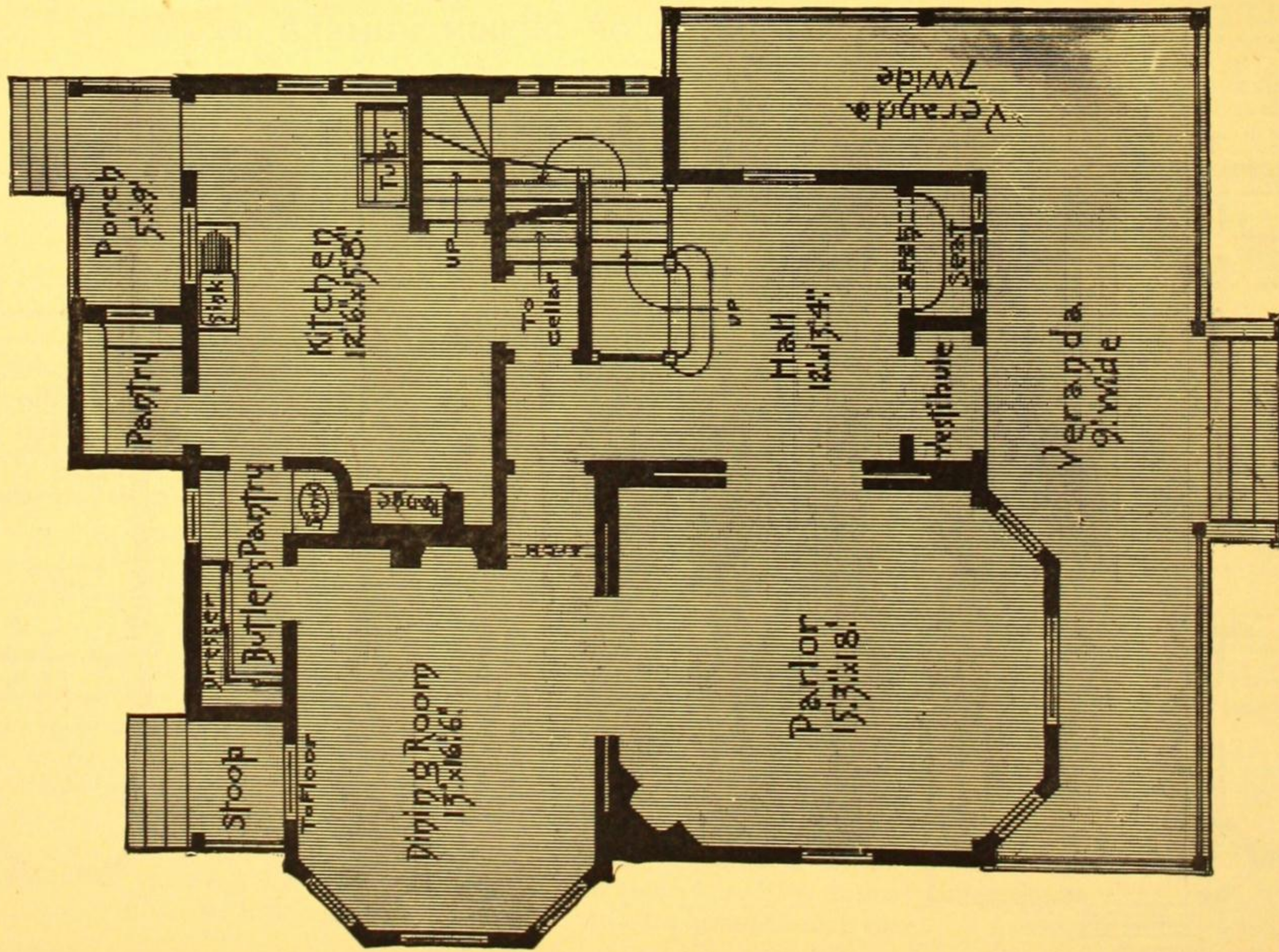


VIEW IN HALL, SHOWING THE STAIRCASE

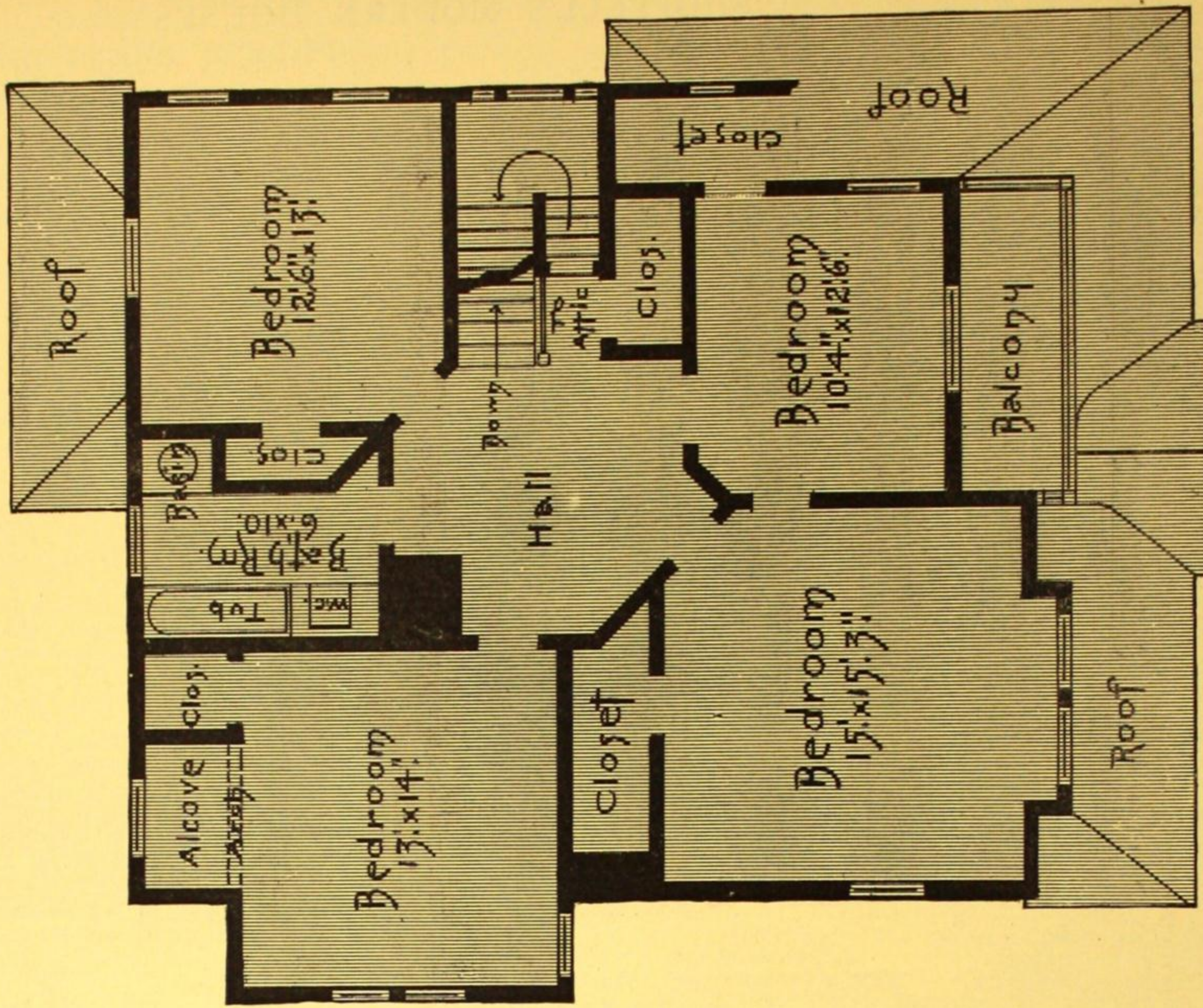


VIEW OF HALL ALCOVE AND VESTIBULE DOOR

For description and cost of this design, with a detailed estimate of materials and labor, see page 5.



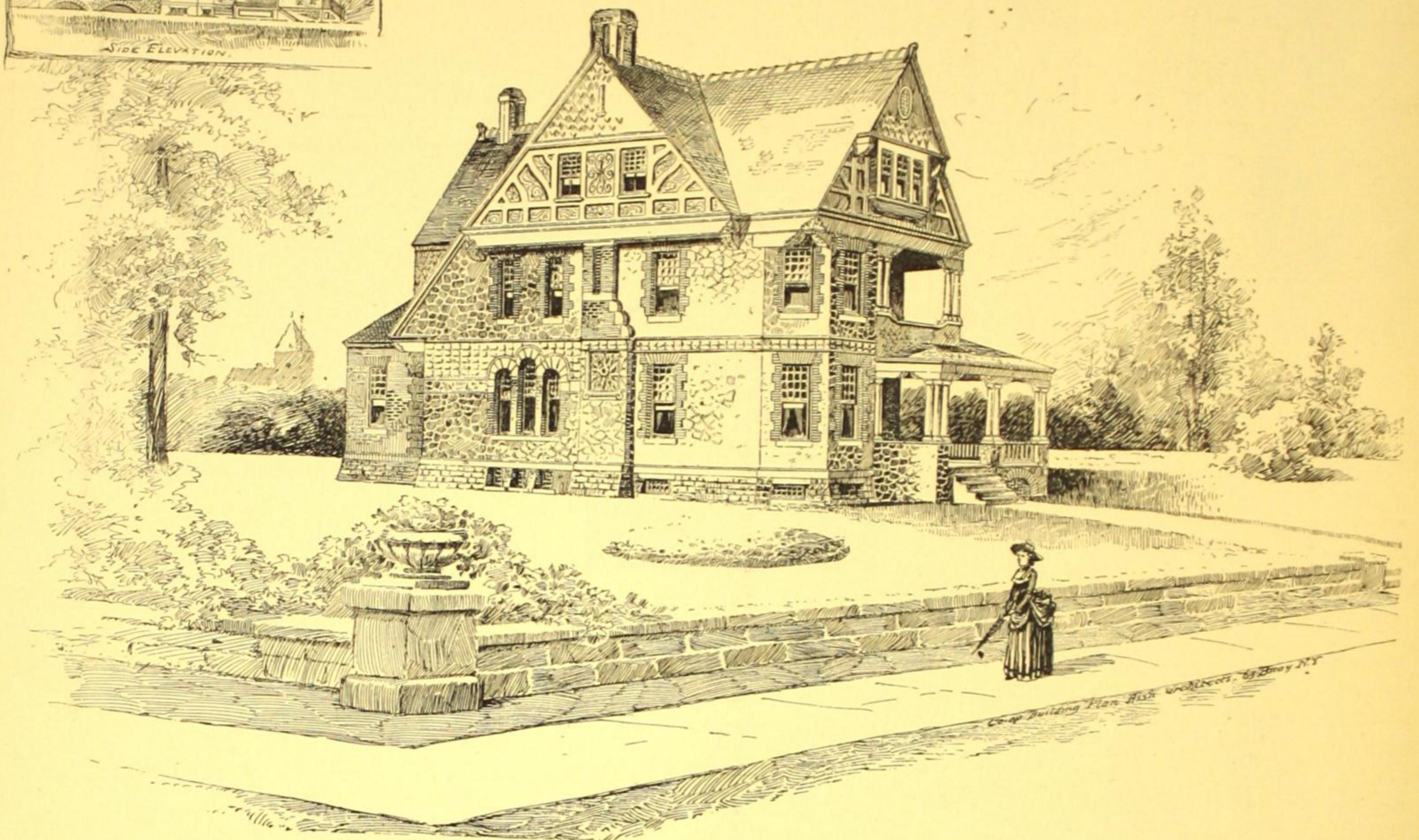
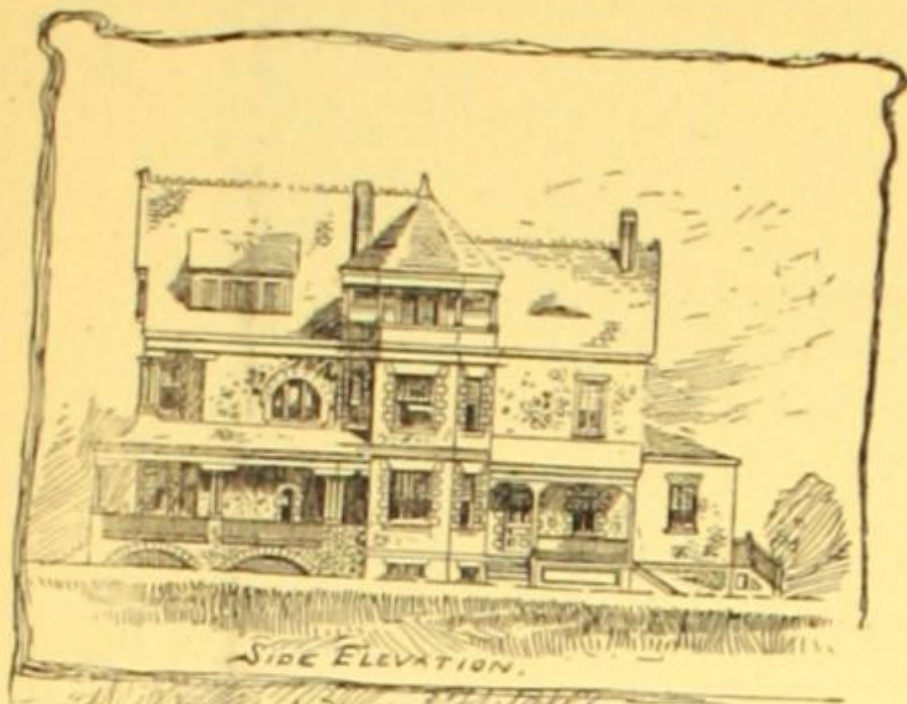
FIRST FLOOR PLAN



Scale of Plans: 8 ft. to the inch

SECOND FLOOR PLAN

"SHOPPELL'S MODERN HOUSES" IS PUBLISHED MONTHLY AT 100 A NUMBER. Each number consists of 24 pages and contains at least 10 designs for Houses (mostly of moderate cost), with designs for Barns and Outbuildings and much miscellaneous matter of great value to all readers. Entire contents original.



DESIGN No. 480. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 480

SIZE OF STRUCTURE: Front, including veranda, 43 ft. Side, including veranda, 69 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 8 ft., 6 in.

MATERIALS: Foundations, stone walls laid up in cement. First and Second Stories are of quarry face stone laid up in broken parallel courses, and pointed with red cement putty. All window and door jambs in stonework are built with press brick, made to show like quoins on the face—the flat arches over the windows are made with same material. The panel showing in the chimney is moulded in terra cotta. The upper part of the gables are red tile with pointed ends.

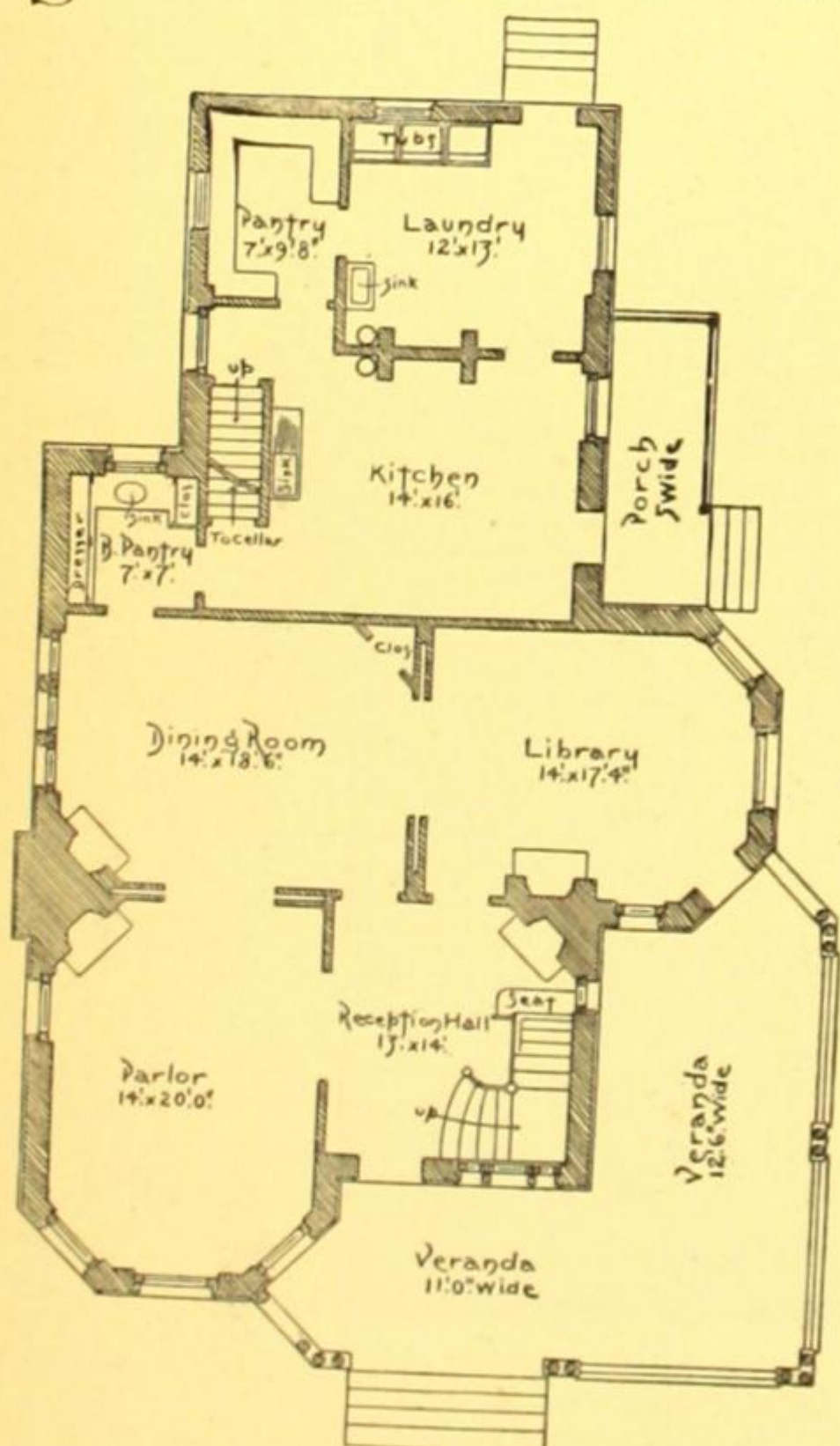
Roofs of the main house are red slate, those of veranda and laundry are shingle.

COST: \$9,880.21, complete, except heater and range. Mantels to the value of \$275 are provided, and some handsome stained glass in the hall. See "EXTRAS" on page 8, for items not included in the above estimate.

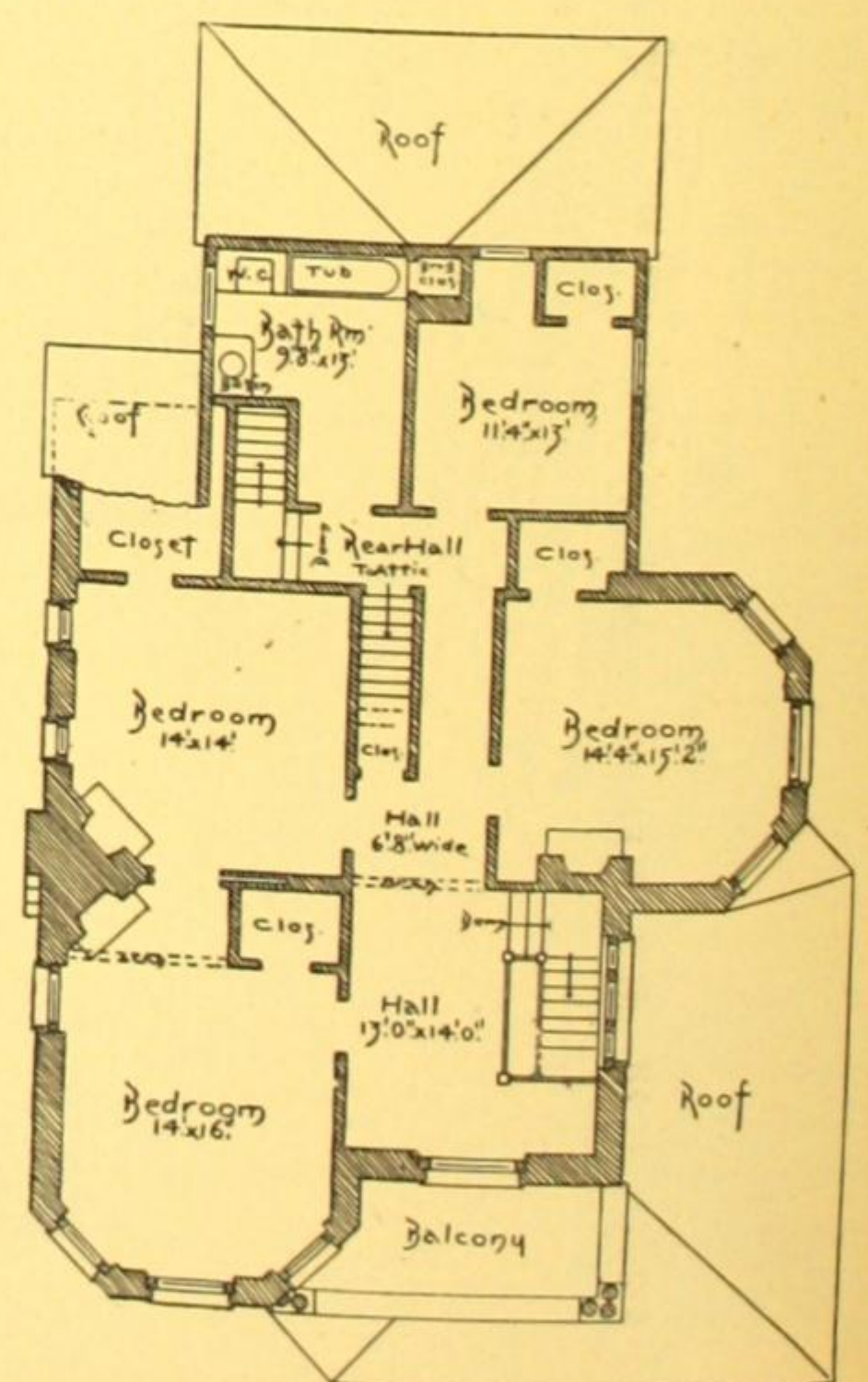
SPECIAL FEATURES.—Cellar under all but the laundry, with cement floor and outside entrance or area under the side porch. Sliding-doors connect parlor, dining-room and library. The chimney nook under the stairway is a pretty feature.

A separate hot water boiler and sink are provided in the laundry.

Three large bedrooms and a bath-room for servants' use are provided in the attic.



FIRST FLOOR. NO. 480



SECOND FLOOR. NO. 480

WHAT ARE WORKING PLANS, SPECIFICATIONS, &c.?

A PUBLICATION like this, which conveys to many of its readers their first knowledge of the subject, must necessarily be full, plain and explicit. The following may be regarded as a full and complete list of architectural aids for the building of a house. The last three items are not usually furnished by architects, but we consider them necessary. Beside these aids the client is entitled to consultation at all times before commencing, during the progress and at the completion of the work:

- WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.
- DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, etc., large scale and full size.
- SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.
- BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.
- COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.
- SUPPLEMENT SHEET, containing drawings and descriptions of three approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.
- BLANK CONTRACTS, ready for use.

Those who have once employed Working Plans, Specifications, &c., in building, need not be told how useful, indeed how indispensable they are. How they enable him to invite competition among the builders; how they simplify everything and make the owner the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; *how they actually save money*, it being a well known fact that their use saves at least ten per cent. of the cost of construction.

THE cost of structures given in this publication are based on prices for material as shown by the sample estimate on page 5, and on prices for labor as follows: Laborer, excavating, making mortar, &c., \$1.75 per day; Mason and Bricklayer, \$3.50 per day; Carpenter, \$2.50 per day; Joiner, \$3.00 per day.

DETAILS of the Cornices, Windows, Doors, Gables, Trim, Mantels, Staircase, Inside Finish, Colors, &c., &c. (these constitute the principal and distinguishing beauty of modern houses), are fully shown, on a large scale, on our Working Drawings, and careful directions for their execution are given in our Specifications.

ALL the designs can be reversed, enlarged, reduced or altered to suit special wants. The specifications can be altered, also, to employ different materials that may be best or cheapest in any locality.

Louis Restein, Esq., of Philadelphia, Pa., writes to the Co-operative Building Plan Association, to say: "I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."

Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), writes to the Co-operative Building Plan Association, to say: "I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."

REFERENCES BY PERMISSION

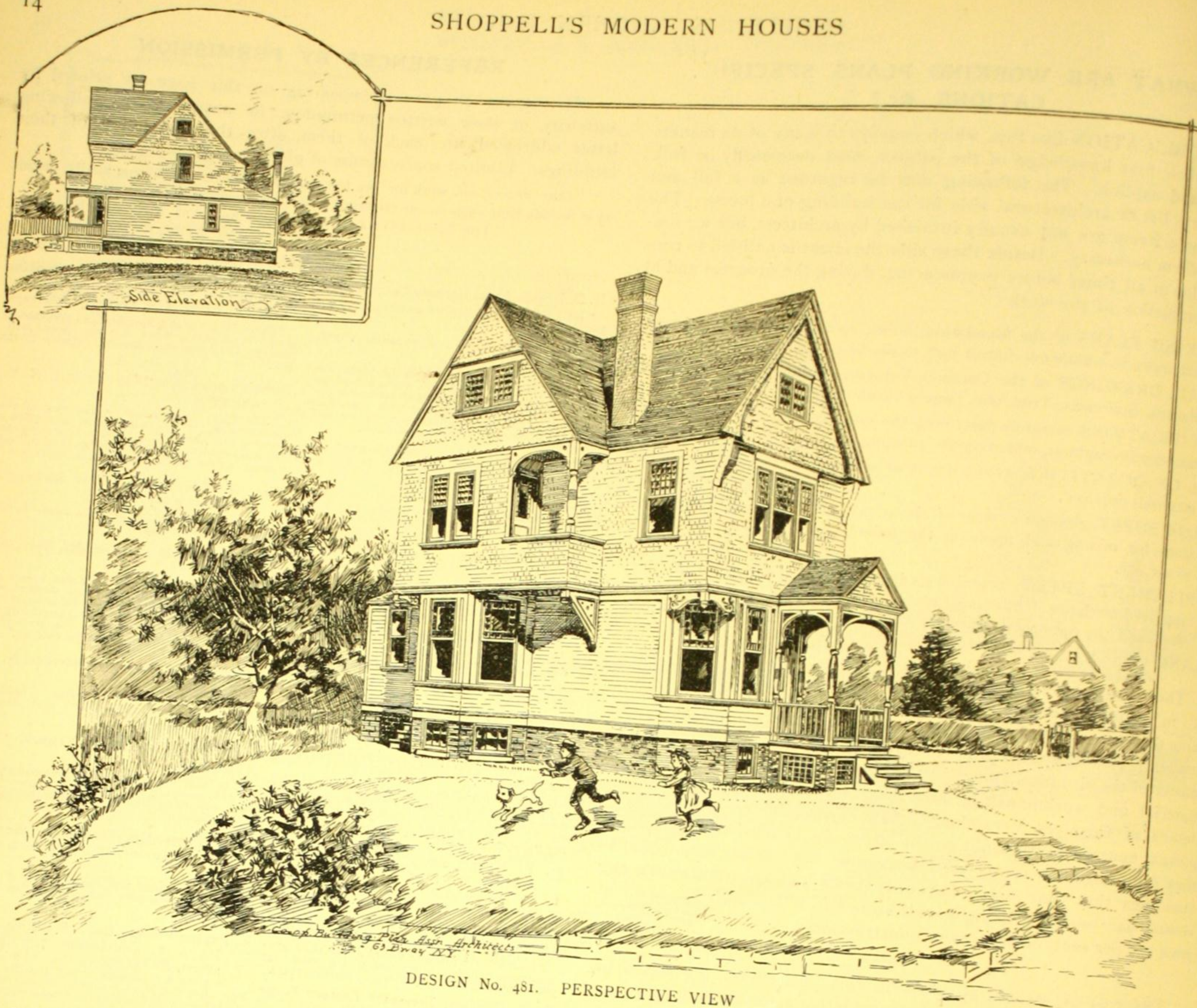
The names of patrons appearing on this page are printed by authority of their written permission, in answer to the following letter addressed to each of them, after the completion of their buildings. Limited space admits of giving a few only.

"Dear Sir:—If our work for you has proved satisfactory, will you kindly permit us to include your name in our reference list? Yours very respectfully,

"THE CO-OPERATIVE BUILDING PLAN ASS'N, 63 Broadway, New York.

"Per R. W. SHOPPELL."

- H. D. Reaves, Santa Barbara, Cal., who says: "My house looks very pretty and its plan is most admirable."
- A. E. Skelding, Esq., Riverside, Conn., who says: "I have built eleven houses in this place, some from designs by architects to whom I have paid very high prices; but none have pleased me so much as the last house, which I built from your Plans. In future I shall use them, they are cheaper and I consider them more practical than others."
- Jas G. Eastwood, Esq., cor. Howard ave. and 17th st., Washington, D. C., who says: "I am living in the house I built last summer from Plans and Specifications furnished by you, and will say that your work was satisfactory in every respect."
- Julius Hayden, Supt. Jacksonville & Atlantic R. R., Jacksonville, Fla., who says: "I am very much pleased with the house built from your Plans."
- Prof. W. S. Wilson, Agrl. College, Dahlena, Ga., who says: "I am satisfied that through you one can get the assistance of architects on the most reasonable terms possible."
- R. S. Dickie, Esq., Chicago, Ill., who says: "We believe your work to be of inestimable advantage to those contemplating building."
- Geo. Webster, Jr., Esq., Marion, Ind., who says: "You have permission to refer to me in any manner you see proper. I have a handsome and very convenient dwelling, made from your Plans, and I was well pleased with your promptness in furnishing Plans, Details, etc."
- M. R. Mudge, Esq., Banker, Eskridge, Kansas, who says: "The Plans worked out all right; the carpenter and mason had no trouble with them whatever."
- D. C. Morgan, Esq., Attorney, Monroe, La., who says: "It affords me pleasure to unite with your other customers in commending you to the public for your artistic manner of getting up building plans."
- M. T. Denham, Treasurer Eastern Forge Co., Portland, Maine, who says: "Your system is, undoubtedly, the best yet devised to secure to people just such homes as they could wish."
- A. Hoen, Esq., Baltimore, Md., who says: "The house has attracted considerable attention and you will probably receive inquiries from some of my neighbors who contemplate building."
- C. W. Kennard, Esq., Chestertown, Md., who says: "My house is perfect, combines beauty with great utility of space—not a foot of waste room in it. It has been pronounced worth \$500 more than an adjoining house which cost \$750 more than mine. I candidly believe I have a house that is worth \$1,000 more than it cost me. Your excellent Plans have the credit. The house complete, finished in the best manner, cost me \$50 less than your estimate."
- Jas. W. Taylor, Esq., Amesbury, Mass., who says: "I feel confident that your Plans and very complete Specifications saved me several hundred dollars; my house more than realizes my most sanguine expectations."
- H. A. Smith, Cashier Merchants' National Bank, Duluth, Minn., who says: "I have just completed a house from the Plans you sent me. They have given the best of satisfaction. The mechanic in charge tells me they are quite accurate and intelligible to work from."
- J. A. Matteson, Esq., Cape Girardeau, Mo., who says: "We are more than satisfied with your work. I do not hesitate to refer to you any parties in this vicinity who contemplate building."
- R. Beattie, President Beattie Manufacturing Co., Little Falls, N. J., who says: "Have built ten cottages from your Plans and they are all very satisfactory."
- Rev. Wm. R. Nairn, Franklin, Essex Co., N. J., who says: "I have used your Plans and the houses, which are now occupied, have proved very satisfactory as to comfort, convenience and appearance."
- M. R. Merchant, Esq., with Banking House of Geo. K. Sistares' Sons, 18 Broad street, New York city, who says: "From the Plans and Specifications prepared by you, I have built a house in every respect satisfactory. It affords me pleasure to testify to the fact."
- Francis Gerber, Esq., Sayville, L. I., N. Y., who says: "The Plans I received from you were all that could be desired. The builder had no trouble in working from them. The house is now completed and is acknowledged to be the most convenient, substantial and the handsomest house in our village."
- Wm. A. Sloane, Esq., Port Richmond, N. Y., who says: "I built my house for the price named in your book. Everybody likes it."
- W. E. Peebles, Banker, Pender, Neb., who says: "I take great pleasure in saying that I used one of your Plans, and I am more than satisfied with the result. I have a beautiful dwelling, costing not more than an ordinary building, but worth twice as much, either to sell or live in, on account of its convenient interior and its beautiful exterior."
- Norman C. Raff, Esq., Albuquerque, N. M., who says: "You are at liberty to use my name. I built two houses from your Plans, and they give excellent satisfaction."
- E. B. Dennis, Attorney, Newark, Ohio, who says: "The house built from the Plans procured of you is satisfactory, and is very much admired. The house could be built here for considerable less than your estimate."
- M. D. Harter, Esq., Treasurer, the Aultman & Taylor Co., Mansfield, Ohio, says: "I like your plans and methods as far as I know them. I say this after having built two houses under them."
- E. Payson Porter, Esq., Statistical Sec'y Int. S. S. Convention, 725 Chestnut street, Philadelphia, Pa., who says: "It gives me pleasure to say that the cottage built after the Plans you sent me, and which we call Sylvan Lodge, is not only satisfactory in every respect, but charming."
- L. R. Frost, Esq., Furniture & Lumber, Towanda, Pa., who says: "I give you permission to use my name in any way to help on the good work of building artistic houses. The house you designed for me last fall is about completed, and is admired by every one. I find your books a great help. Several parties that contemplated building have had the use of them, which will probably give you several orders."
- John J. Houghton, Cashier First National Bank, Ambler, Pa., who says: "The Plans purchased from your Association have been used in building six houses. The Plans were very satisfactory and the houses present quite a new style of architecture in our neighborhood. They make beautiful houses at a moderate cost. I am satisfied that your Association is of great benefit to all who intend to build. I willingly add my name to your list of references and heartily commend your work."
- F. E. Smith, Esq., Tioga, Pa., who says: "I have built country houses, barns, etc., a great number. I have never had plans, specifications and full details that I was so well pleased with as with yours."
- James F. Lukens, Esq., Union City, Tenn., who says: "I was well pleased with the Plans, and consider their cost as money well spent. I have the handsomest and best business house in this city. I take pleasure in referring to your Association all parties here that I find are going to build."
- Ross White, Esq., Brattleboro, Vt., who says: "The Plans you supplied for my house have been more than satisfactory in every respect. I have been the means of your getting three orders in this town and shall be glad to have you refer to me at any time."
- F. & J. Skelding, Neepawa, Manitoba, who says: "You can use our name. We found everything exactly as required in the Plans sent us—Drawings and Specifications all perfect."



DESIGN No. 481. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 481

SIZE OF STRUCTURE: Front, 18 ft.; extreme width at dining-room, 21 ft., 6 in. Side, 40 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 8 in.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 10 in.; Attic, 7 ft., 6 in.

MATERIALS: Foundations, 8-inch brick walls; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,681.40, complete, including plumbing and gas fitting and a 35-dollar wood mantel in the parlor. See "EXTRAS" on page 8, for items not included in the estimate.

SPECIAL FEATURES.—Cellar under the parlor, hall and dining-room; cellar bottom is cemented.

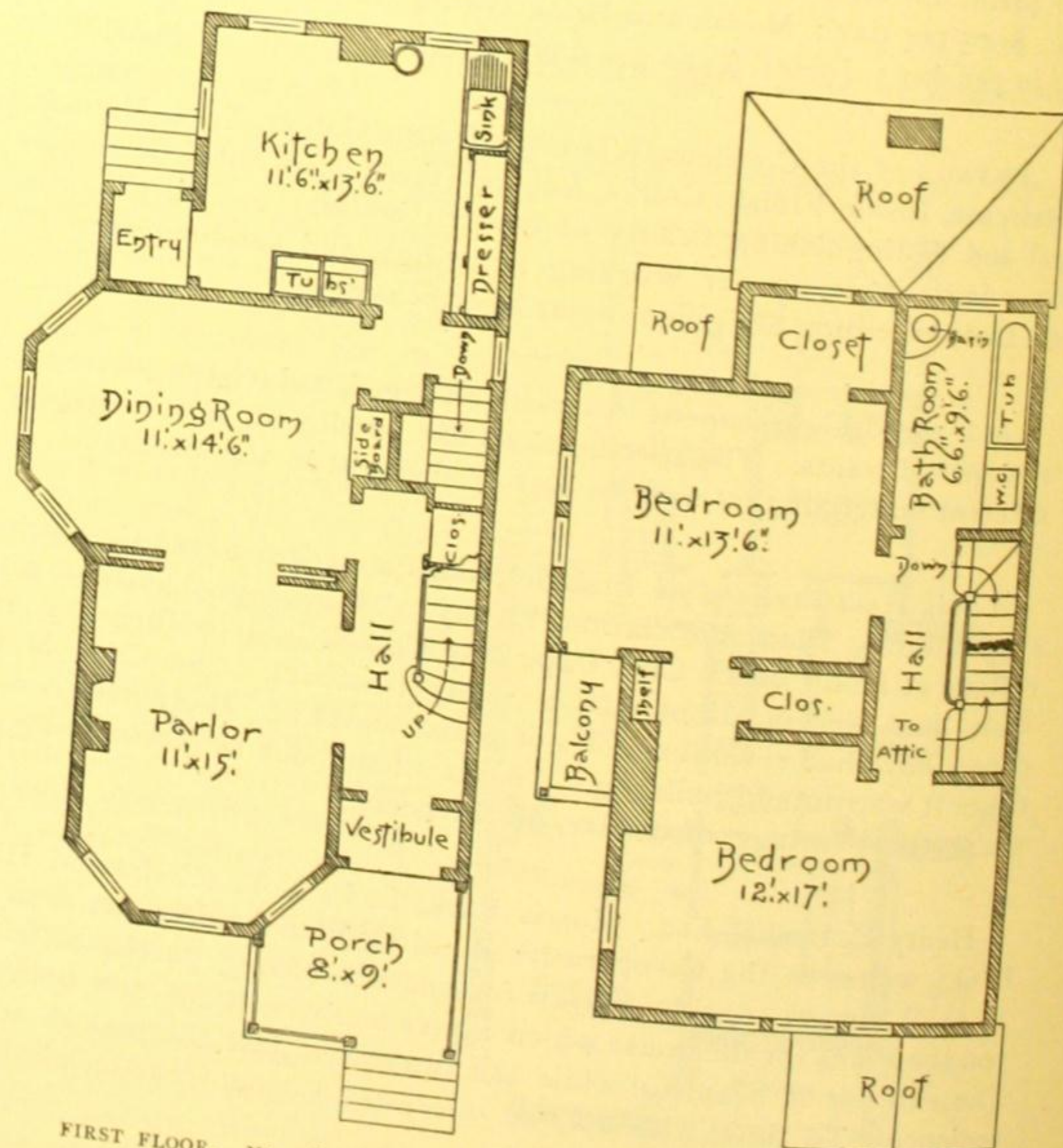
The whole frame is sheathed with lumber and papered.

Sliding-doors connect parlor and dining-room. The hall and parlor are connected by a curtained opening. Hall closet under the stairs. The stairs are of hardwood and of pretty design.

If another bedroom is required on the second floor the front room can be divided.

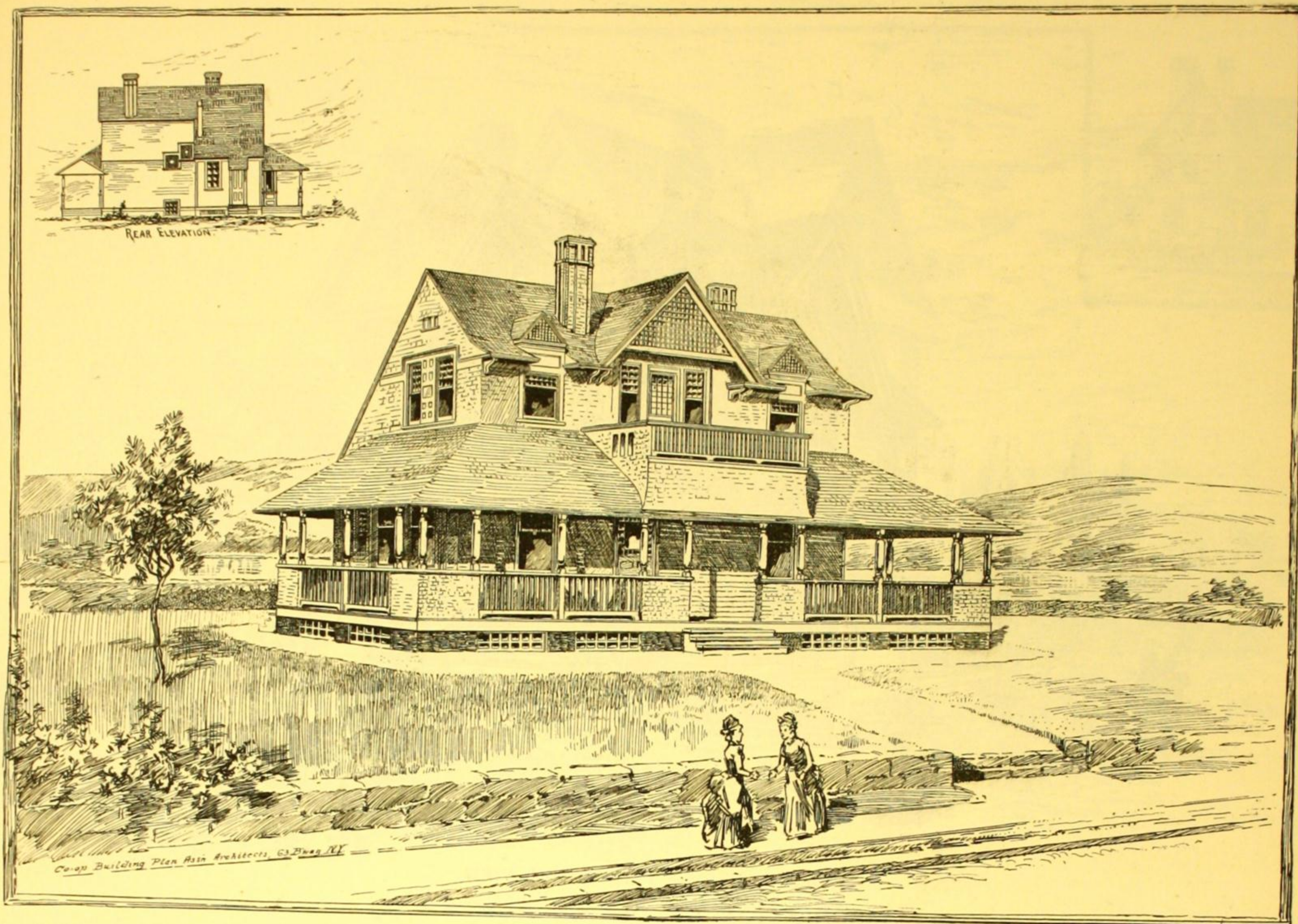
Two good rooms and a hall are finished in the attic—storage-room besides.

This house was built by contract near New York for less than our estimate.



FIRST FLOOR. NO. 481

SECOND FLOOR. NO. 481



DESIGN No. 482. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 482

SIZE OF STRUCTURE: Front, including veranda, 49 ft. Side, including veranda and kitchen, 32 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 10 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick walls and piers; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$2,385.14, complete. See "NOTES" on page 8 explaining how cost is figured and for further information about this design.

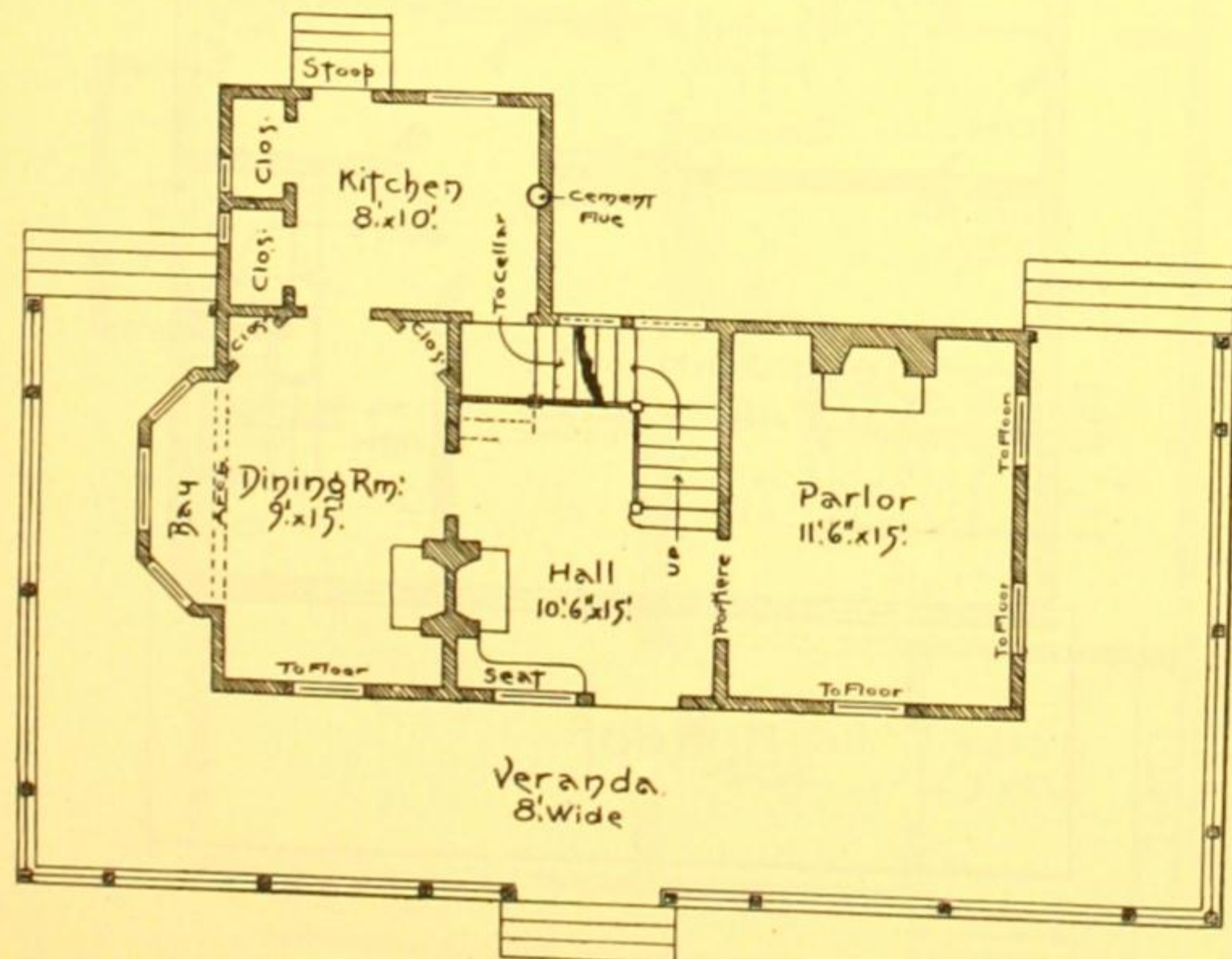
SPECIAL FEATURES.—Designed for a summer cottage. Cellar under hall and dining-room. Brick walls, 8 inches thick, under the main house. Kitchen is built on brick piers.

The hall is a pleasant sitting-room, with fire-place, seat and hardwood stairway of artistic design.

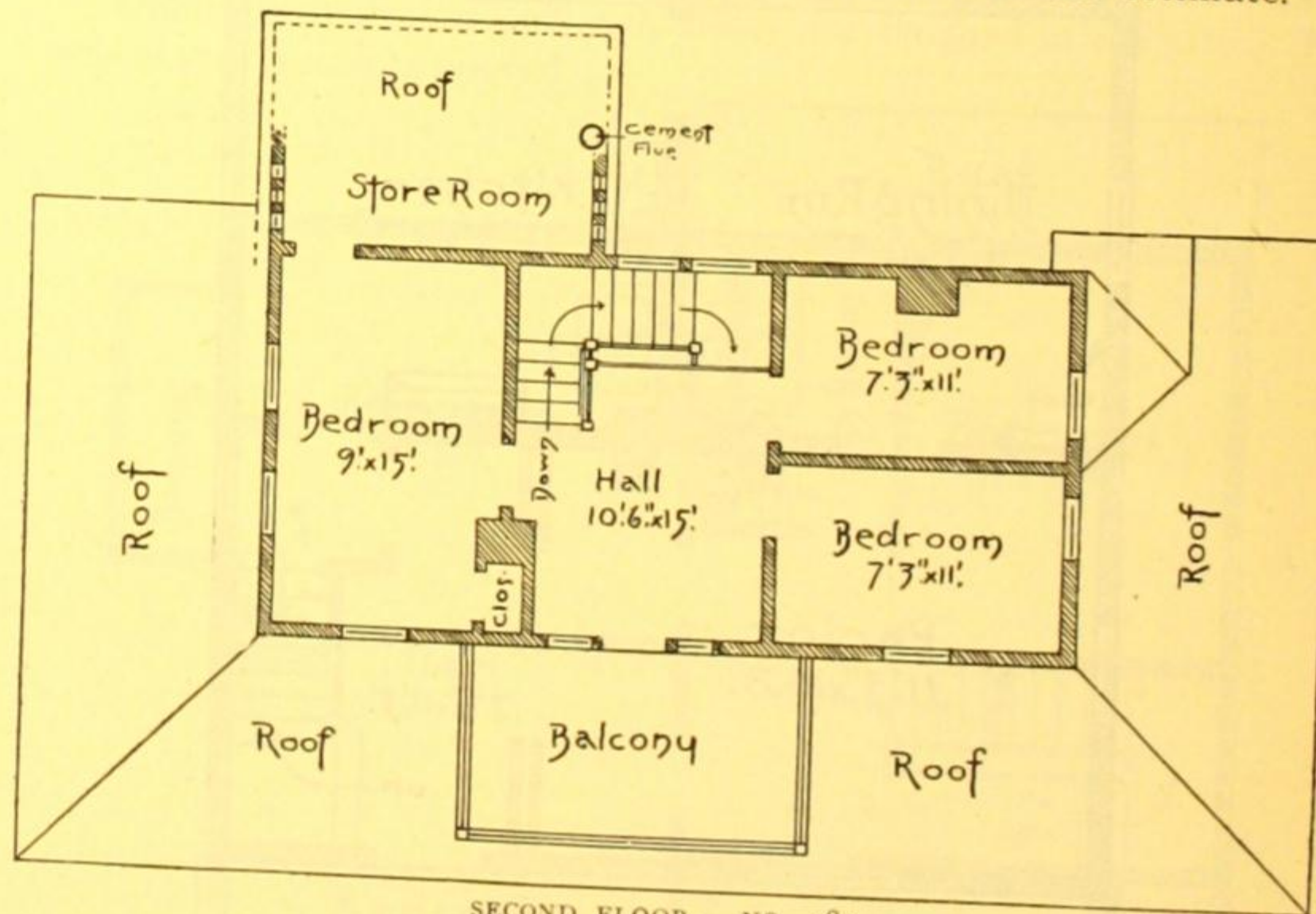
The entrance door is of the old style or "Dutch" pattern, in two parts. The two windows over the stairway are glazed with stained glass. The parlor windows and one window in the dining-room open to the floor.

The amount allowed for the three mantels is \$50.

By setting the entire house on piers, omitting veranda railing and shingled bases for columns, and substituting cheaper finish inside, the house can be built for one-third less than our estimate.

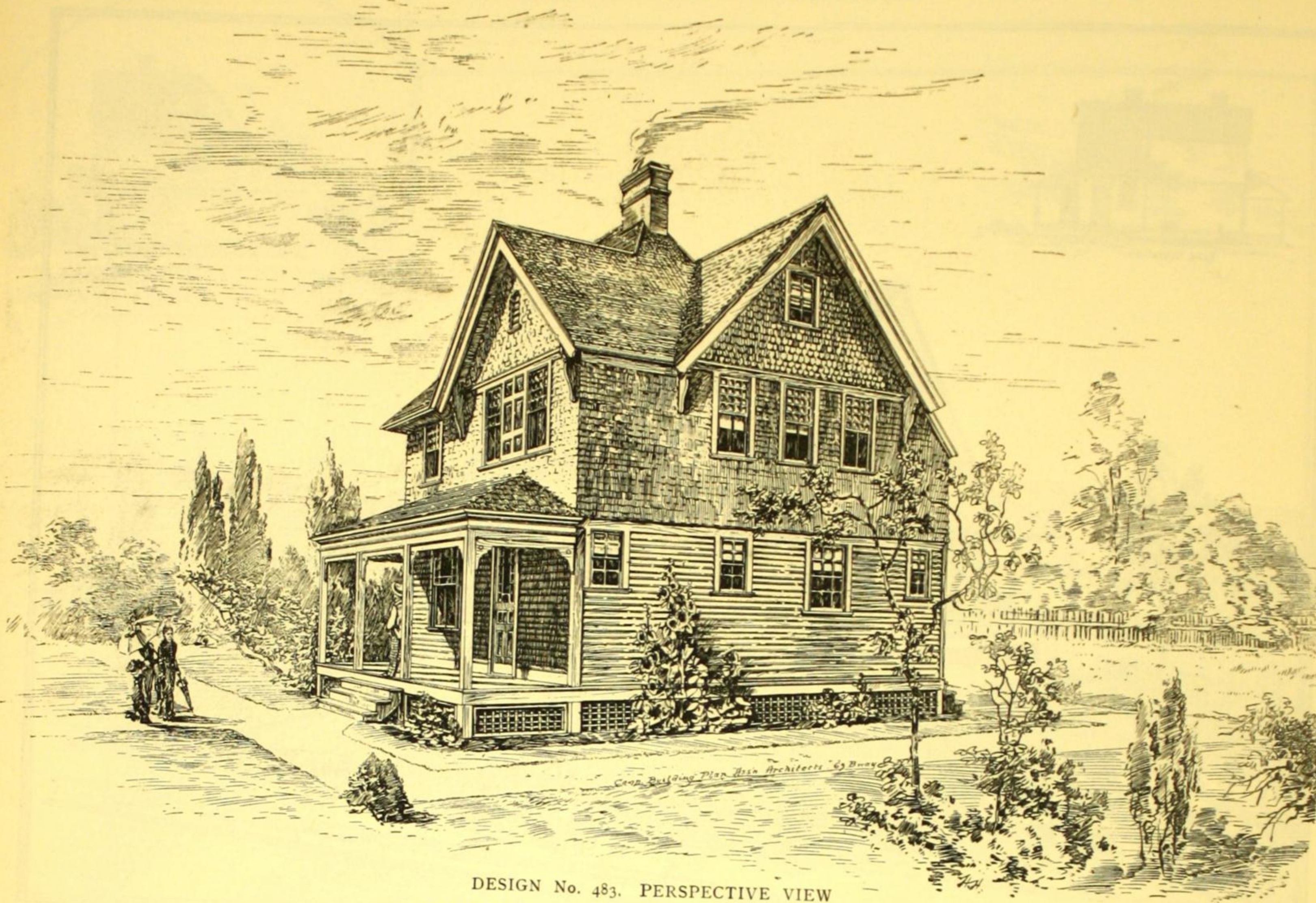


FIRST FLOOR. NO. 482



SECOND FLOOR. NO. 482

Plans and Specifications
Full working plans, specifications, bills of quantities, and sheets of details, complete, ready for the builder, may be obtained for any of the structures illustrated in this publication. Charges, one per cent. of the estimated cost. Address the Co-operative Building Plan Assn. Architects, 63 Broadway, New York.



DESIGN No. 483. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 483

SIZE OF STRUCTURE: Front, 24 ft. Side, not including veranda, 28 ft.
 SIZE OF ROOMS: See floor plans.
 HEIGHT OF STORIES: Cellar, 6 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, 8-inch brick wall; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,867.06, complete, including mantels and blinds. See "EXTRAS" on page 8.

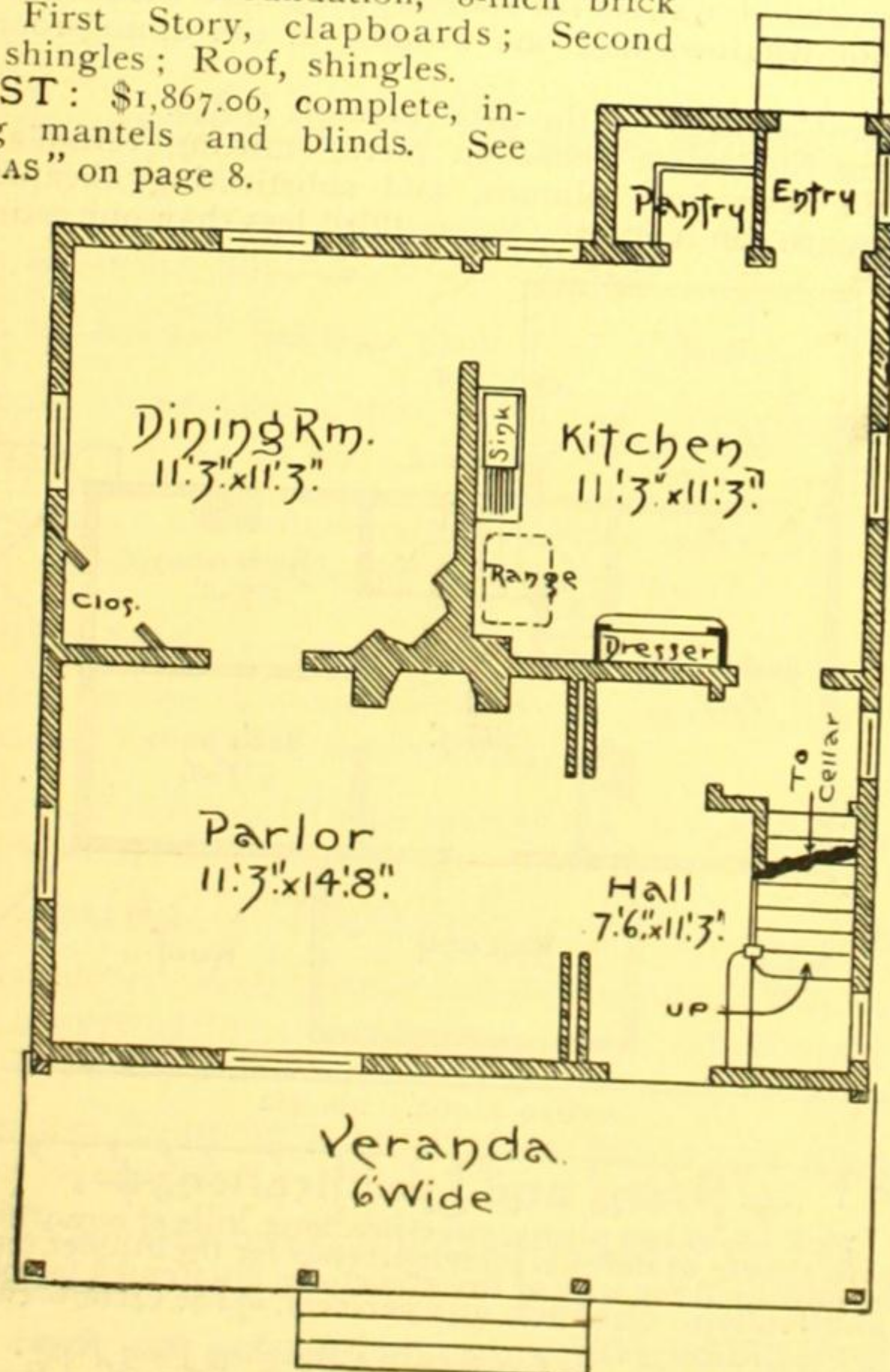
SPECIAL FEATURES.—Cellar under hall and parlor, well lighted and ventilated. Eight-inch brick walls under the whole house.

The parlor has an open fire-place and wood mantel, and is connected with the hall by double sliding-doors. The stairway is of hardwood and of very pretty design.

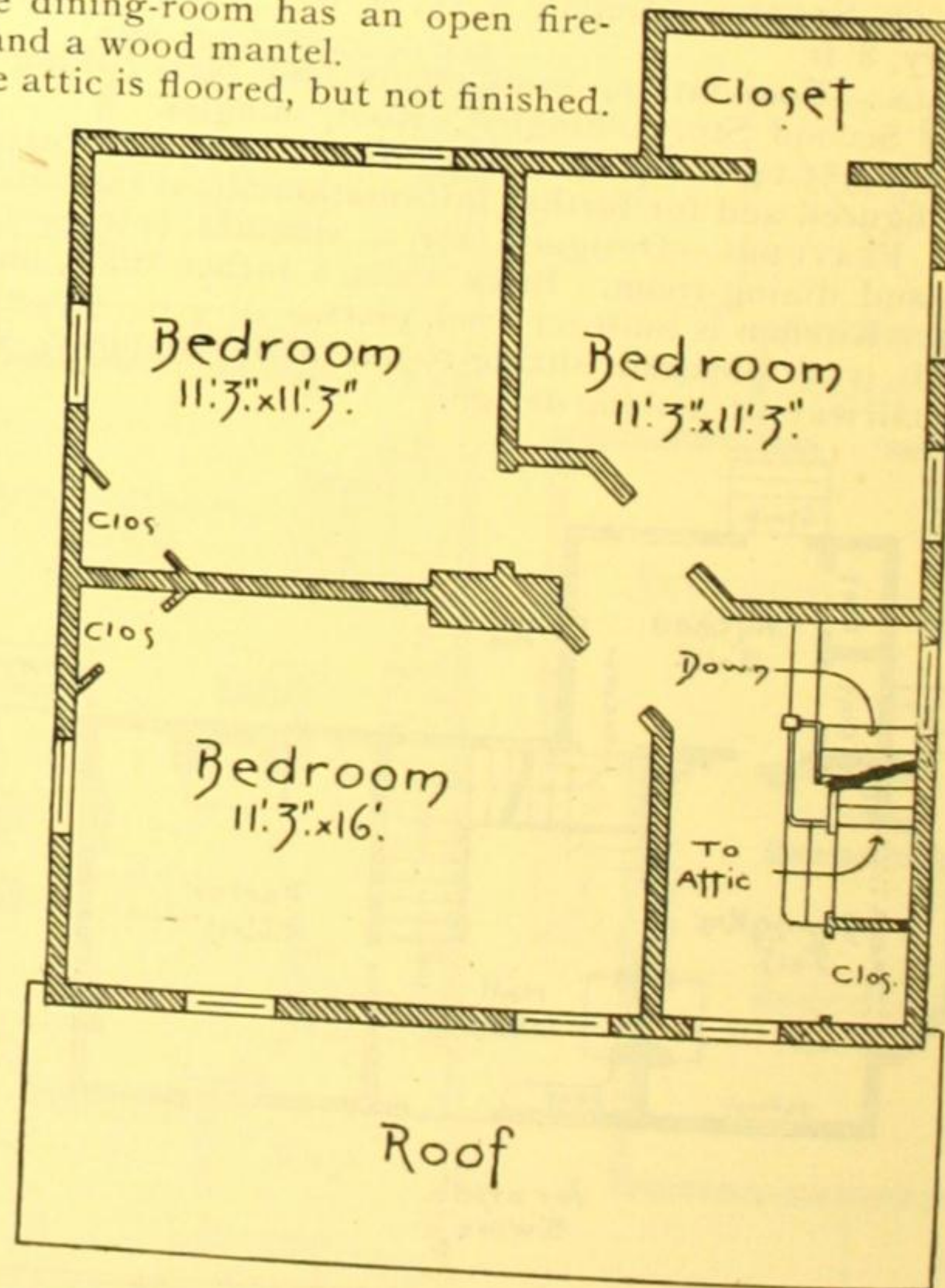
Two doors between the kitchen and front hall keep kitchen odors from pervading the house.

The dining-room has an open fire-place and a wood mantel.

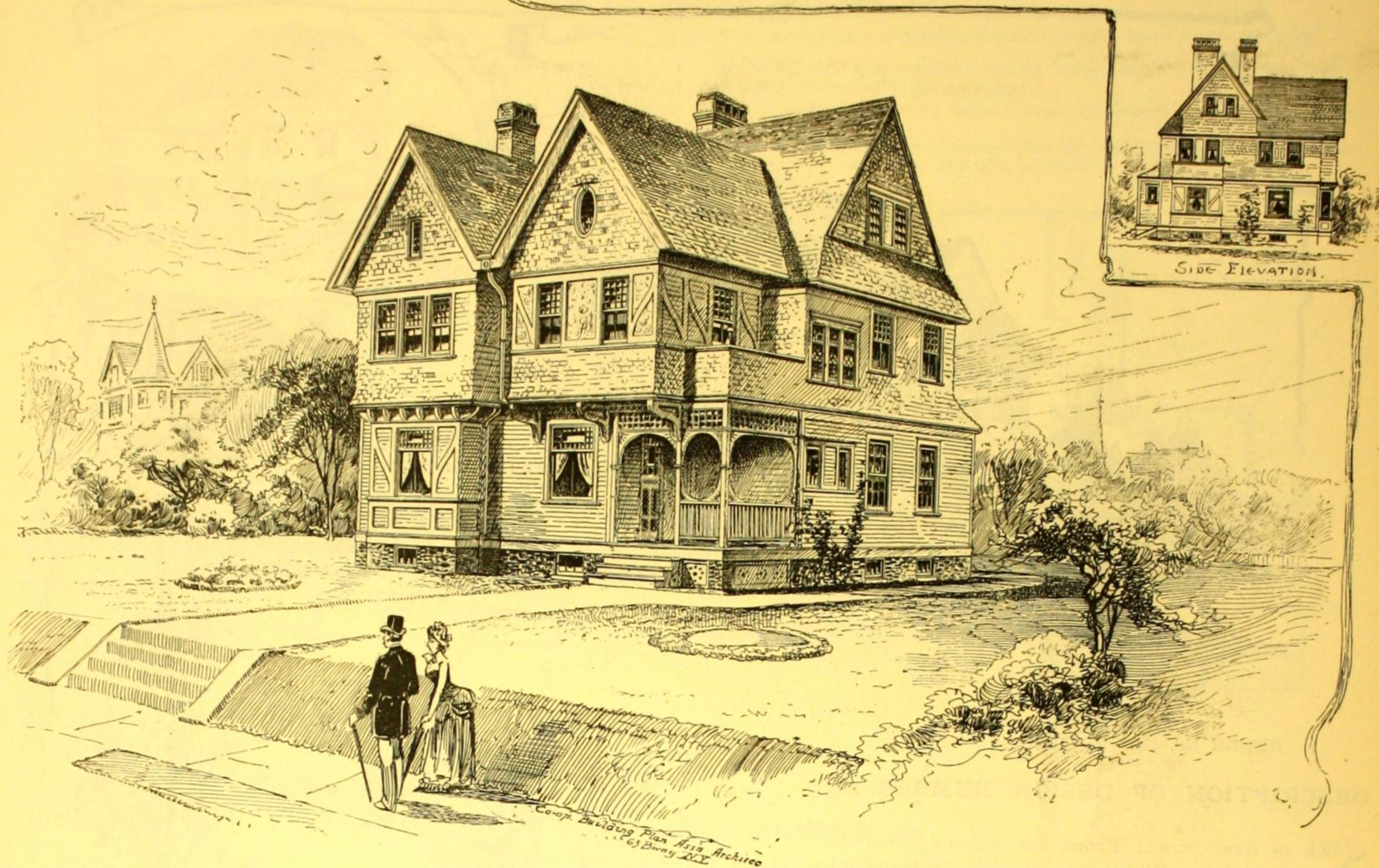
The attic is floored, but not finished.



FIRST FLOOR. NO. 483



SECOND FLOOR. NO. 483



DESIGN No. 484. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 484

SIZE OF STRUCTURE: Front, 36 ft. Side, 36 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft.; Attic, 8 ft.

MATERIALS: Foundations, stone walls; First Story, clapboarded; Second Story, shingled; Roof, slate.

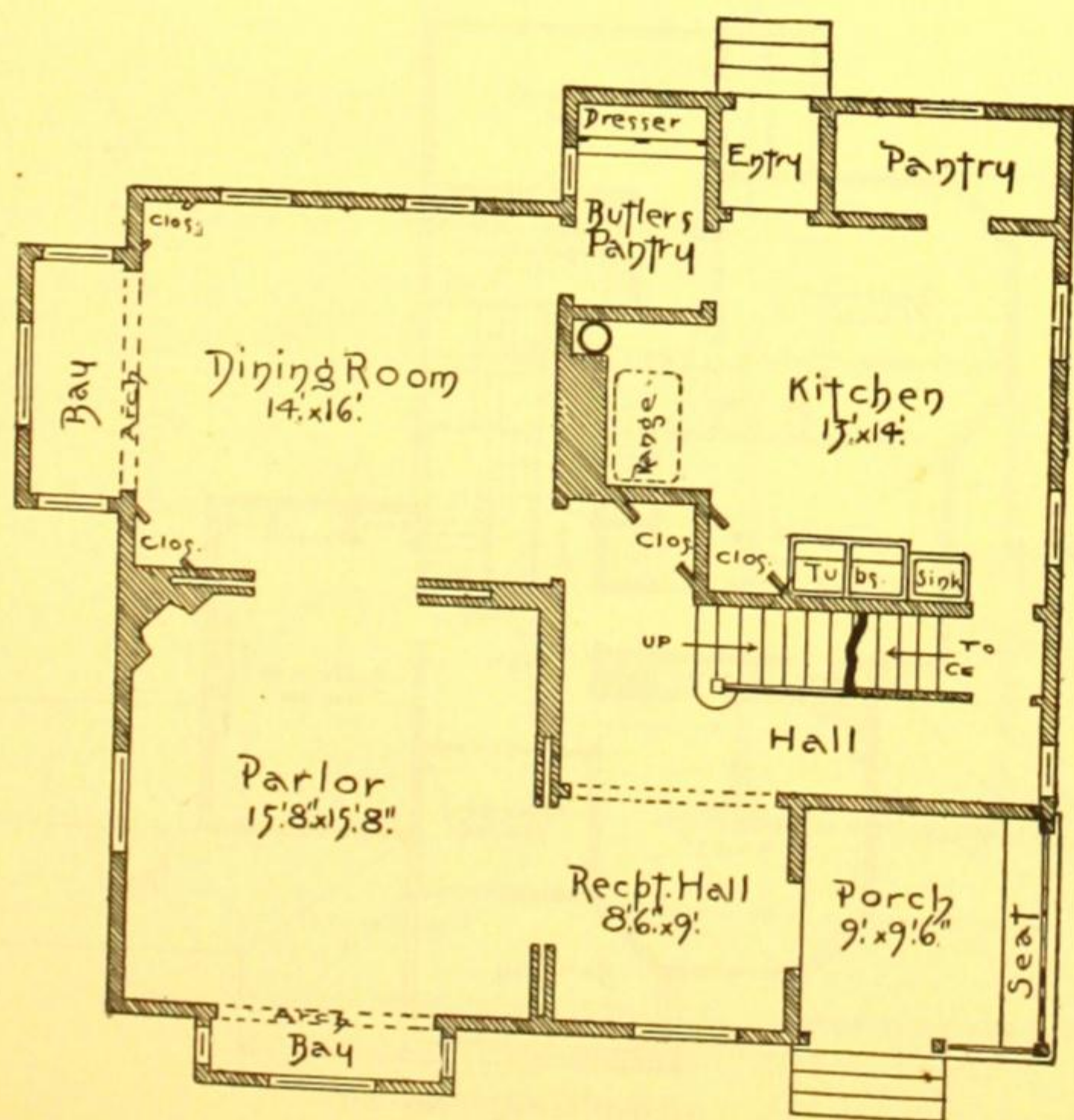
COST: \$3,966.50, complete, except heater and range. See "EXTRAS" on page 8, for items not included in the estimate.

SPECIAL FEATURES.—Cellar under the whole house, with cemented floor. Plaster cornices and centres in principal rooms of the first floor. Between the reception hall and staircase hall is a wood transom with spindle work over. A curtain hung here and looped back discloses the pretty staircase, and altogether produces a pleasing effect.

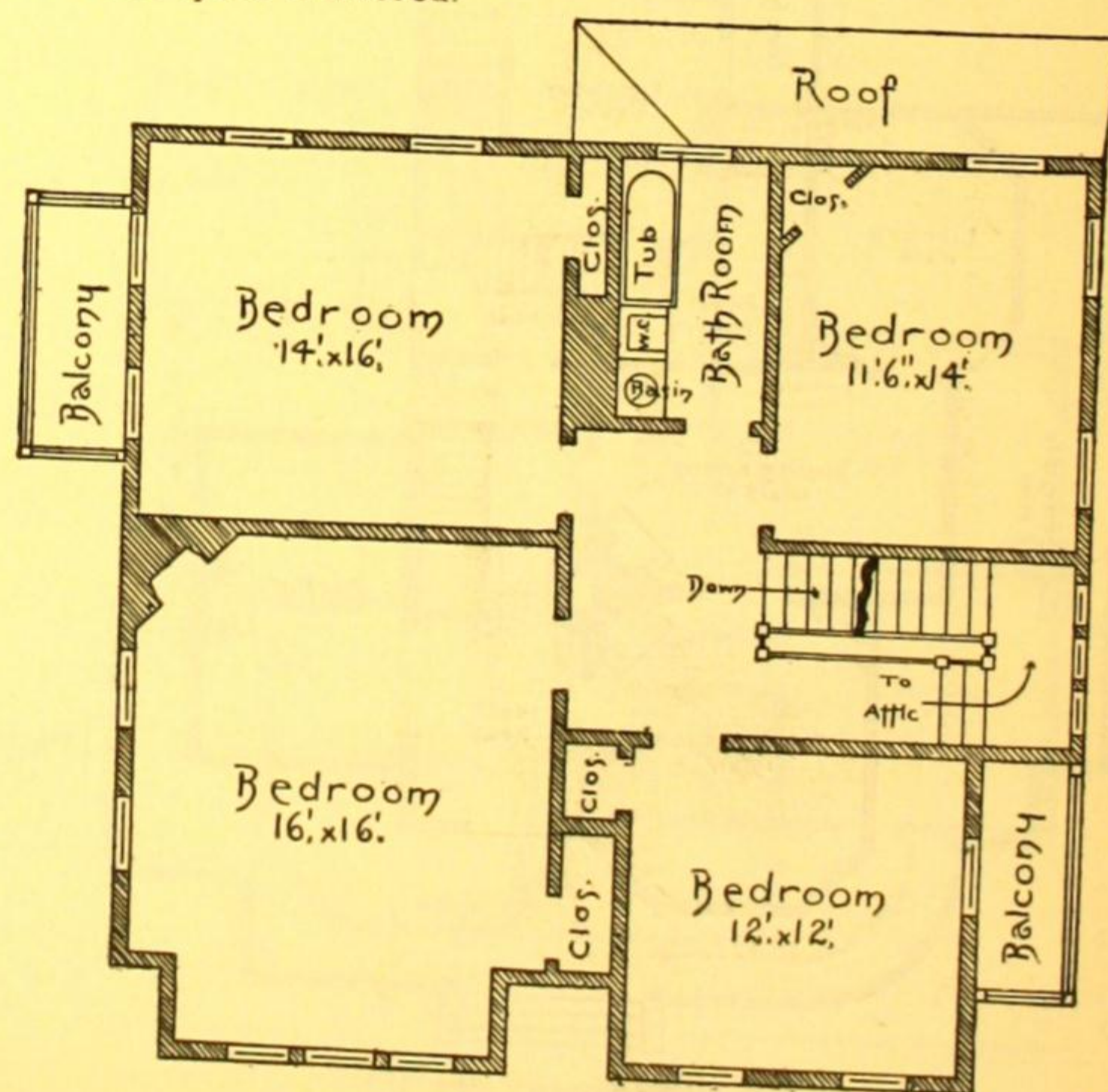
Double sliding doors connect hall, parlor and dining-room.

Open fire-places with wood mantels are provided in the parlor and in the front bedroom. The kitchen is ventilated by a flue in the chimney.

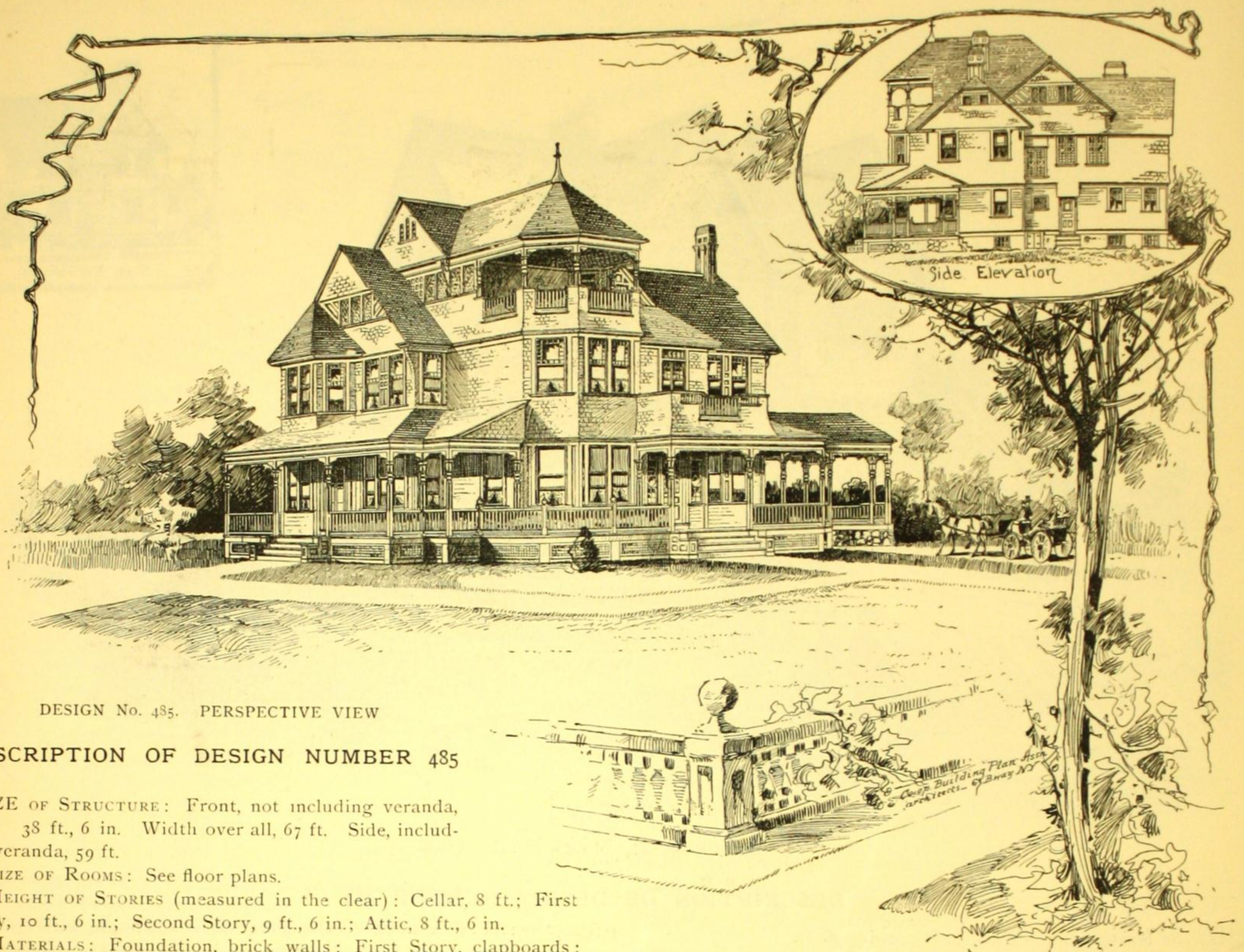
One large bedroom and a hallway are finished in the attic. The whole attic space is floored.



FIRST FLOOR. NO. 484



SECOND FLOOR. NO. 484



DESIGN No. 485. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 485

SIZE OF STRUCTURE: Front, not including veranda, 38 ft., 6 in. Width over all, 67 ft. Side, including veranda, 59 ft.

SIZE OF ROOMS: See floor plans.

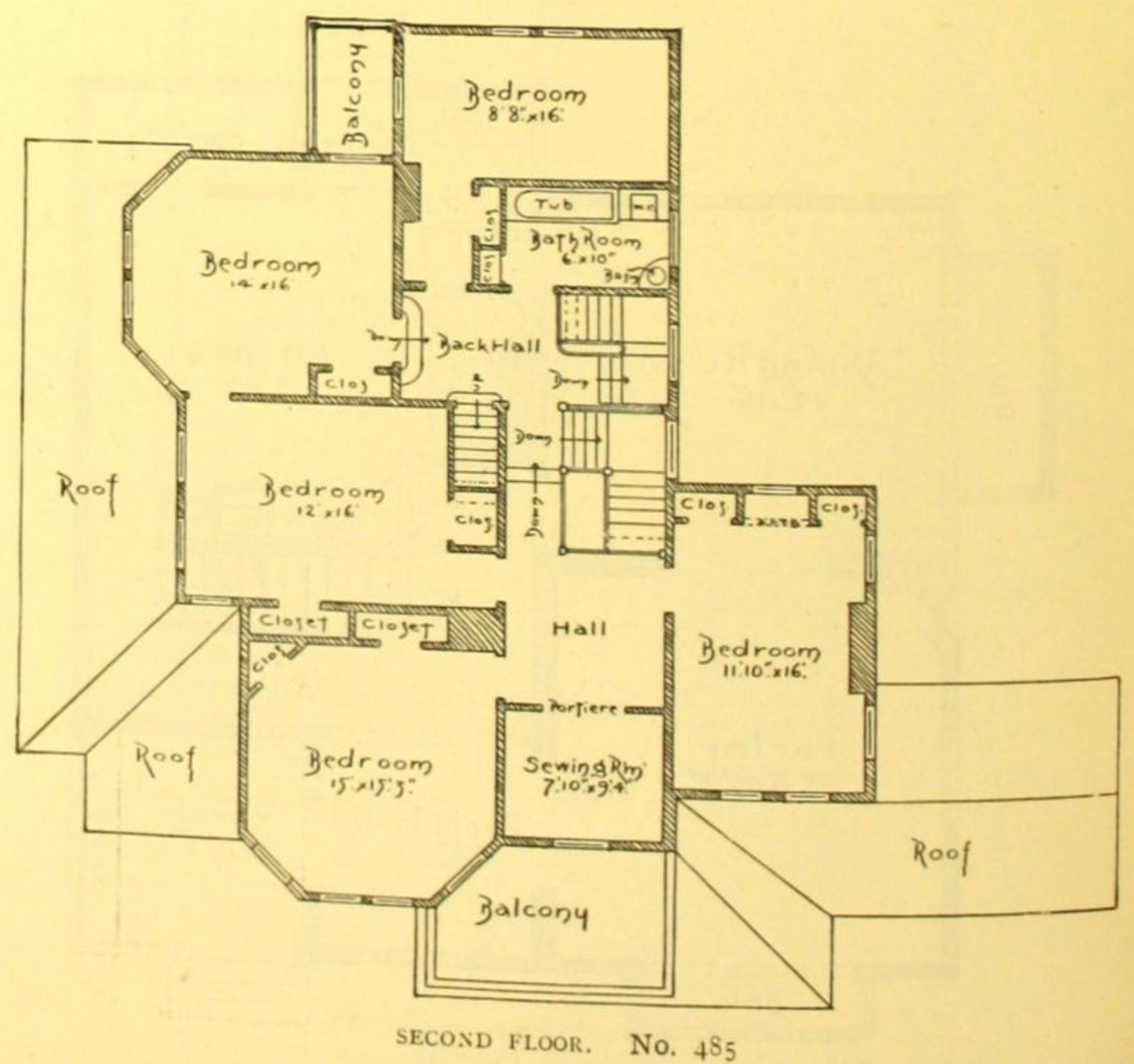
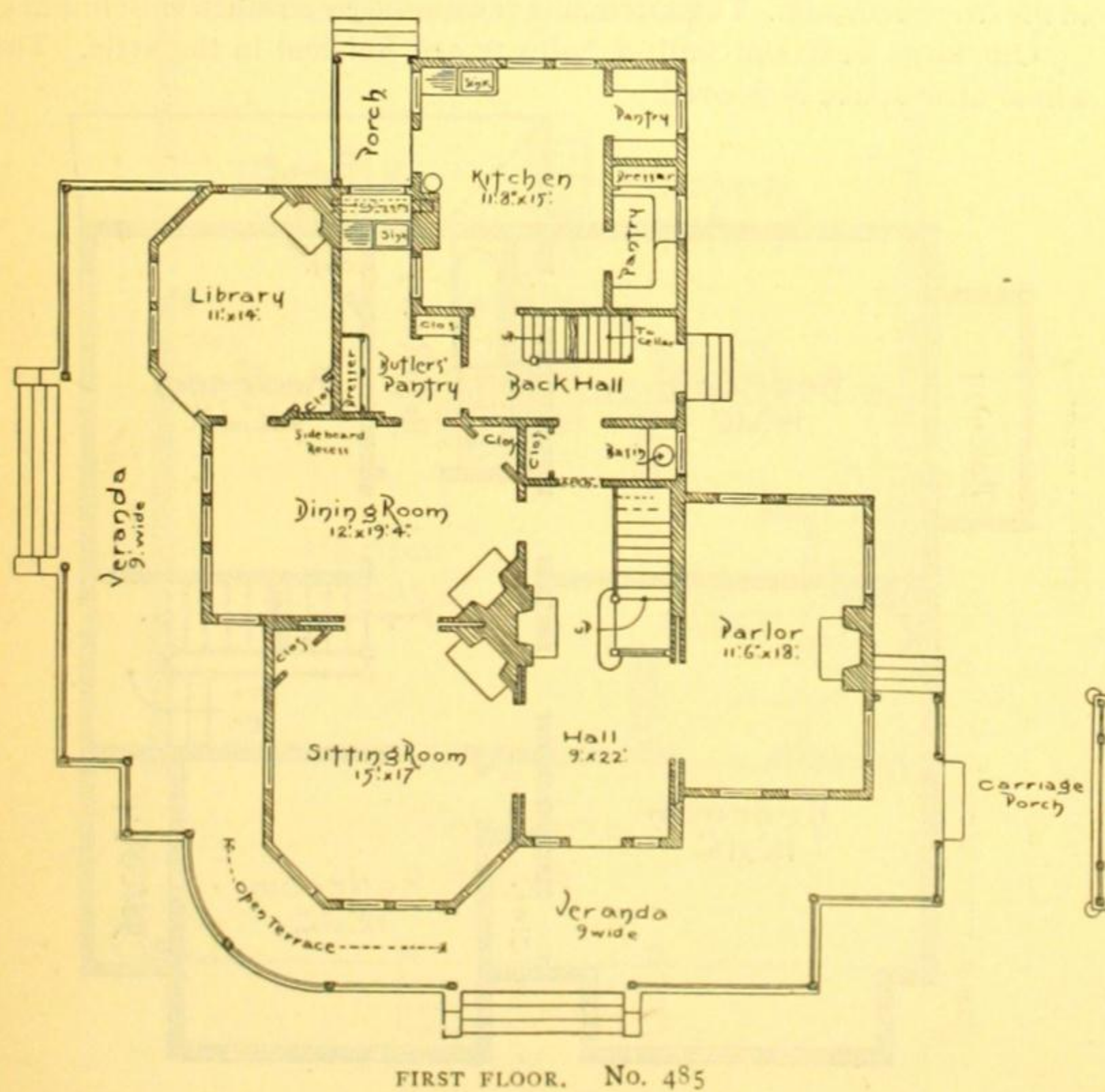
HEIGHT OF STORIES (measured in the clear): Cellar, 8 ft.; First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Attic, 8 ft., 6 in.

MATERIALS: Foundation, brick walls; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$8,255.95, complete, except heater and range. See "EXTRAS" on page 8 for other items not included in the estimate.

SPECIAL FEATURES.—Cellar with cemented bottom under the whole house. Laundry, with a set of three tubs under the kitchen.

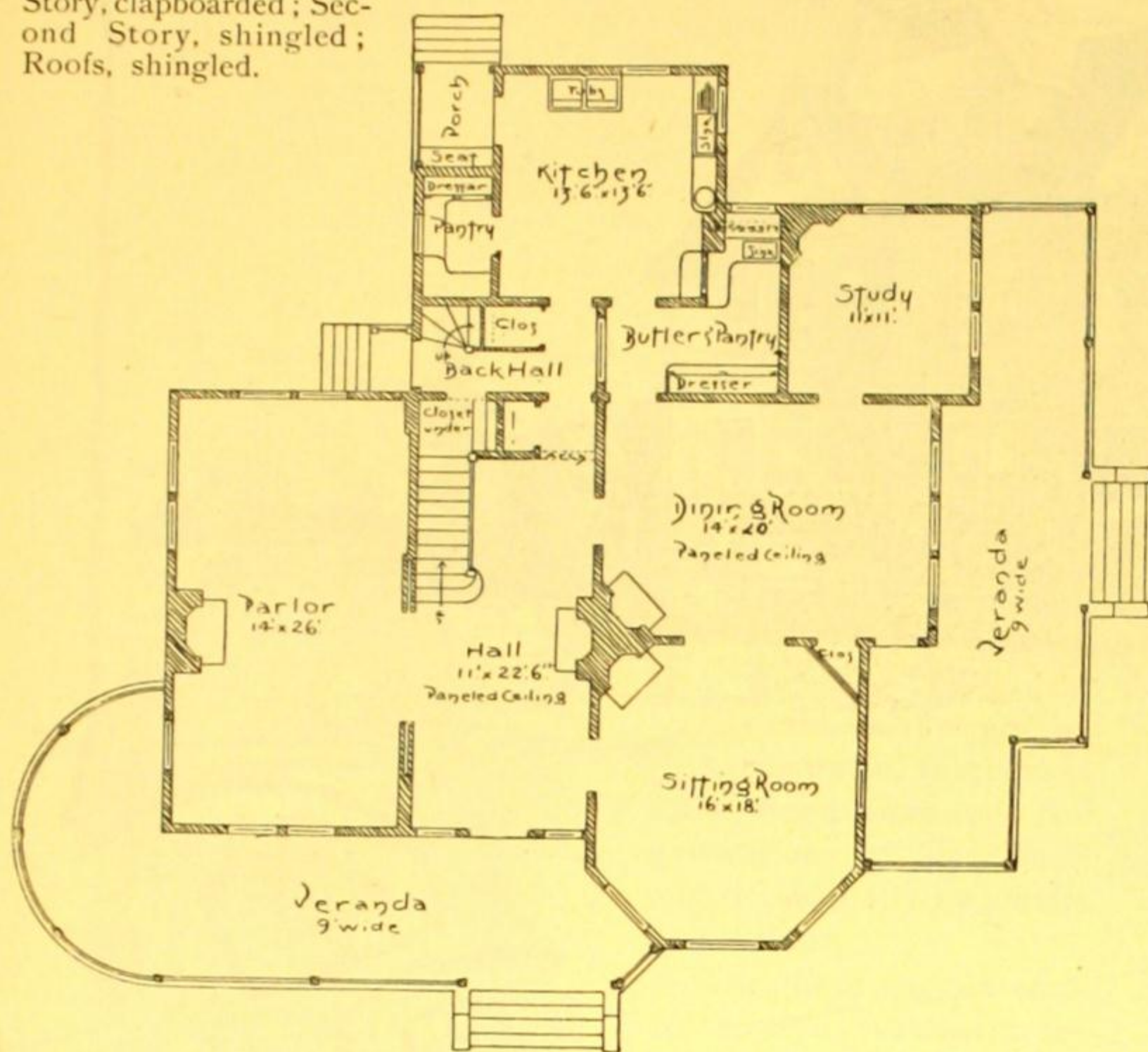
Double sliding doors connect the principal rooms.
The allowance for the five mantels on first floor is \$180.
The interior finish throughout is of pine or whitewood, stained.
Staircase is of hardwood.
Four bedrooms and two store-rooms are finished in the attic.



DESCRIPTION OF DESIGN NUMBER 486

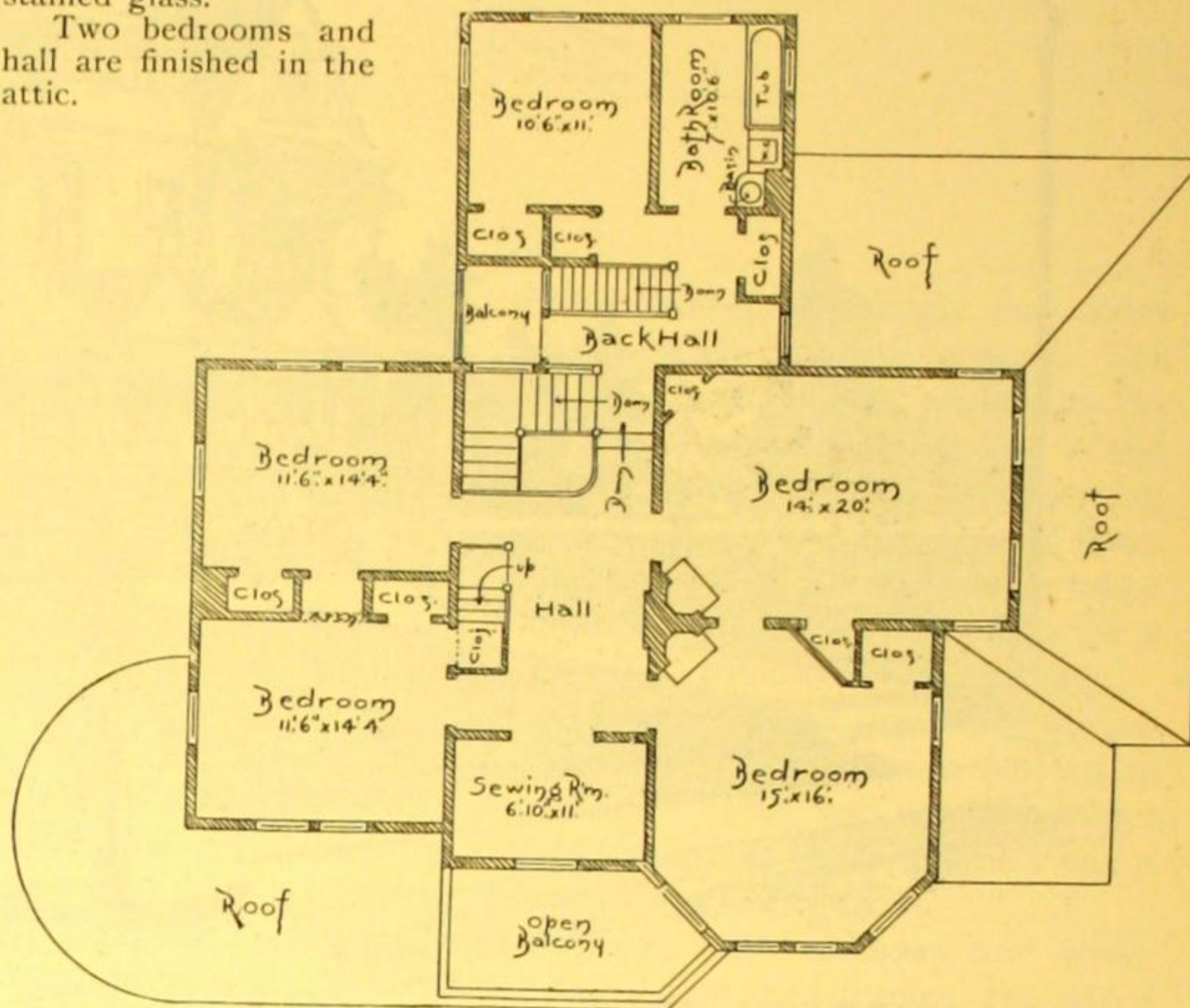
The exterior appearance is so exactly like that of Design No. 485, shown on the preceding page, that it is considered unnecessary to show a perspective view.

SIZE OF STRUCTURE: Front (over all), 65 ft. Side, including veranda, 56 ft.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: First Story, 11 ft.; Second Story, 10 ft.; Attic, 9 ft.
MATERIALS: Under house, brick walls—under verandas, brick piers; First Story, clapboarded; Second Story, shingled; Roofs, shingled.



FIRST FLOOR. NO. 486

COST: \$7617.12, complete, except range. See "EXTRAS" on page 8, for items not included in the estimate.
SPECIAL FEATURES.—No cellar. Open fire-places with mantels to the value of \$205.
 Hall and dining-room are trimmed with oak, and have paneled oak wainscoting and ceilings. Elsewhere the trim is of pine or whitewood stained.
 The front door has stained glass.
 Two bedrooms and hall are finished in the attic.



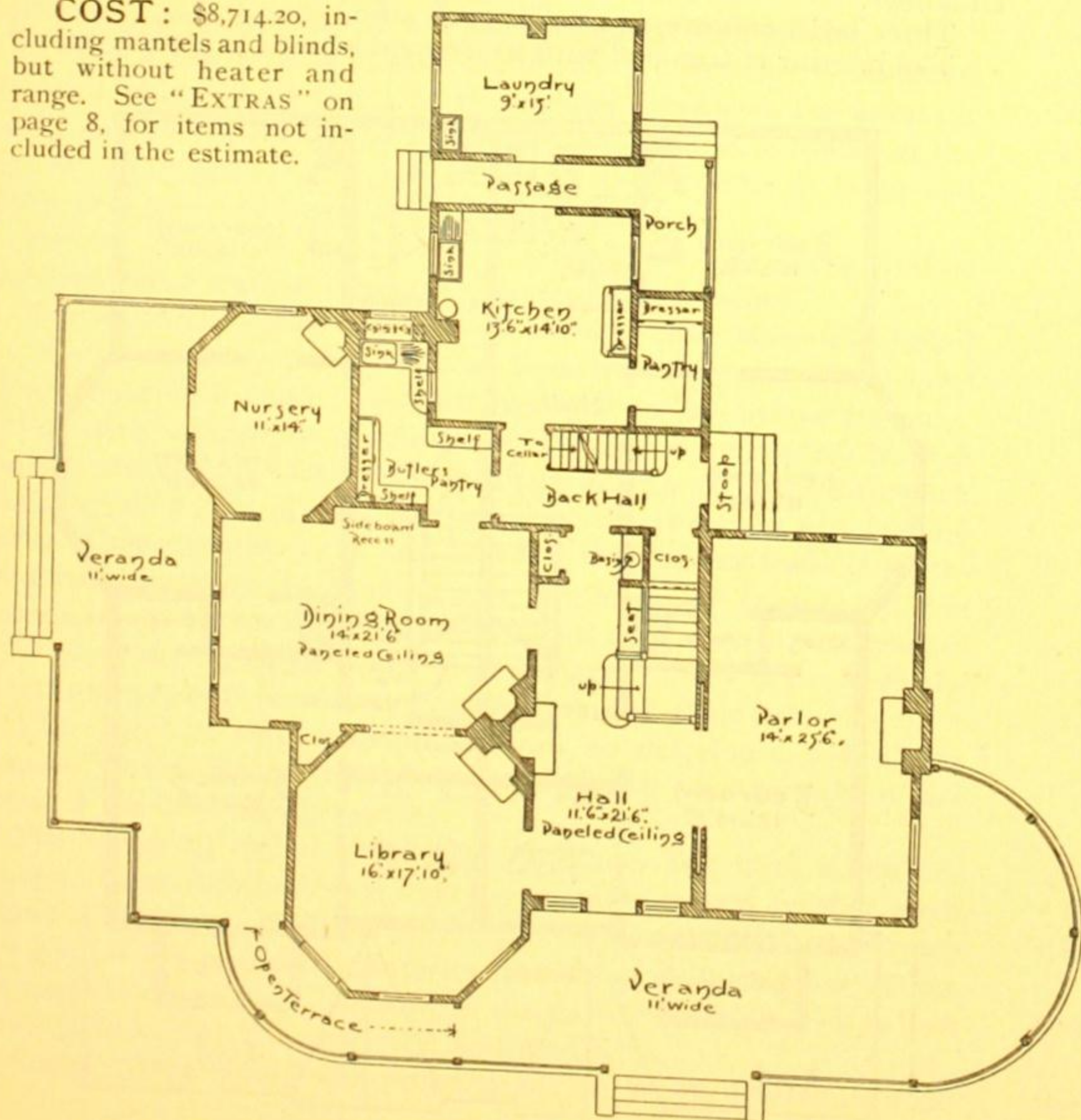
SECOND FLOOR. NO. 486

DESCRIPTION OF DESIGN NUMBER 487

The exterior appearance is like that of Design No. 485, shown on the preceding page.

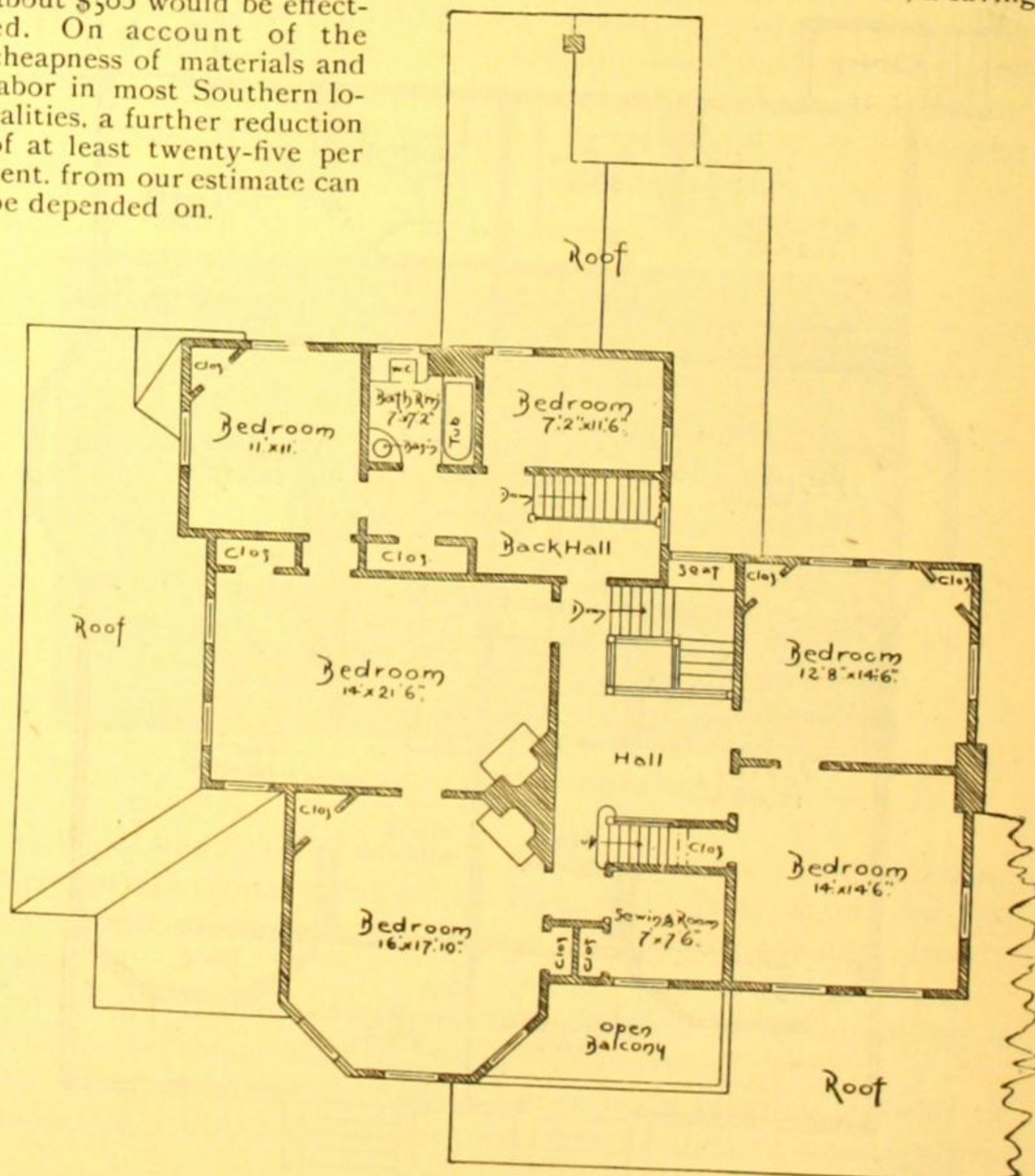
SIZE OF STRUCTURE: Front, including verandas, 72 ft. Side, including veranda, 73 ft.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft., 6 in.; Second Story, 9 ft., 6 in.; Attic, 8 ft.
MATERIALS: Foundation, stone and brick; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$8,714.20, including mantels and blinds, but without heater and range. See "EXTRAS" on page 8, for items not included in the estimate.

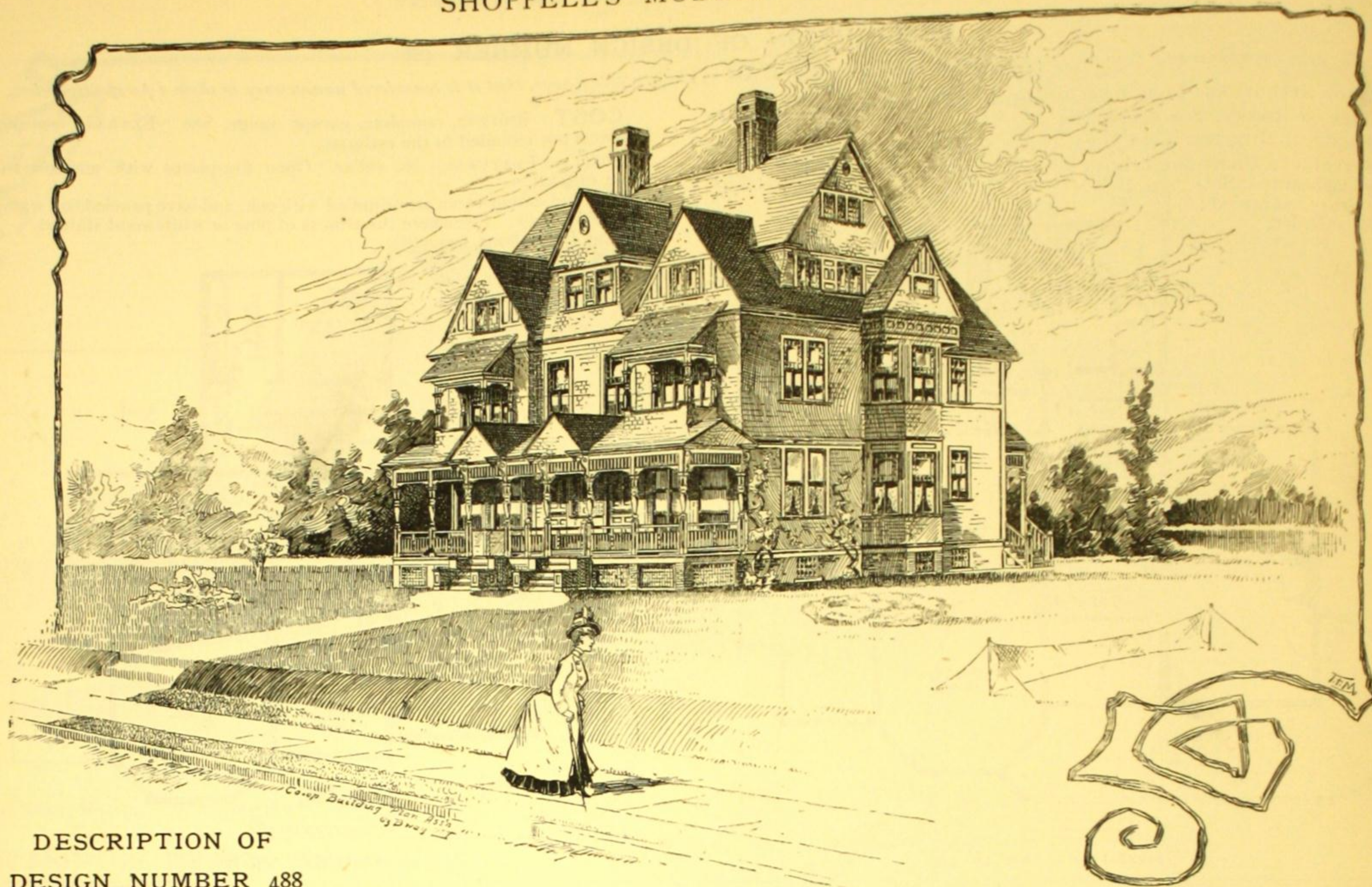


FIRST FLOOR. NO. 487

SPECIAL FEATURES.—Cellar under kitchen, pantry, back and main halls. Four bedrooms and a hallway are finished in the attic.
 The hall and dining-room have paneled wainscoting.
 All interior trim is of pine or whitewood stained, except staircase and mantels which are hardwood.
 This is an excellent design for the South, the rooms and hall being large, the verandas broad and extensive, and having open fire-places in all the principal rooms. If built on a foundation of brick piers without cellar, a saving of about \$500 would be effected. On account of the cheapness of materials and labor in most Southern localities, a further reduction of at least twenty-five per cent. from our estimate can be depended on.



SECOND FLOOR. NO. 487



DESCRIPTION OF
DESIGN NUMBER 488

SIZE OF STRUCTURE: Front, 40 ft., 6 in. Width at widest point, 45 ft., 10 in. Side, not including veranda or bay window, 42 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.
MATERIALS: Foundation, stone walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.
COST: \$8,000.00, complete, except heaters and ranges. See

A DOUBLE HOUSE DESIGN. No. 488. PERSPECTIVE VIEW

"EXTRAS" on page 8, for items not included in the estimate.

SPECIAL FEATURES.—Cellar under the whole building, with cemented bottom and outside entrance to the same from the rear.

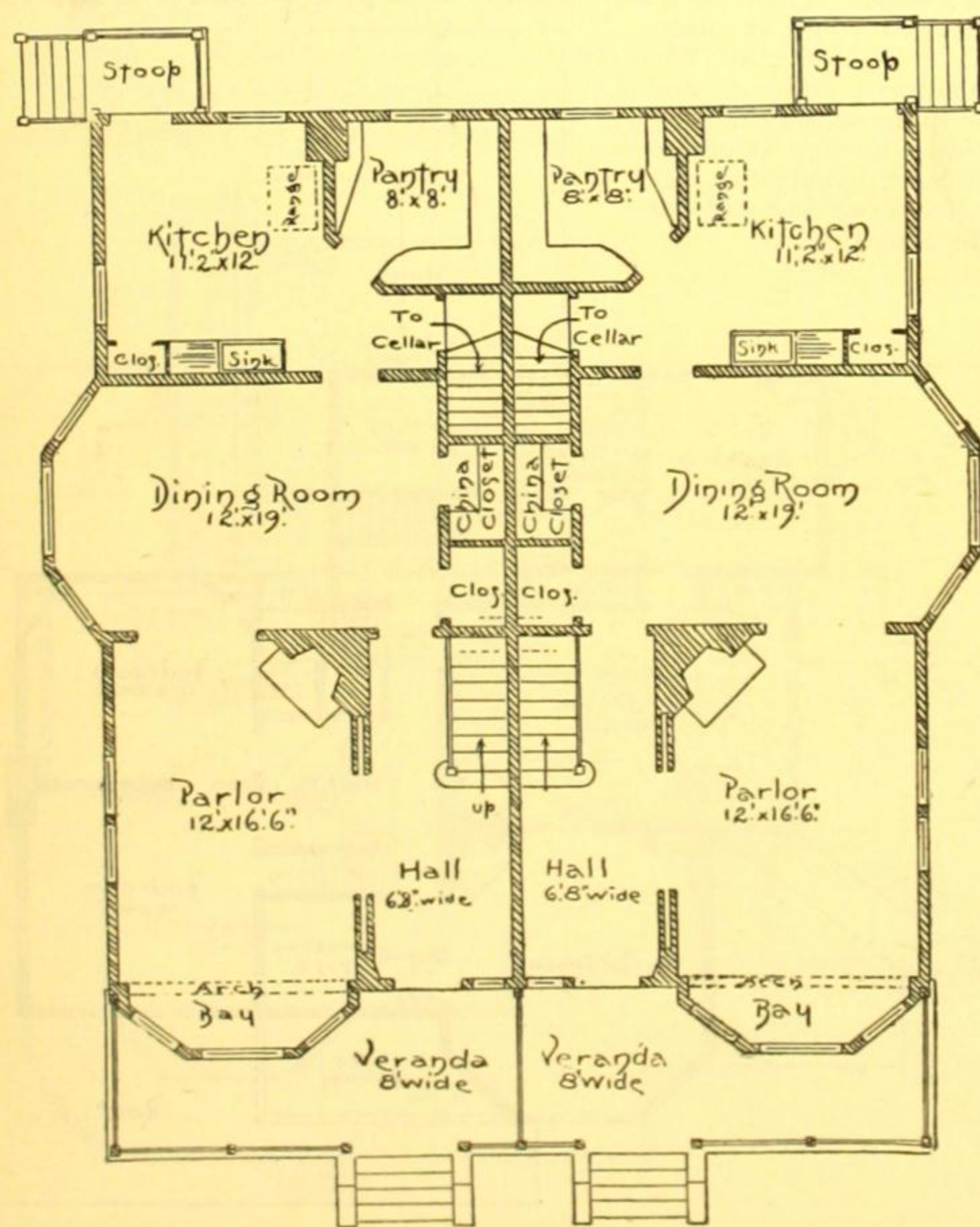
Sliding-doors between hall and parlor.

Wood mantels to the value of \$30 each are provided in the parlors.

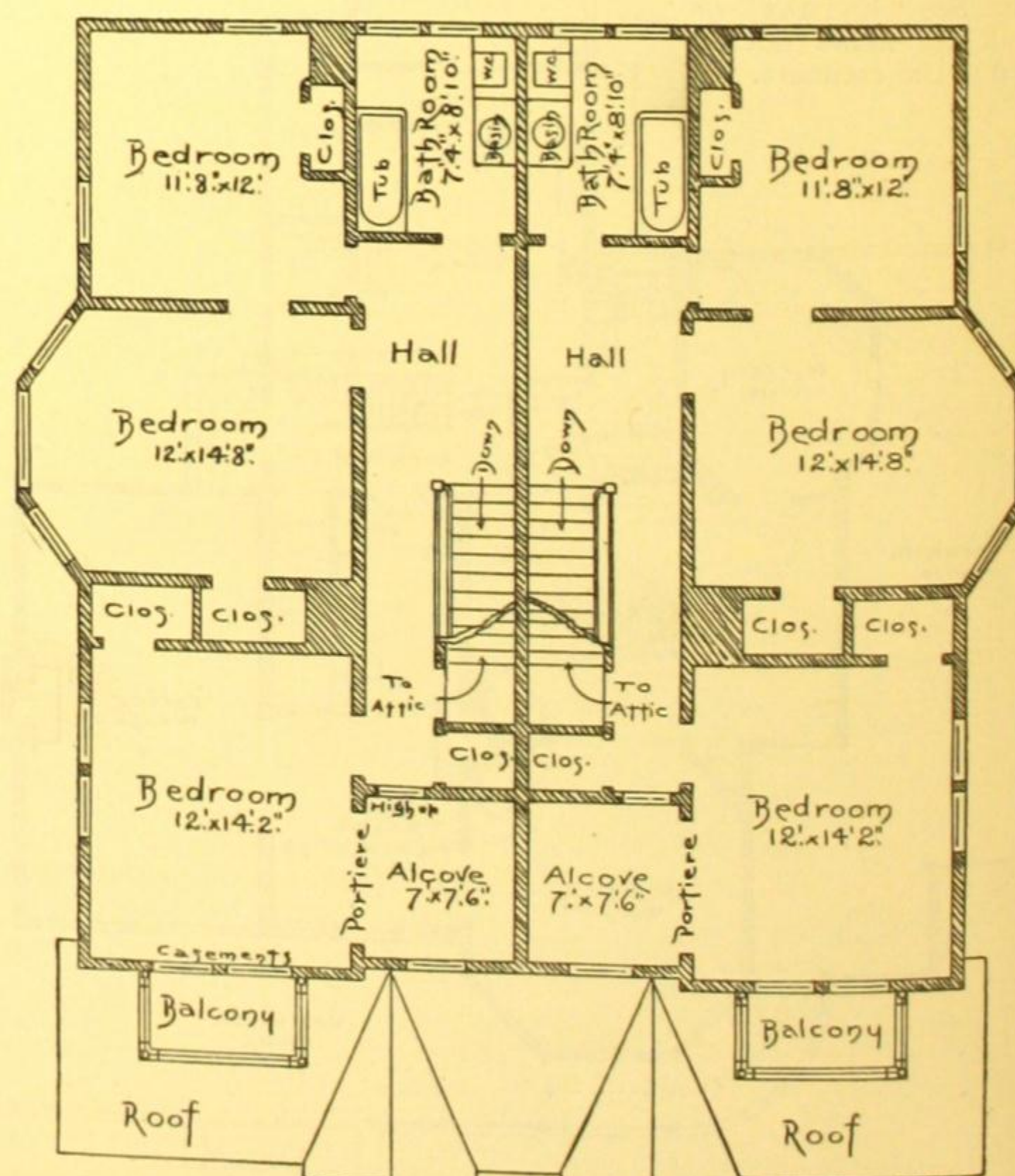
The kitchens and dining-rooms each have ventilation flues in the chimneys.

Three bedrooms are finished in each attic.

The interior is trimmed with whitewood stained to imitate cherry.



FIRST FLOORS. NO. 488



SECOND FLOORS. NO. 488

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL MONTHLY

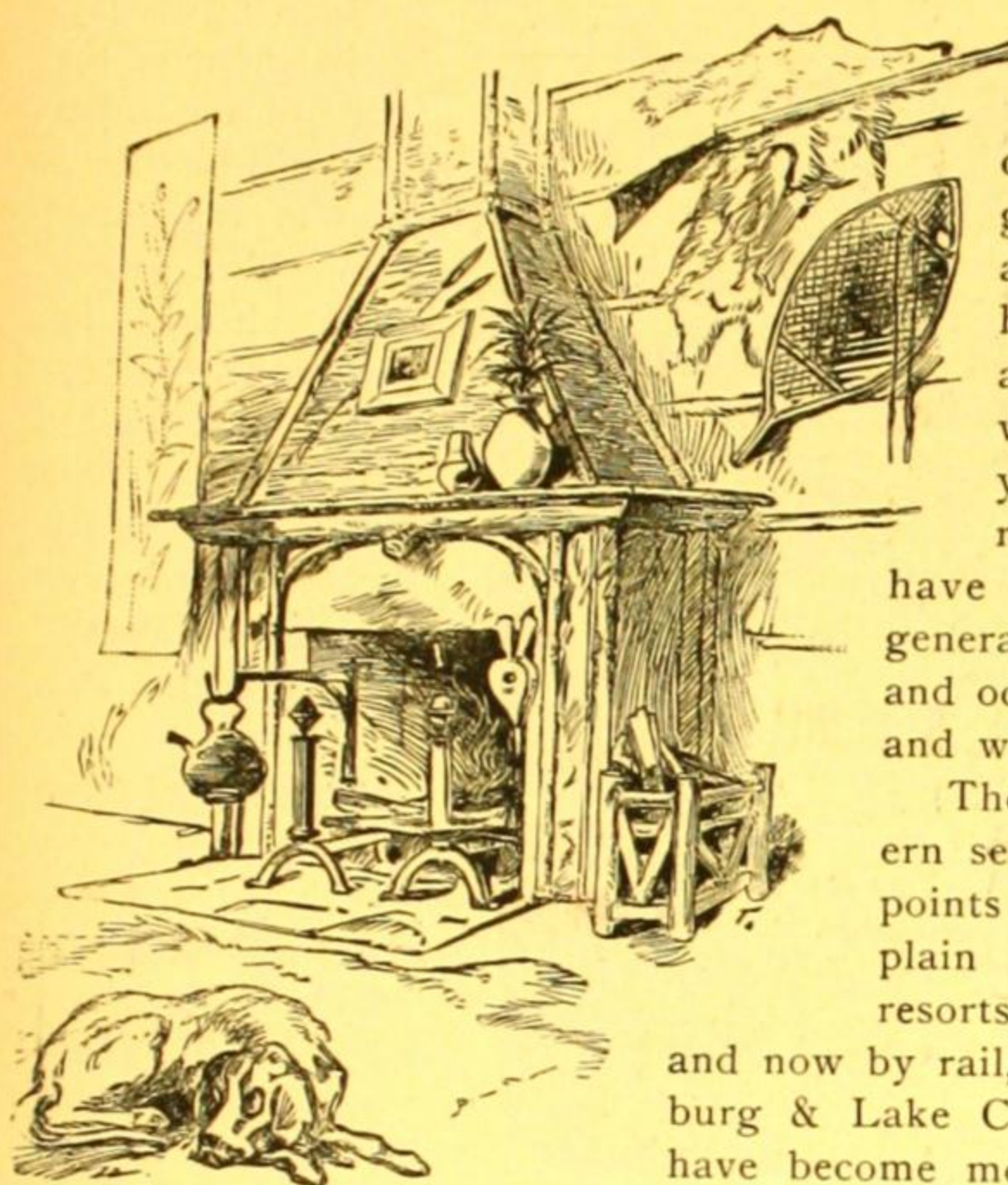
VOL. II. }
No. 3. }

NEW YORK, SEPTEMBER, 1887

{ WHOLE NO. 7.

SOME ADIRONDACK CAMPS

BY FRANK H. TAYLOR



A FIRE-PLACE AT CAMP
"PINE KNOT"

THAT vast wild-wood domain of New York State generally spoken of as "the Adirondacks" has been practically a *terra incognita* until within a very few years, although its romantic fastnesses have been invaded for generations by sportsmen and occasionally by artists and writers.

The more rugged eastern section, reached from points upon Lake Champlain and northern lake resorts invaded by stage, and now by rail, from the Ogdensburg & Lake Champlain Railroad, have become more familiar to the general public than the chains of lakelets along the southern and western slopes of the mountains.

Six years ago a single log hotel looked out upon tranquil Blue Mountain Lake, reached by a stage ride of thirty miles over a road which long left a memory of sore muscles and aching spines.

Within a few months I have made two journeys by buck-board over this road, which rivals in its present excellence the pleasant drives around the suburbs of our large cities, and have found, at the end of my journey, three hotels, one of them quite as large and modern as those of Long Branch or Nantasket.

Beyond this point are Eagle, Utowana and Raquette Lakes, traversed by a regular line of handsome steam yachts.

The Raquette region (in which I include Blue Mountain Lake) has now become popular. Many beautiful summer villas have already been built upon "coigns of vantage" in this sylvan region.

For this improved condition of things, as regarded from a tourist's standpoint, the credit belongs chiefly to the Adirondack Company, of which Mr. W. W. Durant is the president and leading spirit. This company owns and operates the railway leading northward from Saratoga to North Creek, the stage and buck-board line and the steam yachts, in addition to which they control vast reaches of lands in the region, it being their declared policy to preserve the forests and protect the waters from depletion of their fish.

The object of this communication is to describe a few of the "camps" upon Raquette and Forked Lakes, two of which are shown in the drawings herewith.

The visitor to any of these oases of luxury and taste in the wilderness, unless forewarned, is likely to be sadly misled by that word "camps," for he will find not only the most substantial and shapely of log villas, but a wealth of interior furnishing altogether surprising. Yet there is a degree of harmony in the use of materials everywhere which is in key with the majestic surroundings.

Camp "Pine Knot," the property of Mr. W. W. Durant, is a vil-

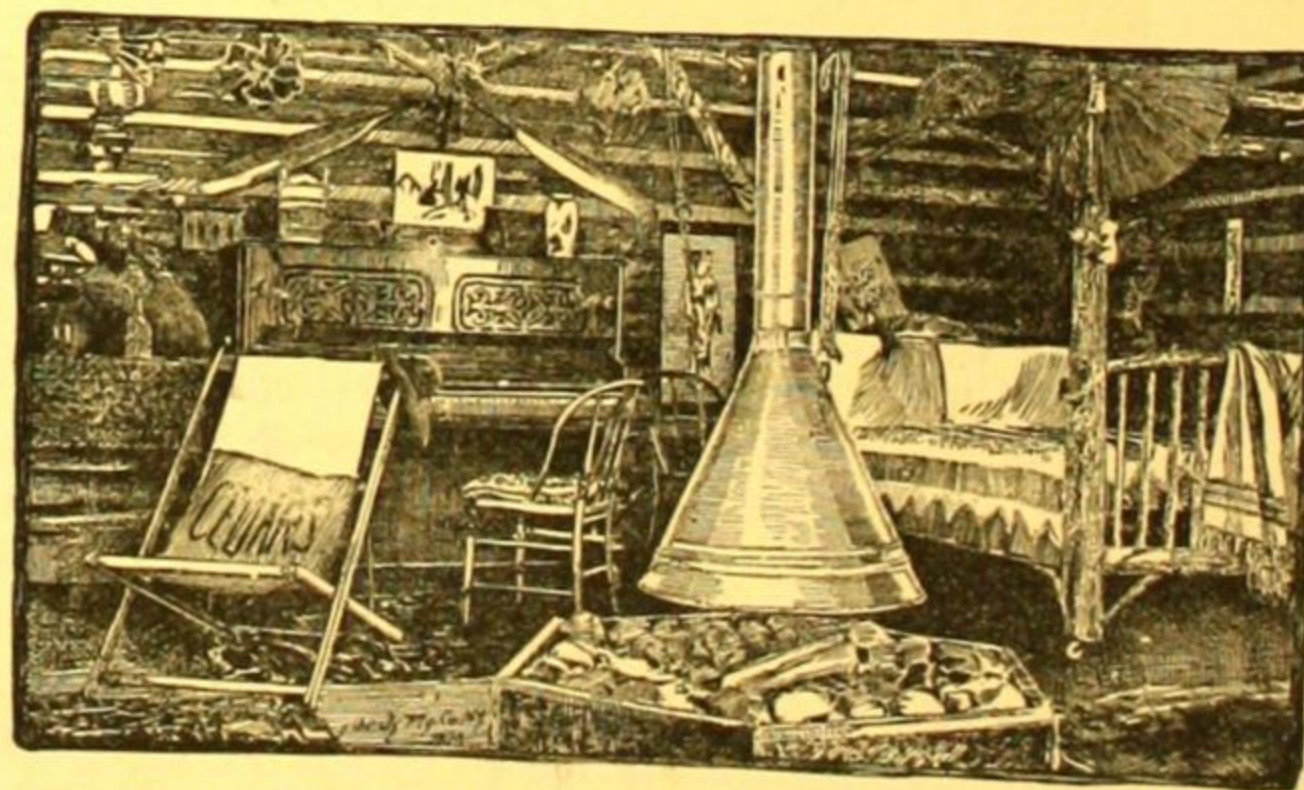
lage of log structures of which the chief is a shapely two story building, evidently inspired by its owner's visits to Switzerland. The massive cedar logs, hewn flat upon three sides, are shown in the walls of the first story, each successive course projecting a few inches, at its ends, beyond the one upon which it rests, thus forming a support for a gallery, which extends all around the second floor. This is protected by the broad roof upon which shingles have taken the place of bark. This building is used as a dormitory, with a living room and armory occupying half of the lower floor.

The supplementary buildings consist of several one story dormitories, kitchens, laundry, guide-house, open dining-room (shown in drawing), boat-house, and "open camp." This last named adjunct is indispensable, it being the rallying point at night, where many a good story is told, inspired by the crackling fire in front.

Each of the dormitories has its huge stone chimney and wide-mouthed fire-place. The tables, chairs and bed-frames are often entirely constructed of small cedar logs and branches by the guides, who are very expert in this kind of work. The sides of many of the rooms are sheathed with large sections of birch-bark, a most effective covering. Thick brown paper is used to some extent upon the under side of the roof.

The windows are usually wide and low, with small panes of cathedral glass around the outer course. Trophies of the chase, firearms, photographs and sketches are intermingled with gay Japanese fans upon the walls in charming confusion. Rugs and skins are used upon the floors.

Some of the newest structures are covered upon the exterior with bark fitted closely and lapping over neatly to exclude rain. The nails which fasten the bark are provided with "washers" of sheet-iron about an inch square, which soon rust into a harmony of color with the bark. The slight interstice between the logs is chinked outside and in with moss. Plaster is used inside quite as often.



AN INTERIOR AT "THE CEDARS"

The handsome "camp" of Mr. F. C. Durant is upon Forked Lake, a short portage from the foot of Raquette. It is known as the "Cedars," and in exterior appearance is quite unlike the one already described.

The centre structure is flanked by towers, each containing a second floor bedroom, reached by exterior stairways at the rear.

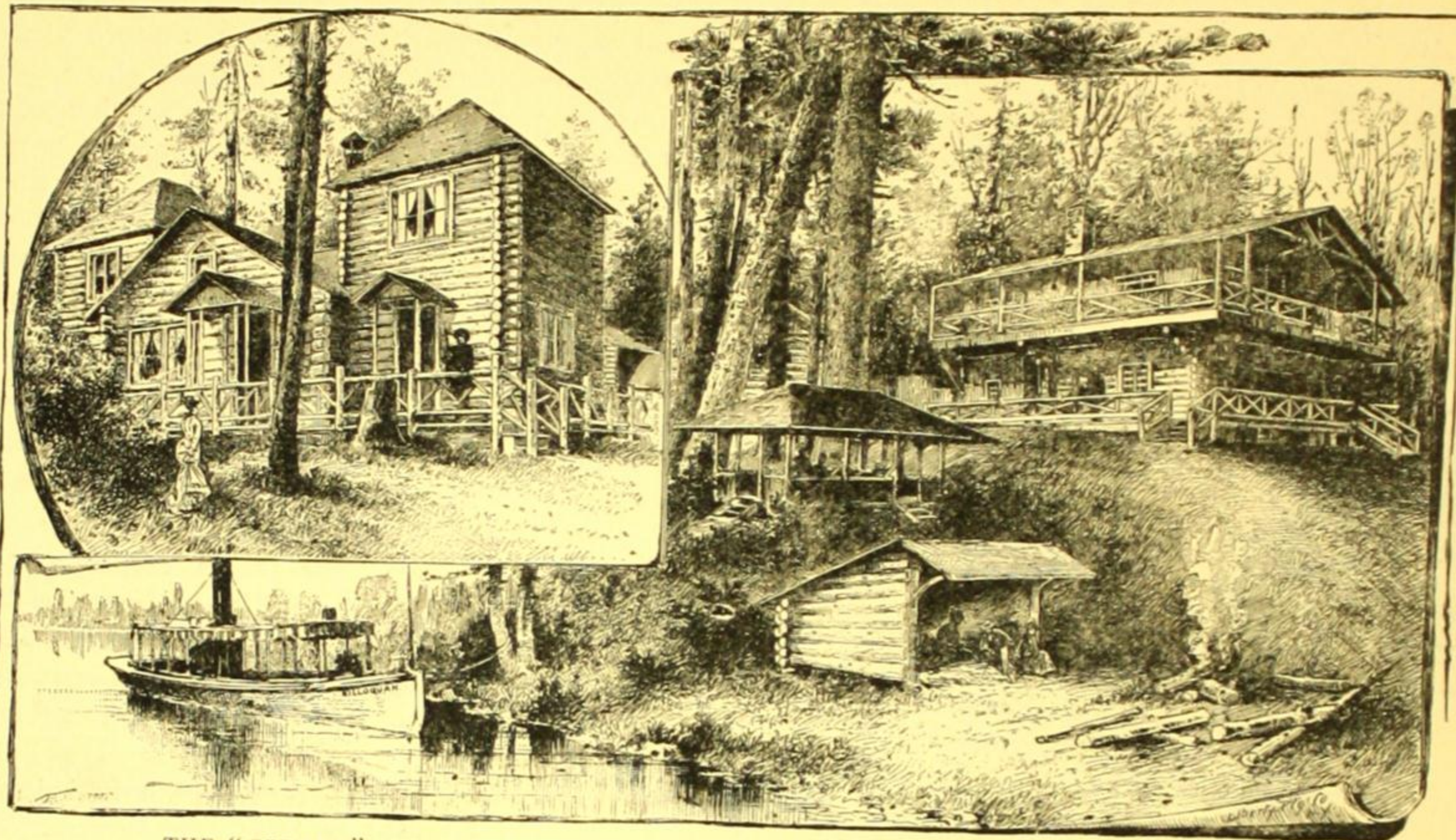
The living room at this "camp" contains a pleasing novelty in the shape of a fire-place so arranged that a circle of smokers can

arrange themselves comfortably all around it. It is simply a hexagonal box of sand about ten inches deep, faced with bark. Boulders are placed above the sand, and upon these the fire is built. The smoke is carried off through a funnel in the shape of a cone at the bottom of a long pipe. A sleeve in the pipe and a couple of chains admit of raising or lowering the funnel at will.

The Southern idea of an open passageway between the kitchen and dining-room is used at the "Cedars." The dining-room is located in the rear part of the central structure.

Of the dozen or more private camps upon Raquette, Forked and Little Forked Lakes no two are alike in shape or arrangement, but the same pleasing use of nature's material, ready-made, is discovered. Even the small hotels and their annexes are built in the same way. The new chapel, upon a picturesque island in the midst of Raquette Lake, is, however, built with sawed material. It is regretted that the same spirit of rusticity was not extended to this building, especially when we recall the beautiful rustic chapel at Mount Desert.

The prime necessities in building a log house with economy are abundant forest materials within easy reach, cheap labor and patience. An excellent substitute for the solid log house is the slab house. Basswood or cedar slabs should be ordered and cut during the winter. Then the bark will keep its hold. They should be edged at the mill, so as to present a uniform width of six, eight or ten inches. A stiff timber frame is put up and covered with matched hemlock or pine, nailed on horizontally or diagonally. Inch stuff planed upon the inside is best. To this ground work the slabs are nailed in belts or panels, always vertically or at right angles with the boards to which they are attached.



THE "CEDARS"

FORKED LAKE

CAMP "PINE KNOT," RAQUETTE LAKE

FLOORS AND RUGS

THE increasing popularity of rugs as floor coverings, used on hardwood or good narrow, well-laid pine flooring, is regarded with satisfaction by architects and sanitarians.

The carpet, which was "fashionable" for years, and therefore adopted almost universally, must be objected to on several grounds. It is uncleanly, because usually it does not get cleaned more than once or twice a year, even in those rooms which are used constantly, and where the inmates may be said to live: When it is cleaned, the process causes dust, dirt and general discomfort. Were the dreaded house-cleaning time relieved of the necessity of taking up, whipping and nailing down the carpets, it would be a matter of hardly more moment than the daily cleaning and dusting—the disagreeable part would be done away with entirely.

In a carpeted room the dust is constantly afloat in the air, and necessarily is inhaled into the lungs. That the dust is there does not need any other proof than the fact that mantels, picture frames, chairs, etc., have to be "dusted" every day.

Carpeting encourages the laying of poor floors. If the floors are to be concealed, what need to take any pains. "Put down the cheapest" is the direction given the architect or builder. The consequence is that wide, possibly unmatched flooring is laid, and when

the house has been occupied a few months the boards shrink from the heat, so that there is a crack of one-eighth to one-half an inch between each board. Through these cracks draughts of air will pass, striking the feet and lower limbs, a fruitful source of colds. Perhaps damp and unhealthy cellar air will be admitted to the rooms, which is a serious menace to health.

If rugs are used there must be, in the first place, a good, well-laid and slightly floor. It need not be very costly. Yellow pine makes an excellent floor and it is cheap. The boards should be not over $2\frac{1}{2}$ or 3 inches wide, tongued and grooved, driven up close and blind nailed, so that nail heads will not show. The floor need not be double, although where economy is not necessary, it is well to lay first a floor of hemlock or other cheap material, dressed one or both sides, so that it will lay evenly. This should be laid on the floor

joists diagonally, so that none of the joints of the upper floor will be over a joint of the under floor. The under floor should be covered with a layer of good building paper or felt, which will partly deaden sound and will also effectually prevent any draughts of air through the joints. For a cheap finish the wood can be "filled" with a good wood filler, or it can be given two or three coats of boiled linseed oil. The latter will give it a rich dark

color. If a finer finish is desired there are several kinds of wax polish that can be had. There are firms in all the large cities who make a business of finishing floors.

Oak makes a handsome and durable floor, and in many parts of the country can be obtained as cheaply as pine. Ash, birch and maple make excellent hard floors and are not costly.

Any of the above floors can be afforded in the plainest dwelling. With such floors and a few rugs (which cost no more than carpets) the rooms will have an air of elegance and comfort that can be secured in no other way.

The floors can be made of elaborate design by figured borders of different woods, or the whole floor can be laid with parquetry or inlaid work, but a good plain hardwood or hard pine floor is good enough for any house, unless the other finish and furnishings are elaborate and demand something more ornate to correspond with them.

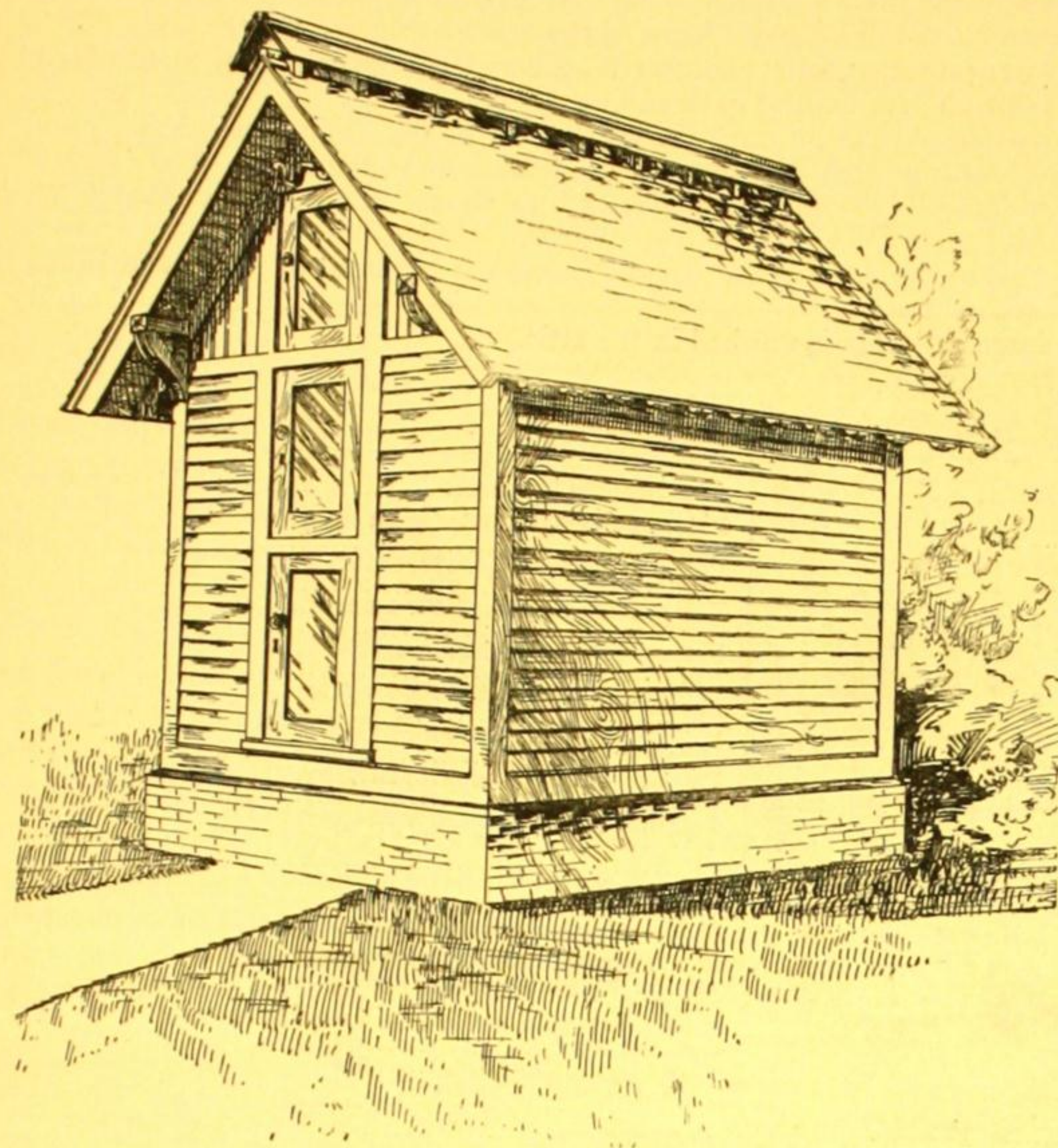
BUILDING PLANS AND SPECIFICATIONS

In connection with the publication of SHOPPELL'S MODERN HOUSES, the Co-operative Building Plan Association furnish plans and specifications for buildings of every kind, including Stores, Dwellings, Carriage-houses, Barns, etc. Full plans, details and specifications for the various buildings illustrated in this paper can be supplied.

Those who contemplate building are invited to communicate with the undersigned. Our work extends to all parts of the country. Estimates, plans and drawings promptly prepared. Terms moderate. Address THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects, 63 Broadway, New York.

AN ICE HOUSE AND COLD ROOM

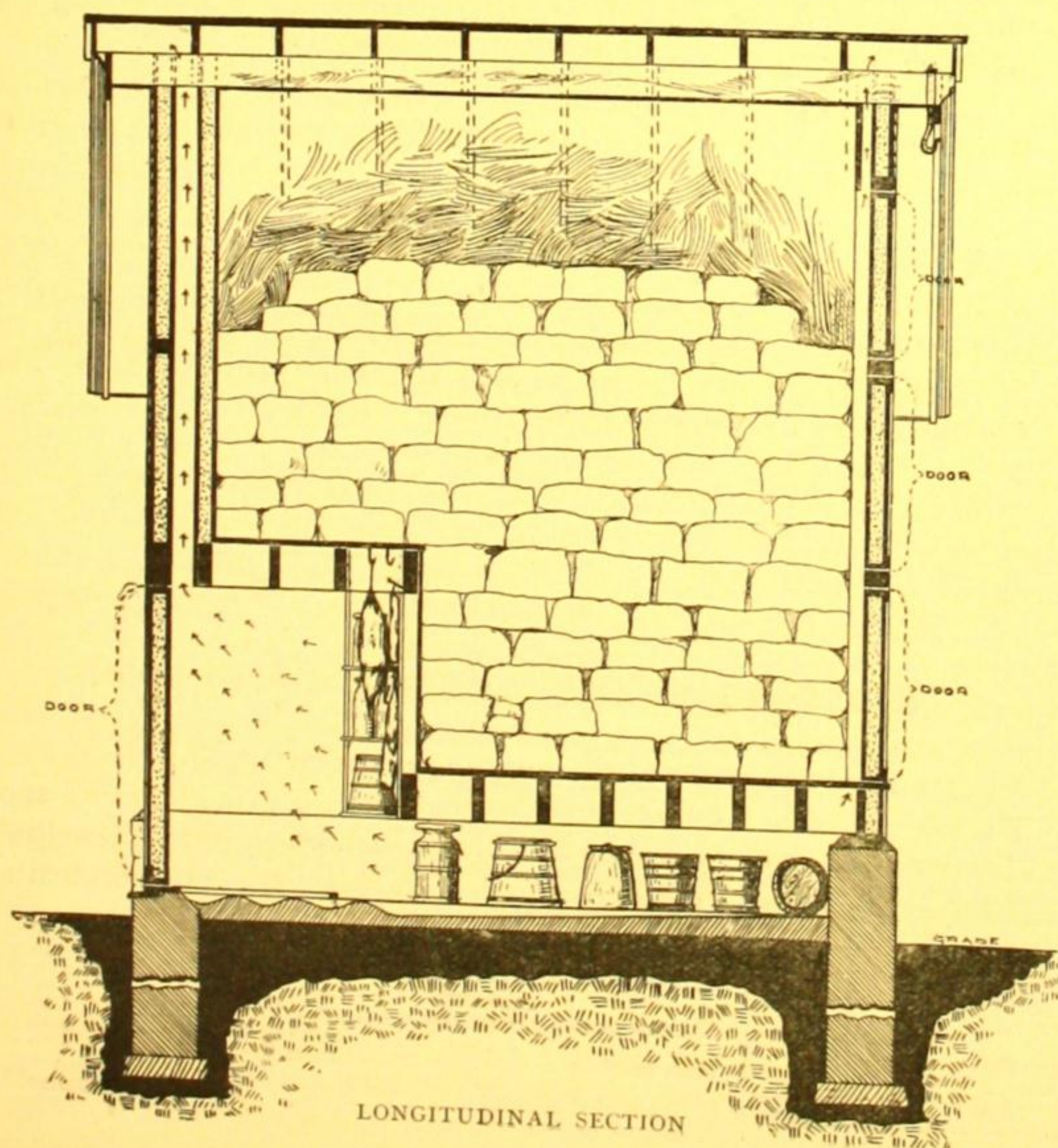
THE foundation of this combined ice house and cold room should be started sufficiently deep to avoid the action of the frost, may be made of either brick or stone and should be carried up to the under side of the sill. The sill is 4x8-inch yellow pine, and should be set in cement, weathered. Upon the sill rests the 3x4-inch hemlock studding and 4x6-inch hemlock corner posts.



PERSPECTIVE VIEW

The lower floor joists of the ice chamber also rest upon the sill and should be spiked to the studding, which is to be set 12 inches on centres. The upper floor joists are to be carried on a heavy girt, 2x6 inches, laid on top of the furring strips, which form the air passage.

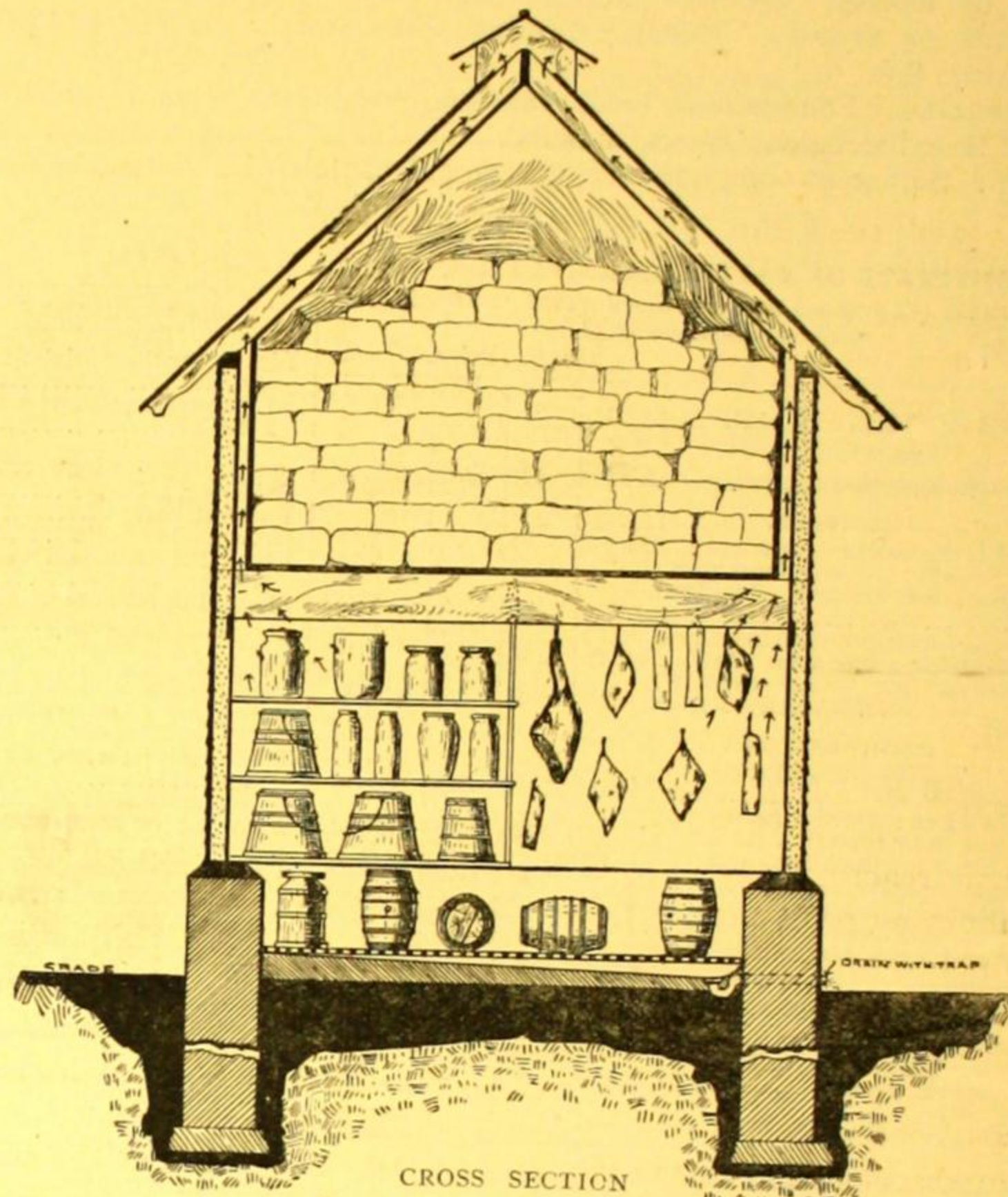
The entire exterior walls to be sheathed on the outside with $\frac{1}{2}$ -inch hemlock sheathing laid horizontally, covered with rosin-sized sheathing paper, well



LONGITUDINAL SECTION

tacked on, and finished with clapboards or novelty siding, with bands, casings and mouldings. All to be of good quality white pine, free from defects. The walls to be sheathed inside with matched $\frac{3}{4}$ -inch hemlock, laid diagonally. The air space around the ice-chamber is made by nailing 2x2-inch furring strips against the inner sheathing and directly over studs, and then covering with $1\frac{1}{2}$ -inch yellow pine tongued and grooved boards laid closely.

The space between outer and inner sheathing to be filled in with mineral wool or some good non-conductor. The rafters to be ceiled on the under side, and the space between rafters left open at the eaves, to admit a free passage of air through and out at the ventilator.



CROSS SECTION

The doors to be constructed in the same manner as the walls, to have beveled edges and to be hung on strong hinges, fastened with hasps and padlocks.

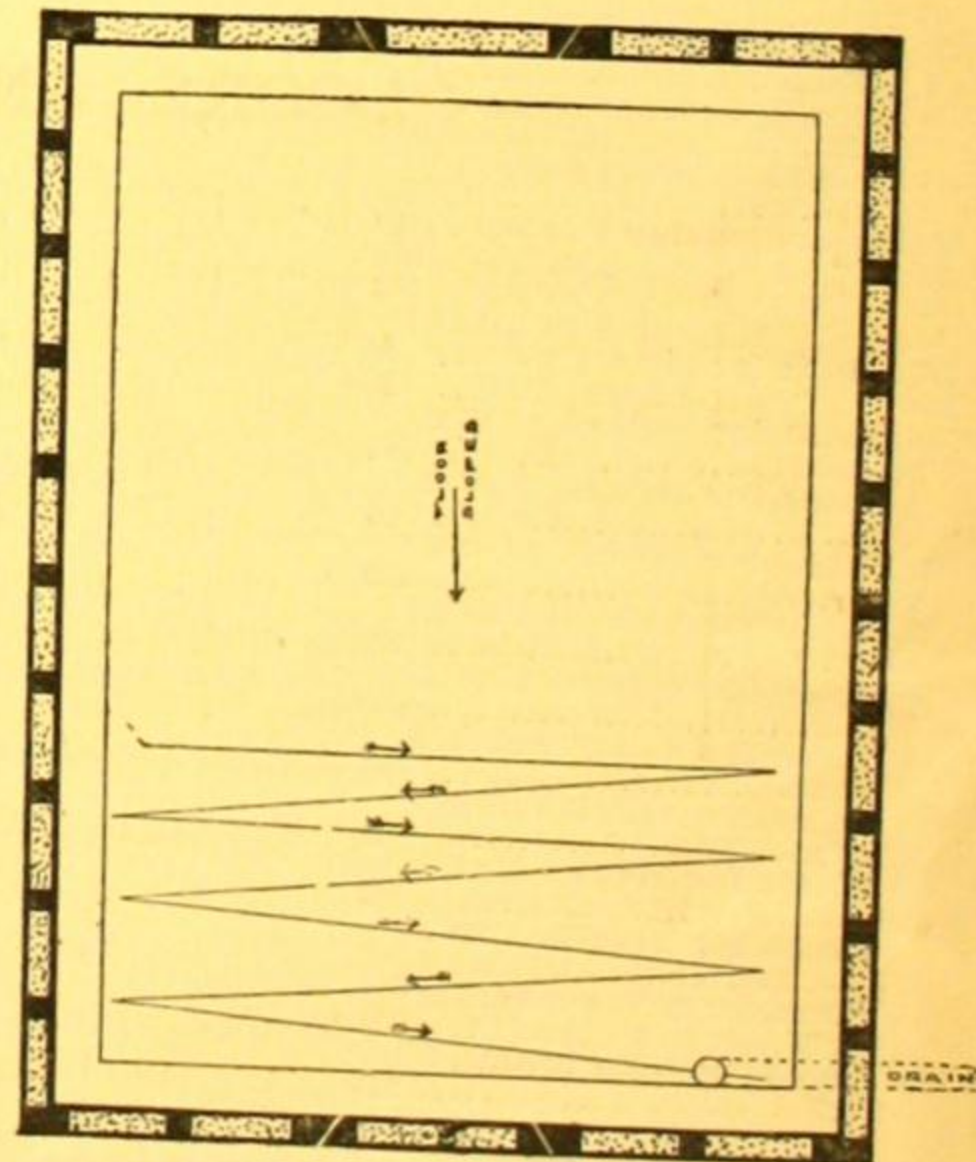
The floor above the high part of the cold room to be covered with any suitable and durable material, and carried up back of inner lining of the ice chamber, and made perfectly water-tight to avoid dripping.

The lower floor of ice chamber is made of 2-inch planks, 6 inches wide, laid about a half inch apart, so as to allow the water and cold air to descend to the cold chamber. As cold air always has a downward tendency, by this means the cold chamber gets the full benefit of the ice used, and is further assisted by the ventilation of the chamber, which allows the upper and warmer air to escape. The water running in the gutters on the cold room floor (so arranged as to make water traverse the distance several times before leaving the building) also helps to reduce the temperature.

The shelving to be perfectly plain, supported on cleats against the wall at one end and hung at the other end by $\frac{3}{4}$ -inch iron rod. Hooks to any desired number to be placed at the side of the shelving for hanging meats, etc.

The floor of entire cold chamber to be made of concrete, covered with a coating of cement, made smooth and so arranged as to have the water run in the direction of the arrows and discharge through trapped pipe to outside of building. Lay a wooden grating where necessary to walk upon.

The scale of the drawings is 3-16-inch = 1 foot.



PLAN

With a Full Detailed Estimate of the Materials and Labor Required.

Cost: \$4,640.46 complete except range and mantels—See detailed estimate

A large bedroom is finished in the attic.

Quan.	Price.	Cost.
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MASON'S MATERIALS AND LABOR.			
EXCAVATION.			
For cellar, foundations and piers, cub. yds.	270	\$.25	\$67.50
STONEMWORK.			
Stone sills for cellar door 3"x12"....lin. ft.	5	.30	1.50
" windows 3"x8".....	28	.25	7.00
" lintel for kitchen fireplace,			
4"x8".....	4½	.40	1.80
Stone caps for chimneys 3 ins. thick, sq. ft.	9	.65	5.85
" steps for cellar area, 2"x9"....lin. ft.	31	.25	7.75
" coping for cellar area, 2"x			
10".....	14	.25	3.50
BRICKWORK, ETC.			
*Hard brick in foundation walls, piers, etc.....per M laid	31,800	15.00	477.00
*Hard brick in chimney (above first tier floor joists).....	8,500	15.00	127.50
*Press brick for fireplaces and chimney breasts.....	2,400	40.00	96.00
Slate hearths in 4 rooms.....sq. ft.	36	.40	14.40
Stove pipe thimbles and covers.....	3	.25	.75
*Cellar and area bottom, 2½ ins. concrete.....sq. yds.	114	.40	45.60
PLASTERING.			
*3 coat work in 3 stories.....sq. yds.	1,022	.30	306.60
*Whitewashing cellar walls and ceiling, 2 coats.....sq. yds laid on	582	.02	11.64
Total for Mason's Work			\$1174.39
CARPENTER'S MATERIALS.			
ALLOWANCE FOR WASTE FIGURED IN BILL.			
1 Post under cellar girder, 6"x7".....	1		\$.50
1 Piece for girders, 6"x8"x17' 68 ft. B.M.			
1 " " " 6"x8"x12' 48 " "			
2 " " " sills, 4"x8"x19'.....	91	"	
2 " " " 4"x8"x18'.....	106	"	
4 " " " 4"x8"x13'.....	139	"	
3 " " floor joists, 2"x10'.....	105	"	
x21'.....	105	"	
30 Pieces for floor joists, 2"x 10"x19'.....	950	"	
94 Pieces for floor joists, 2"x 10"x13'.....	2037	"	
18 Pieces for floor joists, 2"x 8"x19'.....	456	"	
68 Pieces for floor joists, 2"x 8"x13'.....	1178	"	
5 Pieces for corner posts, 4"x6"x21'.....	210	"	
4 Pieces for corner posts, 4"x6"x17'.....	136	"	
313 Pieces studding 2"x4"x21'.....	4382	"	
80 " " " 2"x4"x18'.....	960	"	
80 " " " 2"x4"x16'.....	853	"	
50 " " " 2"x4"x12'.....	400	"	
190 Lin. ft. for girts, 1"x6".....	95	"	
250 " plates, 4"x4'.....	333	"	
13 Pieces for rafters, 2"x6"x 34'.....	442	"	
2 Pieces for rafters, 2"x6"x 23'.....	46	"	
30 Pieces for rafters, 2"x6"x 21'.....	630	"	
16 Pieces for rafters, 2"x6"x 18'.....	288	"	
25 Pieces for rafters, 2"x6"x 16'.....	400	"	
2 Pieces for valley rafters, 3"x8"x14'.....	56	"	
2 Pieces for valley rafters, 3"x8"x10'.....	40	"	
2 Pieces for ridges, 1"x8"x 20'.....	27	"	
2 Pieces for ridges, 1"x8"x 16'.....	21	"	
7 Pieces for collar beams, 2"x6"x16'.....	112	"	
25 Pieces for collar beams, 2"x6"x9'.....	225	"	
VERANDA AND BALCONY TIMBER.			
Lin. ft. for veranda sills, 3"x 8"x133'.....	266	"	
Lin. ft. for circular sills, 2"x 12"x60'.....	120	"	
Lin. ft. for cross sills, 4"x8"x 64'.....	171	"	
Lin. ft. for plates, 4"x8"x180'.....	480	"	
Carried forward.....15,871	"		\$.50

	Quan.	Price.	Cost.
Brought forward.....	15,871 ft. B.M.		\$.50
Lin. ft. for floor joists, 2"x8"x			
680.....	907 "		
7 Pieces for rafters (curved),			
2"x16"x11'.....	205 "		
	16,983	\$15.00	254.75
LUMBER, &C.			
Bridging, 1½"x3".....	lin. ft.	800	.01
Furring, 1"x2".....	"	800	.00½
Grounds for casing, 1"x1".....	"	800	.00¼
Plank for area and cellar par-			
titions, matched.....	ft. B.M.	700	.02
Sheathing for side walls.....	4200 "		14.00
" " roofs.....	2400 "		
	6 600	16.00	105.60
Sheathing paper.....	sq. ft.	3,300	.00¼
Coiling, T. and G. dressed, ¾"x3".....	ft. B.M.	1,320	30.00
Shingles for side walls.....	per M.	26,500	5.00
" " roofs.....		17,500	5.00
Flooring, 2 stories, 1"x5", white			
pine.....	ft. B.M.	2,700	30.00
Flooring, attic, 1"x8", spruce.....		1,100	25.00
Flooring for veranda, 1"x4", white			
pine.....	ft. B.M.	1,250	30.00
Canvas for balcony floors.....	sq. yds.	46	.50
			23.00
FINISHING WORK, OUTSIDE FRAME.			
Brackets, 20"x18"x4".....		8	.40
" 12"x12"x2".....		20	.10
" 15"x6"x3".....		4	.10
" 6"x8"x2", for gutters.....		58	.05
Flag staff, 6"x24".....		1	8.00
Balcony posts, 6"x6"x10', turned.....		6	2.50
Lumber for outside finish,			
steps, etc., 1½".....	700 ft. B. M.		
Lumber for outside finish,			
gutters, etc., 1".....	1200 "		
Lumber for outside finish,			
2".....	500 "		
Lumber for 19 ver. and bal.			
posts.....	550 "		
	2,950	35.00	103.25
Mouldings for cornice crown, 4".....	lin. ft.	334	.02½
" " belts, 4".....	"	284	.02½
" " sills and rail, 1½"x2".....	"	530	.01½
" " nosings, 1½"x1½".....	"	110	.01½
" " cove.....	"	550	.00½
" " window casings, 2½".....	"	100	.01½
Bottom rail, veranda and balconies,			
3"x4".....	"	61	.07½
Bottom rail, circular balcony, 3"x4".....		24	.05
Ridge roll, 2"x2".....		50	.02½
Carved panel over side window.....		1	3.50
Balusters, 1"x3"x24", scroll sawed.....		425	.06
Newel, 6"x6"x4", turned.....		1	1.50
Spindle frieze in porch.....	sq. ft.	79	.75
Lattice under sills.....		93	.05
			4.65
SASHES.			
Single sash for 1st story, 3'6"x4'3"x1½".....		1	3.50
transom, 3'6"x1'2"x1¼".....			
stained glass.....		1	2.00
Single sash for sliding, 2'x4'3"x1½".....		6	2.00
2'x6'3"x1½".....		2	2.50
" " transoms, 2'x1'2"x1¼".....		8	1.00
stained glass.....		2	2.13
Pair sash for sliding, 2'10"x5'x1½".....		2	1.00
2'x3'x1½".....		2	2.13
Single " " " 2'x2'6"x1½".....		2	1.00
stained glass.....		3	2.50
Single sash for transom, 2'10"x1'4"x1¼".....		1	.75
2d story, 2'4"x4'x1½".....		2	4.00
" " circle top, 5'x1'6"x1½".....			
stained glass.....		1	5.00
Single sash for square, 2'x2'2"x1¼".....		1	.70
1'x2'1½".....		7	.55
" " " 8'x1'4"x1¼".....		3	.50
transom, 4'x1'4"x1¼".....			
stained glass.....		1	2.00
Pair sash for casement, 4'x6'x1½".....		2	5.00
Single sash for sliding, 2'x3'9"x1½".....		5	1.50
transoms, 2'x1'2"x1¼".....			
stained glass.....		7	1.10
Pair sash for sliding, 3'6"x5'6"x1½".....		2	3.00
2'x4'x1½".....		1	1.50
" " " 2'x2'10"x1¼".....		4	1.20
Single sash for transom, 2'x1'3"x1¼".....			
circle top.....		1	.80
Single sash for cellar, 2'10"x1'4"x1¼".....		6	.60
" " " 2'x1'4"x1¼".....		2	.50
" " " 2'x1'4"x1¼".....		1	.40
" " " 2'x2'2"x1¼".....		1	.65
BLINDS.			
NOTE.—Sash sizes are given. Blinds			
to be ¾" narrower and 1" longer. All			
1¼" thick.			
Pair outside slat blinds for 1st story, 2'x			
2'6".....	3	.60	1.80
Carried forward.....			\$1203.93

	Quan.	Price.	Cost.
Brought forward.....			\$1203.93
Pair outside slat blinds for 1st story, 3'6" x5'6"	1		1.60
Pair outside slat blinds for 1st story, 2 x 5'6"	6	\$1.45	8.70
Pair outside slat blinds for 1st story, 2 x 7'6"	2	1.80	3.60
Pair outside slat blinds for 1st story, 2'10" x5'	2	1.35	2.70
Pair outside slat blinds for 2d story, 4 x7' 3'	2	.80	1.60
Pair outside slat blinds for 2d story, 2 x6' 6"	1		2.25
Pair outside slat blinds for 2d story, 2 x6' 6"	2	1.70	3.40
Pair outside slat blinds for 2d story, 2 x5' 2'4"x	5	1.35	6.75
Pair outside slat blinds for 2d story, 3'6"x 5'6"	2	1.10	2.20
Pair outside slat blinds for attic, 2'4"x2'10"	2	1.60	3.20
	4	.80	3.20
LUMBER FOR WINDOW FRAMES.			
490 lin. ft. pulley stiles and heads, 1".....	245 ft. B.M.		
Sills, blind stops, etc., 1".....	150 "		
Sub-sills, 2".....	210 "		
Casement windows, 1 1/4".....	110 "		
Plank for cellar frames, 1 1/2".....	90 "		
Parting strips.....lin. ft.	805	.03	24.15
Stop beads.....	490	.00 1/2	2.45
	400	.01	4.00
INSIDE WINDOW AND DOOR TRIM.			
Moulded stool caps, 3/2".....lin. ft.	125	.02	2.50
" aprons, 3".....	120	.01 1/2	2.16
" casings, 1 x4 1/2".....	1,300	.03	39.00
Plain casings, 3/2".....ft. B.M.	80	.04	3.20
DOORS.			
Front door, glazed, 3'6"x7'6"x1 1/4".....	1		8.00
Outside " 5'0"x7'6"x1 1/4".....	1		13.00
" 4 panels 2'10"x7'0"x1 1/2".....	2	3.15	6.30
Inside " 1st story, 2'8"x7'2"x1 1/2".....	1		3.15
" 2'8"x7'1 1/2".....	3	3.00	9.00
" 4 closets, 2'6"x7'0"x1 1/4".....	1		2.30
" 2'4"x7'0"x1 1/4".....	1		2.20
" 2'0"x6'0"x1 1/4".....	1		1.70
" 4 panels, 2d story 2'10"x7'0"x1 1/2".....	4	2.56	10.24
" sliding 2'6"x7'0"x1 1/4".....	1		2.30
" 4 closets, 2'6"x7'0"x1 1/4".....	2	2.30	4.60
" 2'4"x7'0"x1 1/4".....	2	2.20	4.40
" 2'4"x6'6"x1 1/4".....	4	2.05	8.20
" 2'6"x6'0"x1 1/4".....	2	2.00	4.00
" 4 attic 2'8"x7'0"x1 1/2".....	1		2.40
" 4 cellar 2'4"x6'8"x1 1/4".....	2	2.13	4.26
LUMBER FOR DOOR JAMBS.			
Jambs for front door, 1 1/2"x6", 65 ft. B.M. ordinary doors,			
1"x6".....	210 ft. B.M.		
Sills for outside doors 2"x9".....	30 "		
Lin. ft. moulded door stops, 1/2"x2".....	305	.03 1/2	10.68
saddles, 3/8"x4".....	400	.01 1/2	4.80
	105	.02	2.10
STAIRS MAIN FLIGHT.			
Materials and labor complete including paneling under.....			75.00
BACK AND ATTIC STAIRS, TWO FLIGHTS.			
Strings and treads, 1 1/4 in.....	150 ft. B.M.		
Risers and fascia 1 in.....	60 "		
Post.....	5 "		
Baluster 1 1/4" sq.....	22 "		
Hand rail, 2 in.....lin. ft.	237	.03	7.11
	18	.02	.36
CELLAR STAIRS.			
Treads, strings, etc.....ft. B.M.	100	.03	3.00
BASE OR SKIRTING.			
268 Lin. ft. for 1st and 2d stories, 141 ft. B.M. 230 " " " attic and closet, 135 "			
Moulding, 2 in. for 1st and 2d stories.....lin. ft.	276	.05	13.80
	268	.01 1/2	3.21
WAINSCOTING, ETC.			
Ceiling strips in kitchen, butler's and bath-room 3/4"x3".....ft. B.M.	285	.03	8.55
Capping, 1x2 ins.....lin. ft.	53	.01 1/2	.63
Floor Moulding.....	53	.01	.53
Hearth borders.....	36	.01	.36
Bath tub top ash 1 in.....9 ft. B.M.			
Drip boards and tops for sinks, 1".....	20	.06	1.20
Supports for sinks turned legs.....	4	.15	.60
DRESSER.			
Glazed doors for front size about 15x48 in. Pine lumber.....11x48 in. ft. B.M.	2	.75	1.50
	4	.60	2.40
	170	.05	8.50
Carried forward.....			\$1550.92

ESTIMATE OF DESIGN NUMBER 491—Continued.

Quan.	Price.	Cost.	Quan.	Price.	Cost.	Quan.	Price.	Cost.
Brought forward.....			Brought forward.....			*PAINTING.		
Mouldings 4 in.....lin. ft.	12	\$.02	Cupboard catches.....	8	.05	750 Sq. yds. to paint 3 times, exterior		
Drawer pulls.....	18	.03	Hooks for cellar window.....	10	.02	work=.....	2,250	.07
MISCELLANEOUS.			Clothes hooks.....	48	.02	Sq. yds. to oil shingling side walls.....	370	.05
Angle beads, 1 1/4" x 5".....pieces	15	.20	Base knobs.....	15	.08	Sq. yds. to oil veranda and balcony ceilings.....	100	.05
Shelf cleats.....lin. ft.	100	.01	Pair hinges for outside blinds.....	62	.10	Sq. yds. to fill and finish in hard oil		
Shelving.....260 ft. B.M.		1.00	Sets fastenings for outside blinds.....	31	.03	inside work.....	508	.20
Lumber for seats.....110			adjusters.....	22	.10	Lbs. putty.....	100	.03
Paneled backs and ends of seats Sq. ft.	370	.04	Bell pull and gong.....	1		Total of Painter's Materials (including		
Posts bet. dining room and	48	.25	Total for Hardware.....		\$117.89	Labor).....		\$285.60
hall, 6"x10" turned.....	2	3.00	*TINNING.			CARPENTER'S LABOR.		
Total for Carpenter's Materials.....		\$1588.55	Gutter and valley linings.....lin. ft.	223	.10	Framing, raising and enclosing, exterior		
HARDWARE.			Flashings.....	182	.10	trimming, making and setting frames		
Common nails.....lbs.	1,650	.03	3-in. leaders.....	184	.10	in exterior walls.....		\$610.00
Finishing nails.....	90	.05	Finial galv. iron.....	1	2.50	Laying floors, setting minor partitions		
Brads and screws.....		5.00	Total for Tinner's Materials (including		\$61.40	and grounds for plastering.....		120.00
Pair jap'd iron butts, 4"x4" for doors.....	3	.14	labor).....			Finishing verandas, and balconies.....		200.00
" " " 3 1/2"x3 1/2" for doors.....	24	.12	PLUMBING.			Setting inside trim, hanging sash, doors		
" " " 2 1/2"x2 1/2" case-ment windows.....	33	.09	Lin. ft., 4-in. cast iron pipe.....	36	.18	and blinds, fixing hardware, and all		
Pair jap'd iron butts, 2"x2" for seats.....	10	.05	Lead pipe for water and waste service.....lbs.	625	.06	carpenter's inside work not included		270.00
" brass, butts, 2"x2" for bath-room.			Lead traps.....	4	.50	above.....		
dressers, etc.....	9	.04	Finished brass cocks.....	2	.75	Total Carpenter's Labor.....		\$1200.00
Pair strap hinges.....	4	.06	Plated bath cocks.....	2	1.50			
Front door locks.....	2	1.00	" basin.....	2	1.00	RECAPITULATION.		
Sliding door lock.....	1	.50	butler's pantry cocks.....	2	2.00	Mason's materials and labor.....		\$1,174.39
4 1/2-in. mortise door locks.....	10	.40	Sets plated strainer, plug and chain and	2	2.00	Carpenter's materials.....		1,588.55
3-in. rim door locks.....	14	.25	stay.....	3	.75	Hardware.....		117.89
French window locks.....	1	.50	Sink in kitchen, galv. cast iron 18"x30"x8"	1	2.50	Tinning—Materials and labor.....		61.40
Pair front door knobs, bronze	2	2.00	Sink in butler's pantry, galv. iron	1	2.50	Plumbing.....		212.63
black china.....	24	.10	18"x30"x8"	1	2.50	Painting.....		285.60
Thumb latch.....	1	.10	Kitchen boiler and standard, couplings,	1		Carpenter's labor.....		1,200.00
Small knobs for cupboards, etc.....	24	.02	etc., complete, copper, 30 gall.	1	16.00	Cost of House.....		\$4,640.46
Brass rail for sliding door.....	6	.10	Marbled overflow basin, 14-in.	1	1.50	Add cost of Working Plans, Specifications,		
Sets slot sheaves for sliding door.....	2	1.40	Marble slab, back and sides.....sq. ft.	8	.80	&c., 1 per cent.....		\$46.40
Barrel bolts, 6-in.....	8	.10	Bath tub, 14 oz. copper.....	1	12.00	Add extras (if any).....		
Buttons for cellar windows.....	20	.02	Water closet, porcelain trap, flushing	1				
Sash fasteners for sliding sash	21	.15	cistern and pull.....	1	23.00			
" hinges.....	10	.05	Fixings, including solder, charcoal, etc.,	1	20.00			
" lifts.....	32	.05	Labor.....		70.00			
" self fastening.....	504	.01	Total for Plumber's Materials & Labor.....		\$212.63			
" weights.....lbs.	10	.30						
" cord.....lbs.	84	.02						
" pulleys.....								
Carried forward.....		\$103.80						

WASTAGE.

In making up Bills of Materials, allowances must be made for waste in cutting up, etc. The following rules govern the work in this office.

STONE AND BRICKWORK.—In figuring stonework and brickwork any opening exceeding four sq. ft. is deducted; any opening less than four sq. ft. is figured as solid.

PLASTERING.—In figuring plastering half the openings are deducted. In running cornices every mitre over four to a room is counted as an additional foot of cornice.

TIMBER.—In figuring timber the exact lengths are not given where it requires odd feet and inches, but the nearest stock lengths found in the lumber yards are given. One tenth of the net amount is added for wastage.

SHEATHING AND PAPER.—In figuring sheathing and sheathing paper the openings are figured as solid, no further allowance for wastage being necessary.

CLAPBOARDING.—In figuring clapboarding the openings are figured as solid and one-fourth is added for the lap and wastage. The lap should never be less than 1 1/8 to 1 1/4 inches.

NOVELTY OR GERMAN SIDING.—Openings are figured as solid and one-fifth is added for lap and wastage.

T. & G. CEILING. FLOORING.—If five inches or over in width add one-fourth for the tongue and wastage, and if less than five inches wide add one-third. The same rules apply for flooring.

SHINGLING.—Common bunch shingles if laid 4 1/2 inches to the weather require 900 to the square (100 sq. ft.); if laid five inches to the weather require 800 to the square; if laid 5 1/2 inches to the weather require 735 to the square. Figure the net surface to be covered (deducting openings); there is sufficient allowance for wastage included in the above for plain work. Where roofs are much broken up one-tenth should be added to the above.

EXTERIOR FINISH.—Add one-fourth for wastage on all lumber for exterior finish.

INTERIOR TRIM.—Add one-tenth for wastage on all interior trim got out at the mill. If got out by hand add one-fourth for waste.

TINNING.—Tinning is figured net.

SLATING.—Slating is figured net.

PLUMBING is figured net.

PAINTING.—In figuring painting and staining, both exterior and interior openings are figured as solid. Add for painting blinds, both sides.

DRY CELLARS.

It is very important that the cellar should be dry. Cellar air is sure to find its way into the living rooms of the house, and if it is damp or impure it will cause ill-health.

The cellar bottom should be thoroughly cemented so that water and the natural dampness of the soil shall be prevented from rising into the cellar. In addition to this, proper and efficient precautions must be taken to prevent water oozing through the walls. This may be done by drains placed outside of or under the walls, and by building the walls with cement and giving them a good coating of cement or asphalt on the outside.

Where the soil is very wet or has springs it may be necessary to put drains inside the walls and across the cellar underneath the surface of the cellar bottom; these to be graded so as to lead the water to some drain or ditch.

To make a good cement floor the cellar bottom should be made level and smooth, and any soft places rammed hard. A concrete should be made, of four parts coarse sharp gravel or sand to one part good fresh cement, and spread over the bottom to a thickness of two and one-half inches or more, and water enough added to "float" it to an even surface. When this has partly set it should be floated off with a coating of pure cement one-quarter to one-half inch thick. This will make a smooth hard surface when set. Portland cement should be used for the last coating.

It is well to provide a ventilation flue in one of the chimneys, opening near the floor of the cellar. A draught up this flue takes away much of the lower stratum of impure air.

Cellars should not be dug any deeper than is necessary and should have an ample number of windows to admit light and air.

VILLA PLOTS FOR SALE.

On the South side of Long Island, twenty miles from New York, at East Rockaway, directly adjoining the Bay. Navigable creeks enter the property. Good fishing and hunting the year round. Fine drives—half hour to Cedarhurst, one hour to Wave Crest and to Cathedral at Garden City. Ten minutes by rail to Long Beach Hotel. Unquestionably healthy and cool during the whole summer. Bay front property so near New York is necessarily limited, and will soon command high prices. These plots will be sold at a small advance only of the prices that have prevailed for twenty years. Address, R. W. SHOPPELL, 63 Broadway, New York.

FENCES

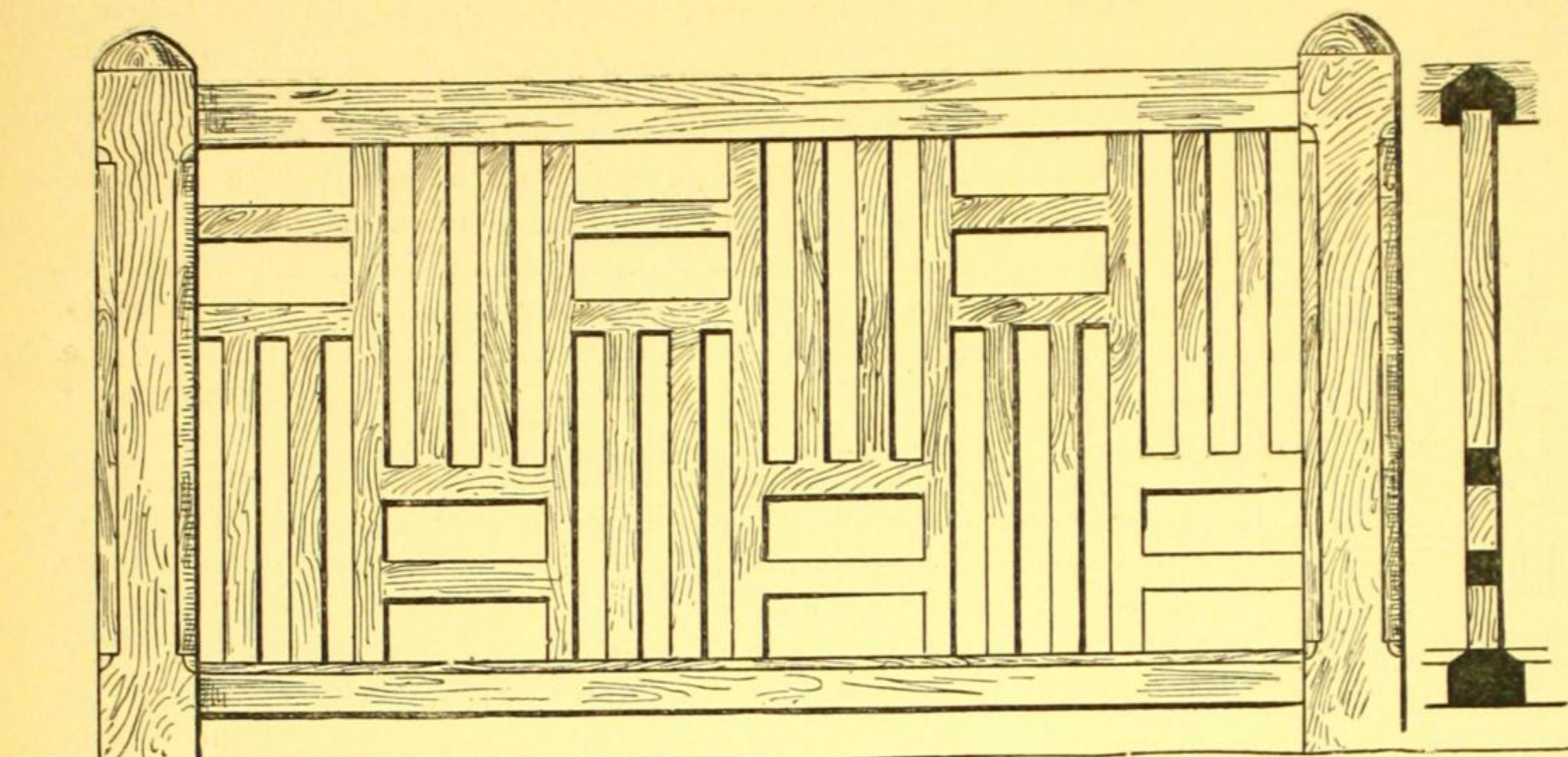
KNOWING that there is a demand for Fence Designs, this publication will give a series of them, of which the designs on this page are the first instalment.

The posts are estimated for chestnut, and run three feet in the ground. The estimate in every case includes the posts and the cost of setting, but not the painting. The designs are shown to $\frac{3}{4}$ -inch scale.

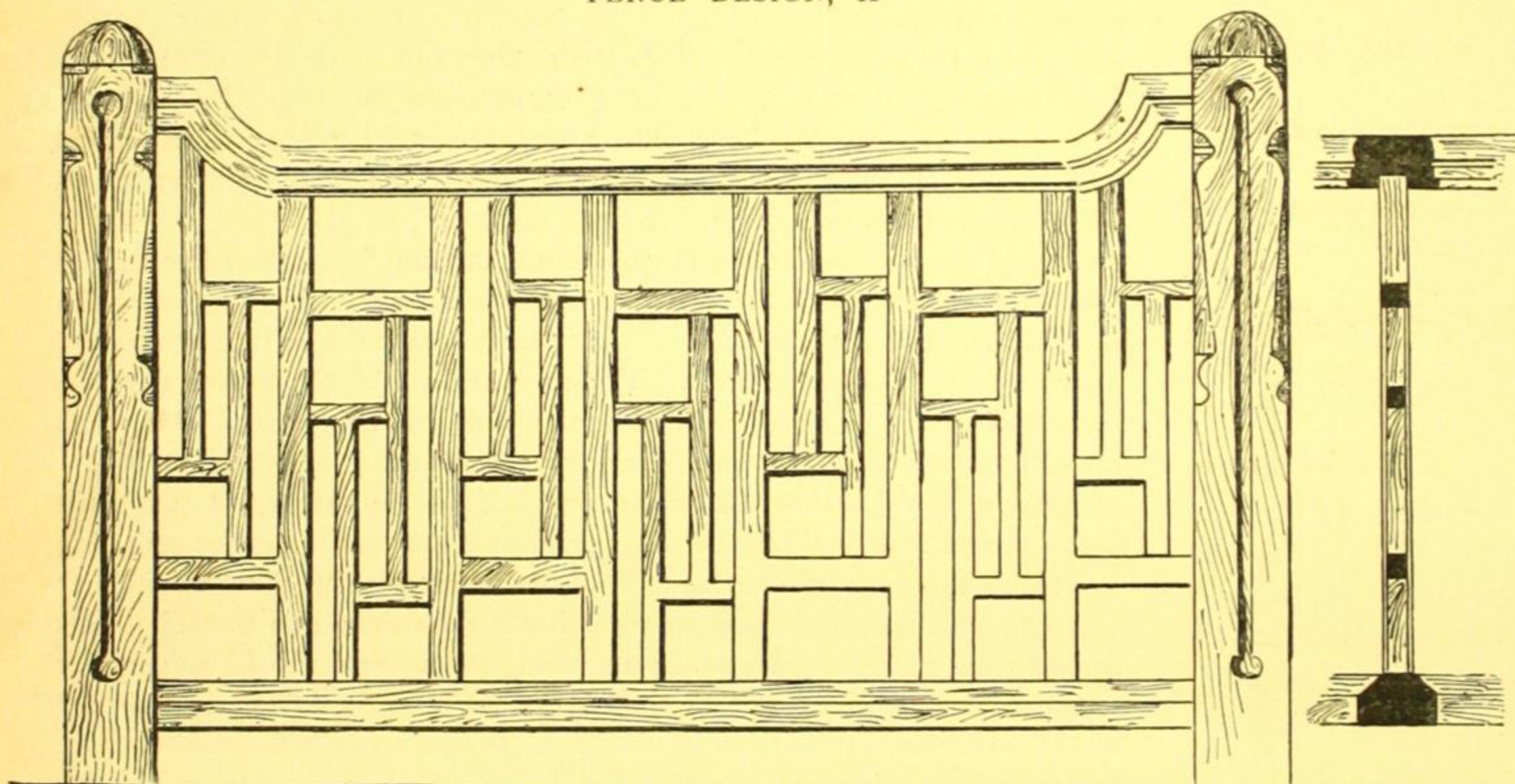
Design A, per lin. ft., 85c., or per section of 6 ft., \$5.10.

Design B, per lin. ft., \$1.00, or per section of 6 ft., \$6.25.

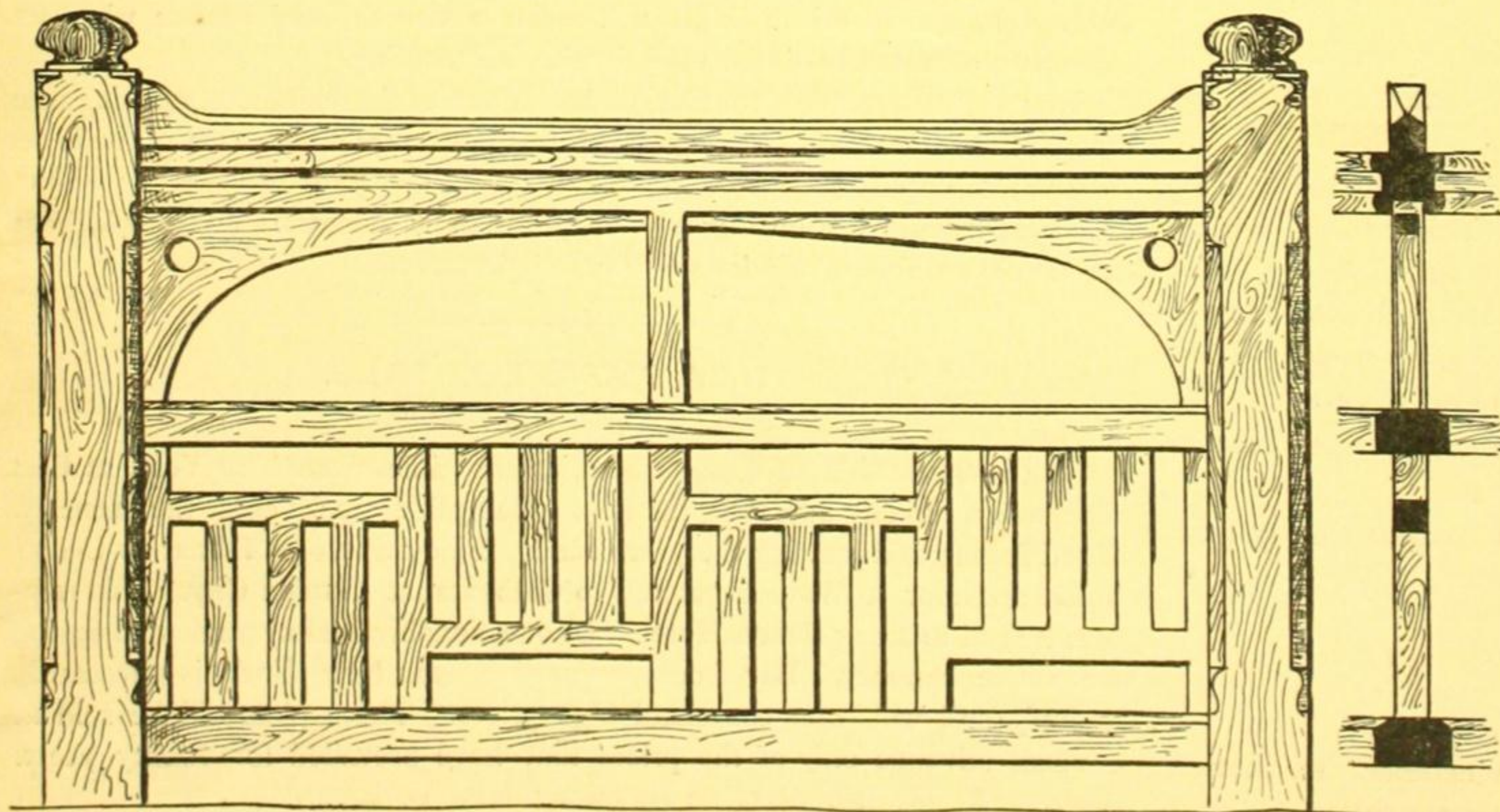
Design C, per lin. ft., \$1.25, or per section of 6 ft., \$7.50.



FENCE DESIGN, A



FENCE DESIGN, B



FENCE DESIGN, C

ARCHITECTURAL AIDS

THE following may be regarded as a full and complete list of architectural aids for the building of a house. The last three items are not usually furnished by architects, but we consider them necessary. Beside these aids the client is entitled to consultation at all times before commencing, during the progress and at the completion of the work:

WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.

SUPPLEMENT SHEET, containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

BLANK CONTRACTS, ready for use.

Those who have once employed Working Plans, Specifications, etc., in building, need not be told how useful, indeed how indispensable they are. How they enable the owner to invite competition among the builders; how they simplify everything and make him the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; *how they actually save money*, it being a well known fact that their use saves at least ten per cent. of the cost of construction.

Louis Restein, Esq., of Philadelphia, Pa., writes to the Co-operative Building Plan Association, to say: "I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."

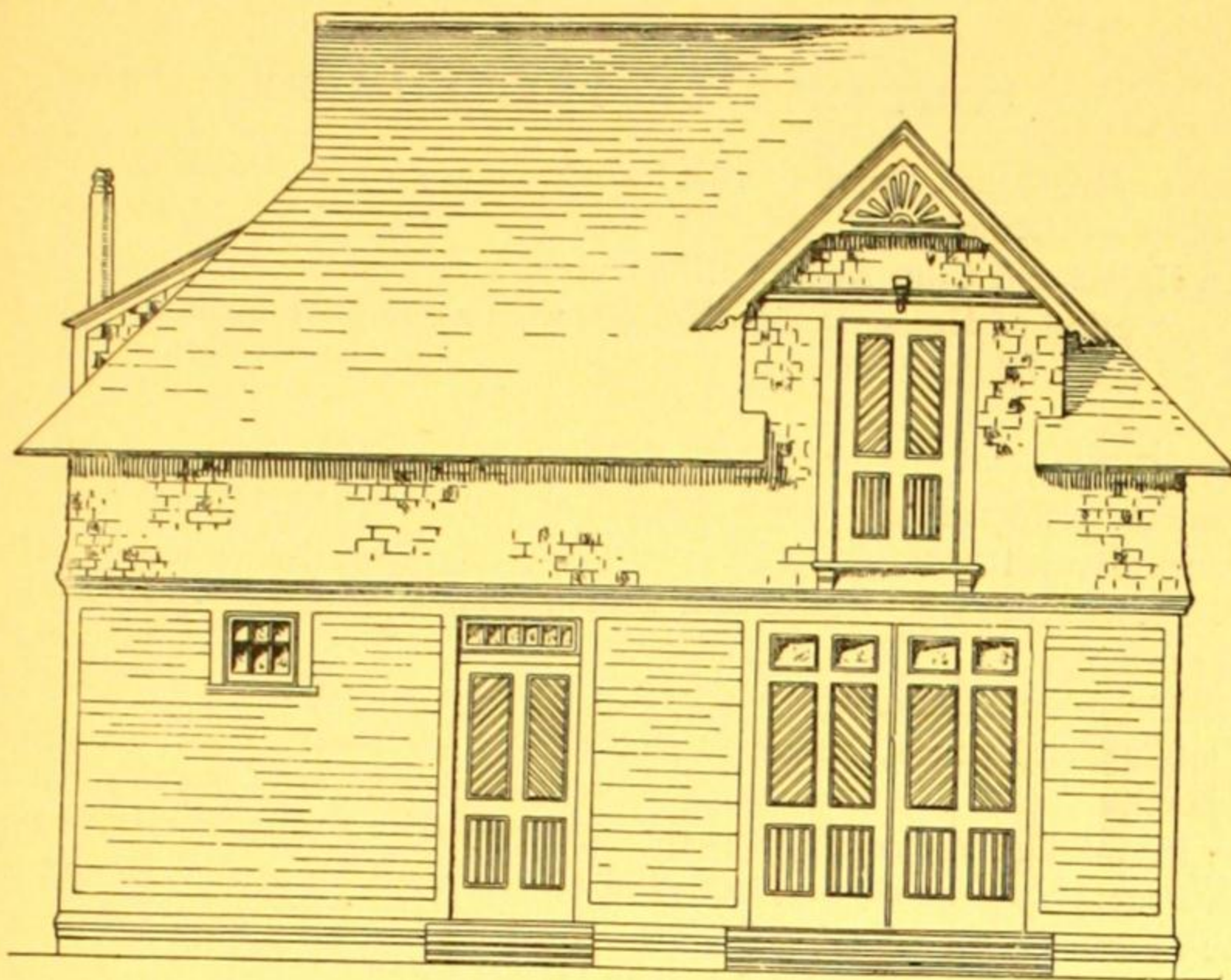
Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), writes to the Co-operative Building Plan Association, to say: "I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."

DESIGN NUMBER 489

A PRETTY STABLE AND CARRIAGE HOUSE OF MODERATE COST

SIZE OF STRUCTURE: Front, 31 ft., 6 in. Side, 22 ft.

HEIGHT OF STORIES: First Story, 9 ft., 4 in.; Loft, 4 ft. at side walls; 14 ft., 10 in. up to the ridge.

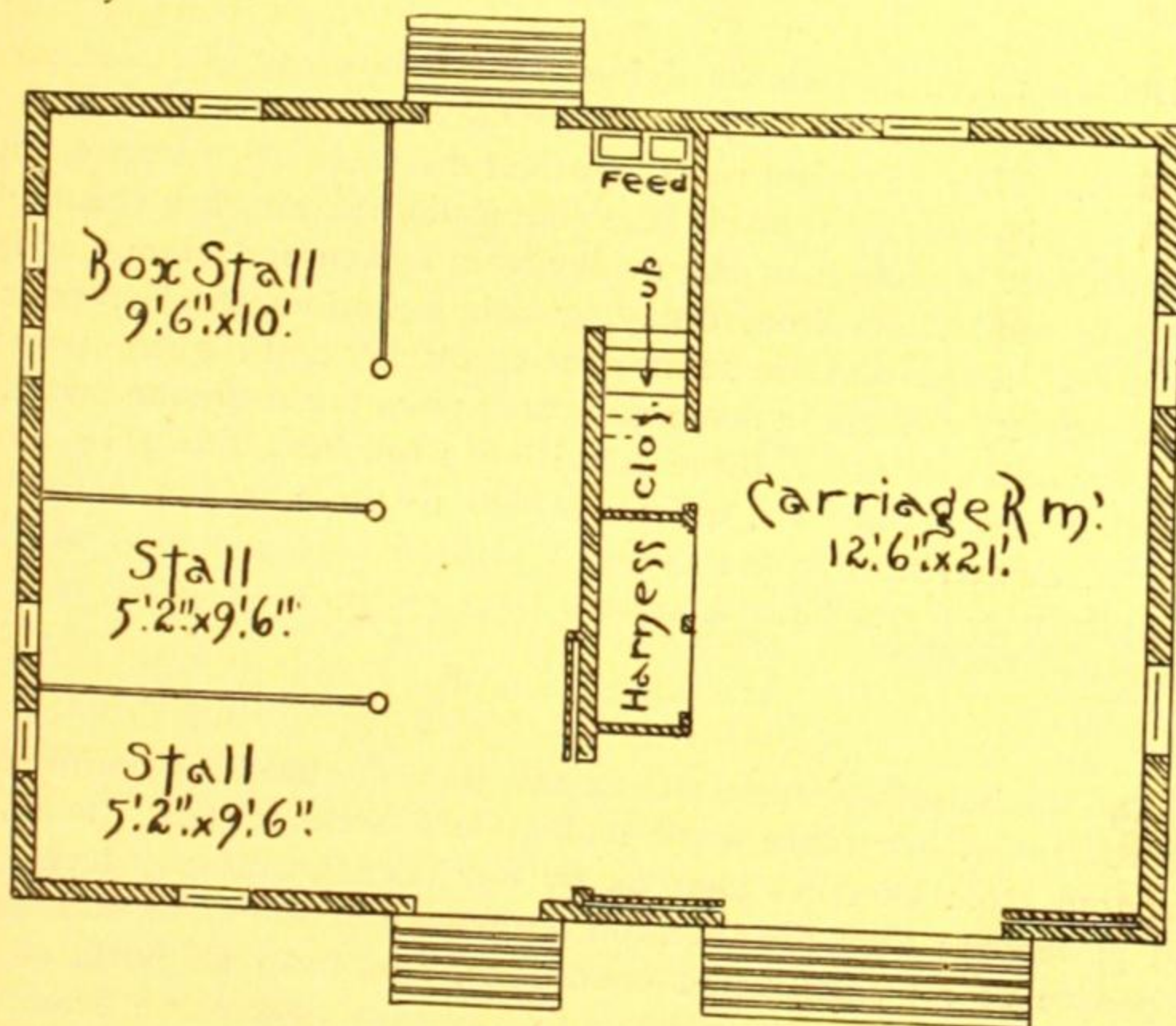


DESIGN NO. 489. FRONT ELEVATION

MATERIALS: Foundation, posts; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$916.93. See "EXTRAS" on page 28, for other possible items of cost.

SPECIAL FEATURES.—A stableman's room, 11x15 ft., is partitioned off in the loft. If preferred, the box stall can be made into two ordinary stalls.



DESIGN NO. 489. PLAN

The carriage-room and harness closets are well separated from the stable, a necessary provision to protect the varnish on the carriages and harness from the bad effects of the stable atmosphere.

STAKING OUT A BUILDING

ASSUMING that the house is to be placed parallel with the street or road, and that the building plot has a straight front, say of 50 feet, with parallel sides, at right angles with the front, measure back from the front line of the plot along both side lines to the distance determined on for the front of the house. Drive stakes and stretch a line across the plot, which establishes the front line of the building.

Refer to the foundation plan and take the figures given for the line of foundation wall above ground. The other lines for excavation, and for offsets, etc., can be got afterward from these.

Drive a short stake plumb under the front line at the point decided upon for the main side of the house, or if the front slopes, at the highest side. This will be called the main stake. Drive a tack in the top of the stake at the exact point of the angle of the wall. As this stake will be dug away, set another stake for a working stake, say two feet in front of it. Measure the width of the front from the tack in the main stake to the other side, and set a stake there, as well as working stakes for both front and side lines.

Fasten the working stakes at each angle together by a board nailed diagonally from one to the other for security against their being moved.

When ready to run the main side line fix a line to the working stake, and let it be carried back a foot or two further than the rear line of the house, as nearly at right angles to the front line as can be sighted; or measure from the side line of lot to get this point. Drive a stake and attach the line, drawing it taut and having it lightly rest upon the front line which it crosses. When the main side line is absolutely at right angles with the front line, it is an easy matter to get all the other lines and angles by measuring.

It is better now to triangulate to prove the angle as it is more reliable than to use the large wood squares which are liable to warp. Triangulation is based on the geometrical proposition *the square of the hypotenuse of a right-angle triangle is equal to the sum of the squares of the other two sides*. Suppose the short side of a right-angle triangle to be 6 ft. and the longest side 8 ft.; the square of 6 is 36 and the square of 8 is 64. The sum of the two squares is 100 and the number of which 100 is the square is 10—therefore the length of the hypotenuse or diagonal connecting the two sides is 10 ft. Take a pin and put it through the two lines (front line and main side line) where they intersect each other, to keep them from moving. Measure off with tape line on the front line 6 ft. and put a pin through or carefully mark the exact point; then measure and mark in the same manner on the side line 8 ft. Then take a ten-foot pole and have one end held exactly against the mark on the front line; if the pole just reaches to the mark on the side line the line is right and the angle is a right angle; if it fall short or run beyond the mark, the side line must be carried over one way or the other until the pole just touches the mark; then drive the stake again, fasten the line and test it to make sure that it is correct. The other main angles should be tested in this way. A large triangle, say 12, 16 and 20 ft., will insure greater accuracy.

The stakes being well outside of the building line will not be disturbed by excavation. Be sure to have the stakes firmly driven and marked with a X on the line side. The stakes should be smooth and true. Be careful also not to strain the lines out of place.

To strike a circle or arc of a circle locate the centre, drive a stake there and a nail in the proper point in the top of the stake. Use a rod having a notch cut in the end to fit the nail, the proper length for the radius. A tram or form should be made by the carpenter, using the same rod as a radius, for the use of the mason. This tram should be used in marking for starting the foundations and for testing the walls as they are carried up. Any octagonal or other complicated form should be built with similar devices, such as templets and patterns.

The interior piers and chimneys should be located after the cellar is dug, by stretching lines from stakes driven outside of the main walls at the proper points, and plumbing down from these.

To obtain the necessary levels: Near the main front corner, or near the highest front corner (if the ground slopes) and in line with the front wall, drive a long stout stake well into the ground and cut it off at the height to which it is desired to carry the masonry. All levels for the other corners can be sighted from this, using a 16 ft. straight edge for the purpose. All the levels for cellar bottom, window sills, etc., should be measured down from the top of this stake. It is well to fix a witness stake a short distance, say 10 or 15 ft., from the leveling stake, and in such a position that it will be out of the way of teams. Always sight along the bottom of the straight edge as it rests upon the top of the leveling stake.

In measuring use a steel tape or an English tape with copper wire threads.

Too much care cannot be taken in getting the principal lines absolutely correct in the beginning, as the slightest inaccuracy in them will throw all later lines out and make trouble to the finish of the building.

SHOPPELL'S MODERN HOUSES

IN ILLUSTRATED
ARCHITECTURAL
MONTHLY

No. 7 NEW YORK SEPTEMBER, 1887

SHOPPELL'S MODERN HOUSES is published monthly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York. It is edited by R. W. Shoppell and Stanley S. Covert.

Price, 10c. a number. \$1 a year.

Advertising rates, \$3 an inch.

Entered at the Post Office at New York as Second-Class Matter.

BACK NUMBERS

This monthly publication is the continuation of the quarterly of the same name. The following back numbers of the quarterly, viz., Nos. 1, 2, 3, 4 and 5 each consist of 72 pages, and each contains over 50 designs for residences, besides much miscellaneous matter. Price of each, \$1.

No. 6 was the first issue of the Monthly. Price, 10 cents.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION is an association of Architects and Builders, incorporated under the laws of the State of New York, for the purpose of furnishing architectural services for all kinds of structures. The special features are prompt services and low charges. Its charges are about one-quarter of the charges by other architects. Eight thousand houses have been built from the Working Plans and Specifications furnished by this Association.

"EXTRAS"

In the building of a house, if the contract between the owner and the builder is loosely drawn, or worse still, if a great many things are left to a verbal understanding, there is sure to be a vexatious disagreement in the settlement of "extras." Two men will remember and will construe things in different lights, and both may be conscientious. The best plan is to have no extras; the only way this can be done is to use the Working Plans and Detail Drawings (in which everything is accurately drawn and figured), and the Specifications (in which everything required is minutely described), as the basis of the contract. If anything unusual (an "extra") is required it may be added to the specification or written in the contract.

The "estimate of materials and labor" which should accompany every set of Working Plans, Details and Specifications, gives all items, except those that may, or may not (according to circumstances) be required. Below will be found a list of possible extras to be used as a guide in making up a supplemental bill, which should be described in the contract and added to the cost of the house. The first item is wholly in the interest and for the protection of the owner, and need not of course be described in the contract.

Working Plans, Detail Drawings, and Specifications, including Color Sheet, Estimates of Materials and Labor and Blank Contracts supplied by the Co-operative Building Plan Association, Architects, 63 Broadway, New York, for one per cent. of the estimated cost of structure.

Cess-pools and drains.

Privy and vault for same.

Cistern and pipes to connect same with leaders.

Water and gas connections with main.

Flagging for walks, etc.

Grading, Fences, Range, Furnace, Grates, Tank.

It is generally advisable to have the contract for the house include all these items, so that one man will be responsible for the whole, and that responsibility for delay may not be laid to another contractor. It is rarely that a saving can be effected by dividing the contract between several men, while the trouble to the owner is much increased thereby.

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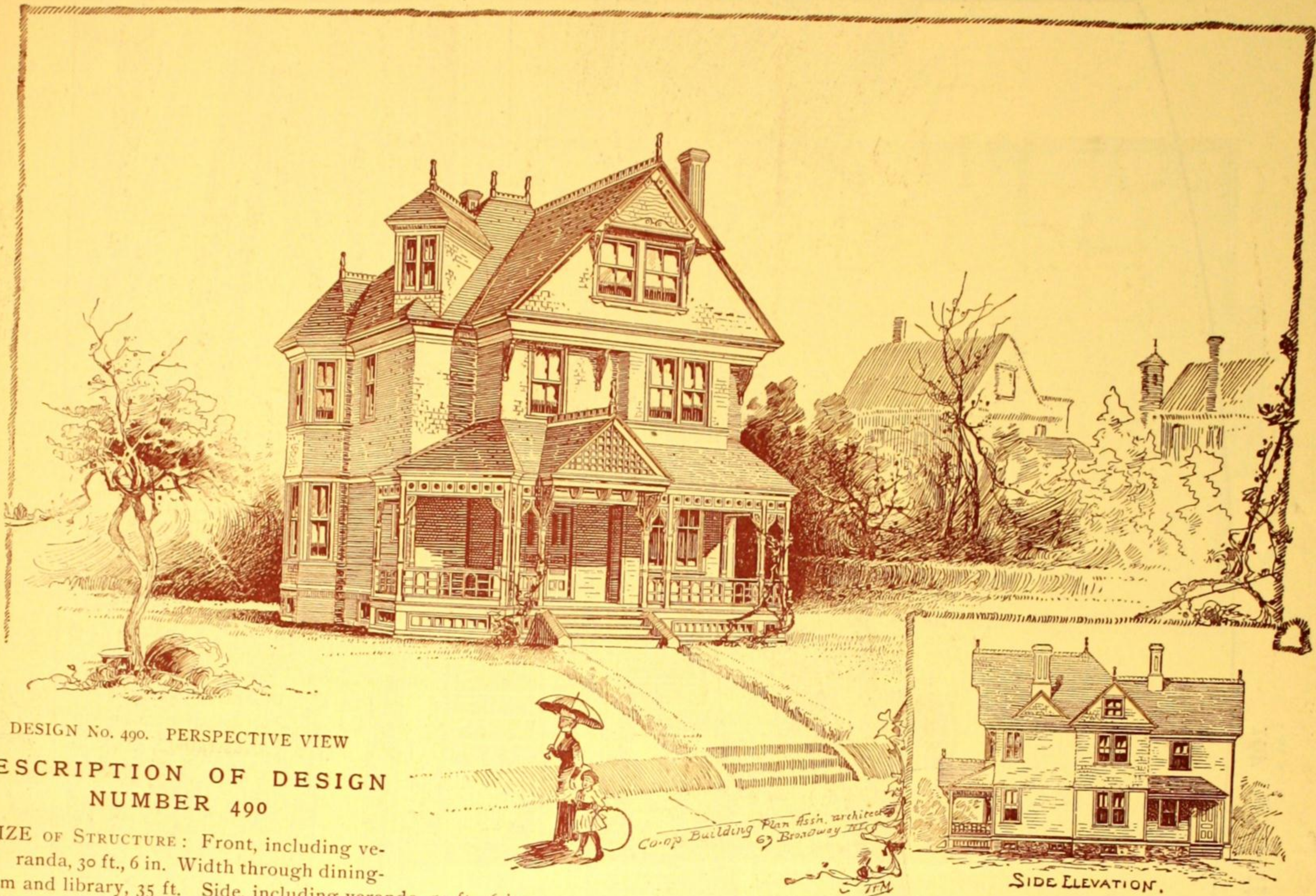
BUSINESS men and clerks living in New York city find that while their living costs them very dear they are not compensated for it in any way. They pay high rents yet their quarters are cramped, their views are bounded by brick or stone walls, the air they breathe is not pure but is tainted by the smoke from a thousand chimneys and the gases and odors from decaying animal and vegetable matter in the street; a constant din salutes their ears day and night.

In a pretty cottage in some suburban town the city man may find the very opposite of all these conditions: low rent, plenty of room, inspiring views, pure air, quiet. Added to these is the delightful hope of ownership, for the saving will soon enable him to buy the pretty cottage (or to build a prettier one) on the easy terms that are generally accorded.

ALL the buildings illustrated in this journal have been designed in the routine of our office work, and are not mere studies. They are prepared from sketches sent us by our clients, studied, developed and perfected; thus they are the outgrowth of the needs and tastes of people of all classes and conditions, and from all parts of the country. It is hardly necessary to say that they come from the most intelligent and progressive people, for everybody knows that these are the people who build for themselves.

It is natural that a house designed to suit the necessities of one family should find many other families occupying a similar station in life to whom it will recommend itself, and prove to be just what they were looking for. By this publication these designs are placed before the people at almost no expense.

Plans and Specifications
Full working plans, specifications, bills of quantities, and sheets of details, complete, ready for the builder, may be obtained for any of the structures illustrated in this publication. Charges, one per cent. of the estimated cost. Address the Co-operative Building Plan Assn. Architects, 63 Broadway, New York.



DESIGN No. 490. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN
NUMBER 490

SIZE OF STRUCTURE: Front, including veranda, 30 ft., 6 in. Width through dining-room and library, 35 ft. Side, including veranda, 50 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 8 ft.

MATERIALS: Foundations, stone and brick walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$4,500, complete, except heater and range. See "EXTRAS" on page 28, for items not included in the estimate.

SPECIAL FEATURES: Cellar under the whole house, with cemented bottom.

Sliding-doors between hall and parlor and between library and dining-room.

Open fire-places in parlor and library with mantels to the value of \$65.

Two good rooms are finished in the attic.

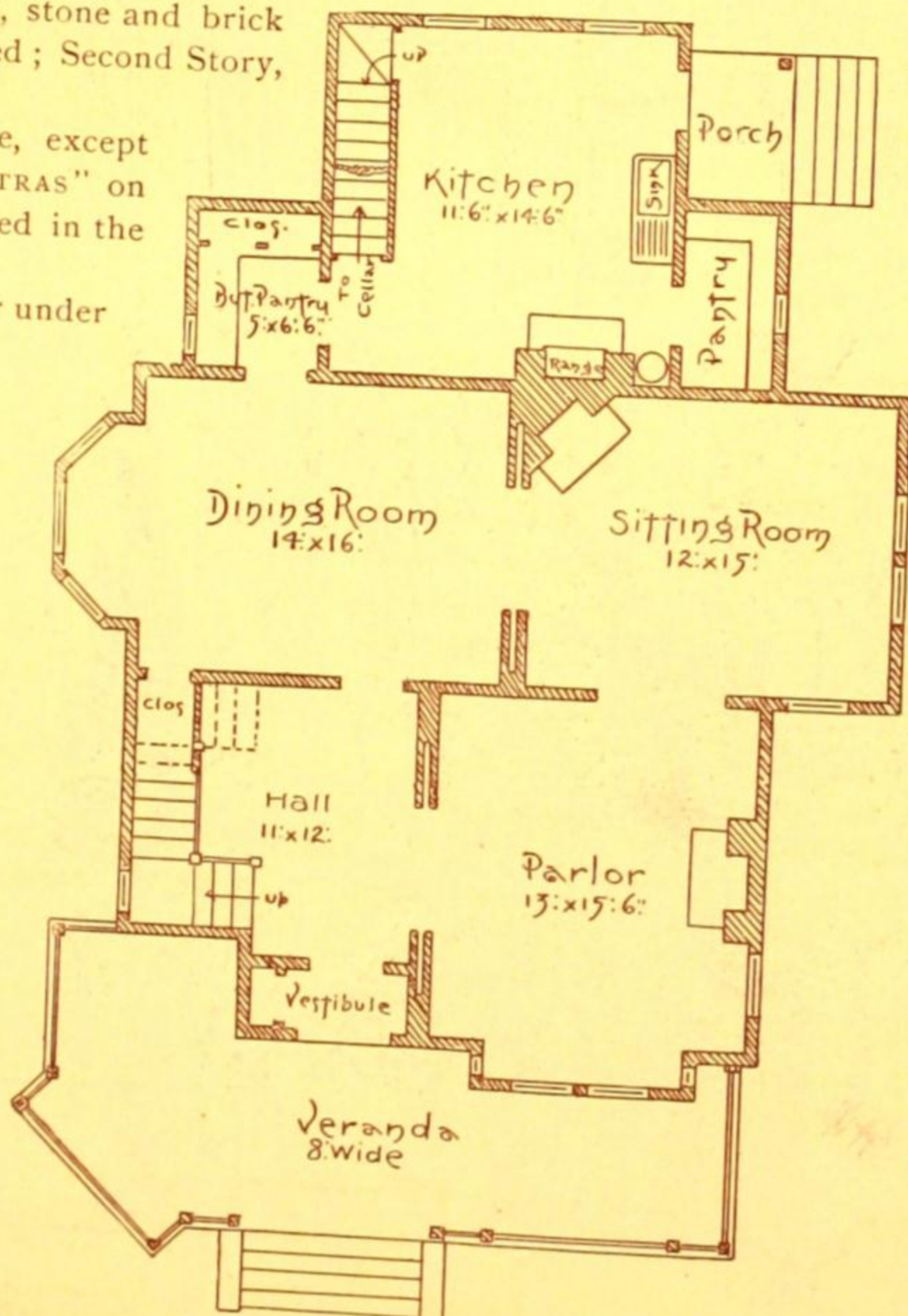
The vestibule door has plate glass in panels.

The interior trim is pine or whitewood; the staircase, ash.

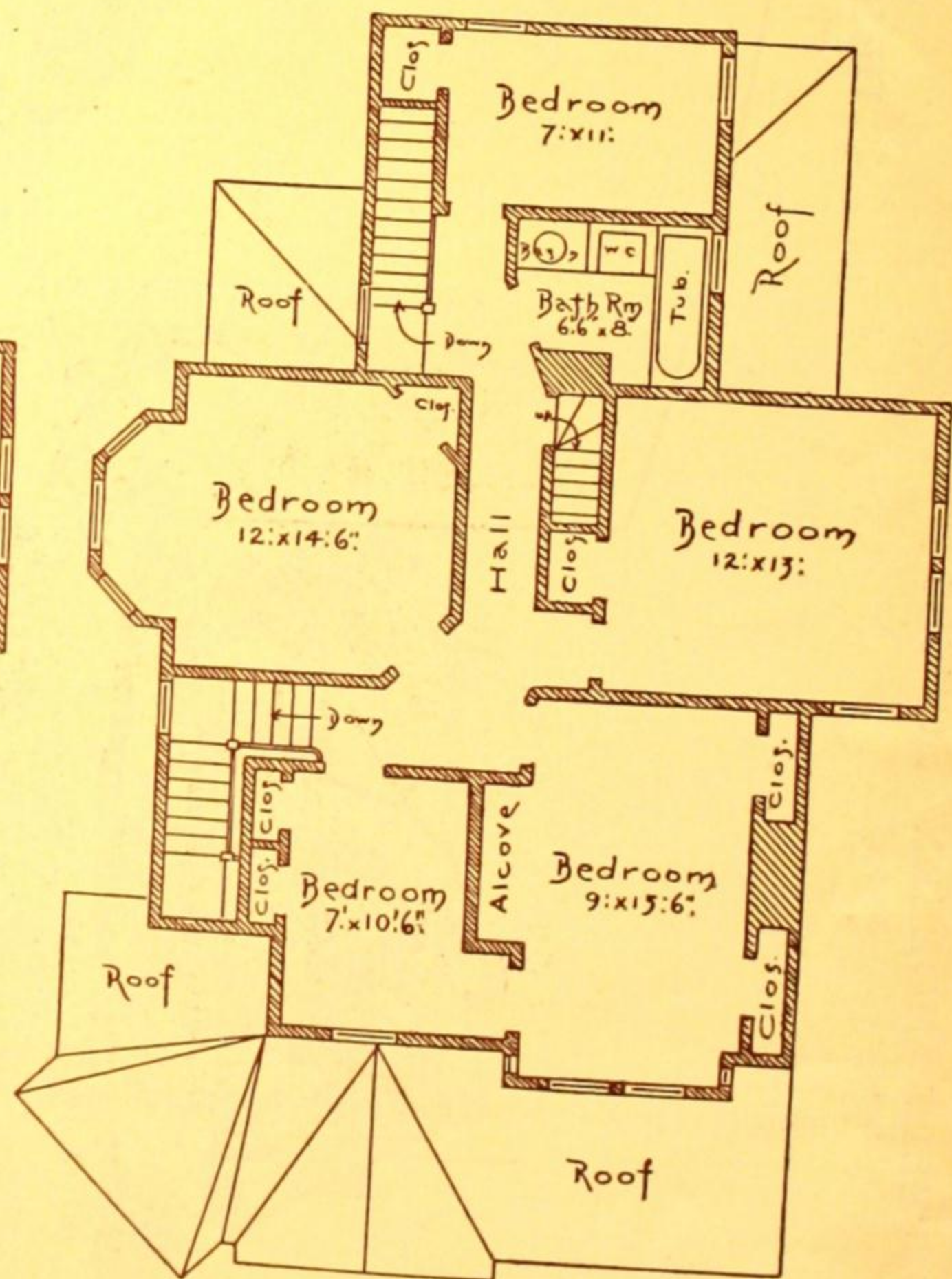
The dormer window, projecting out from the hip of the main roof, may be objected to by some as being a little too bold. It can be omitted without detracting from the appearance, with a saving of about \$35.

The plumbing in this, as in all of our designs is of the

most approved kind. We believe that unless the plumbing is first-class it should be omitted altogether. All fixtures are trapped and "back-aired." The water-closet is of porcelain of the "washout" pattern.

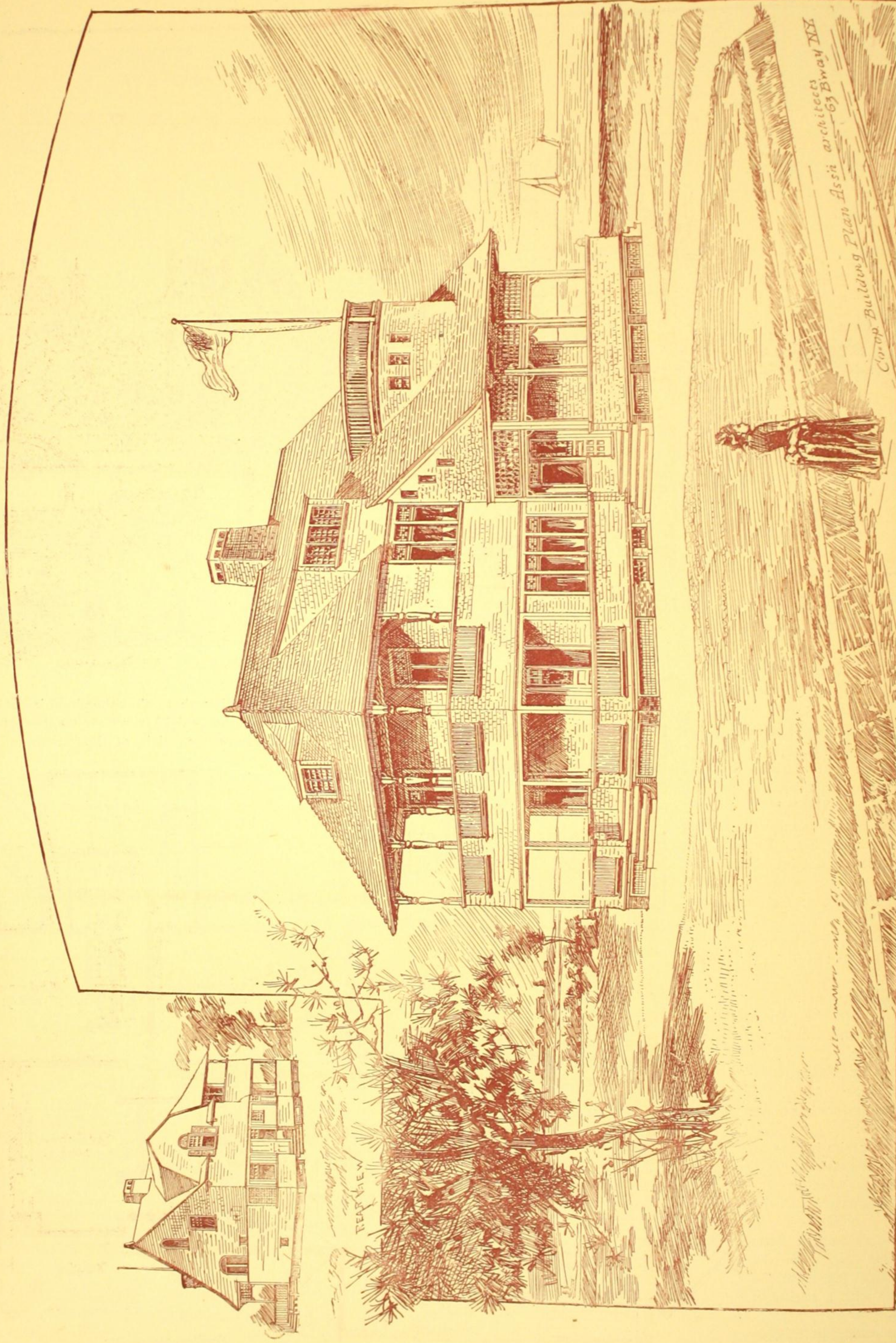


FIRST FLOOR. NO. 490

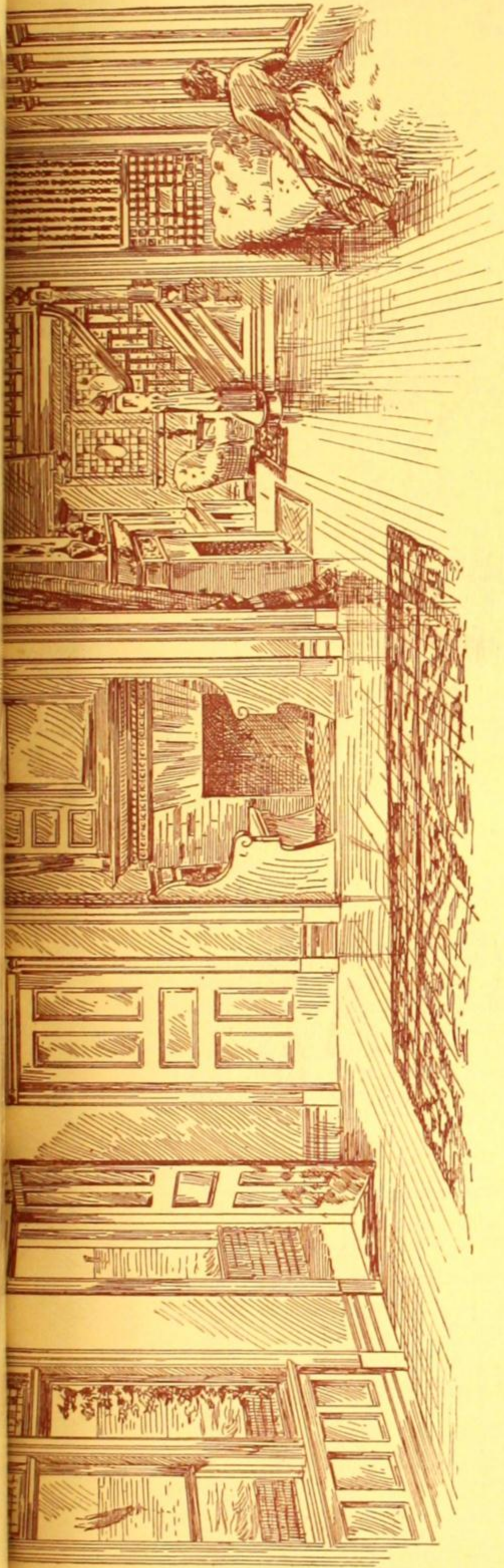


SECOND FLOOR. NO. 490

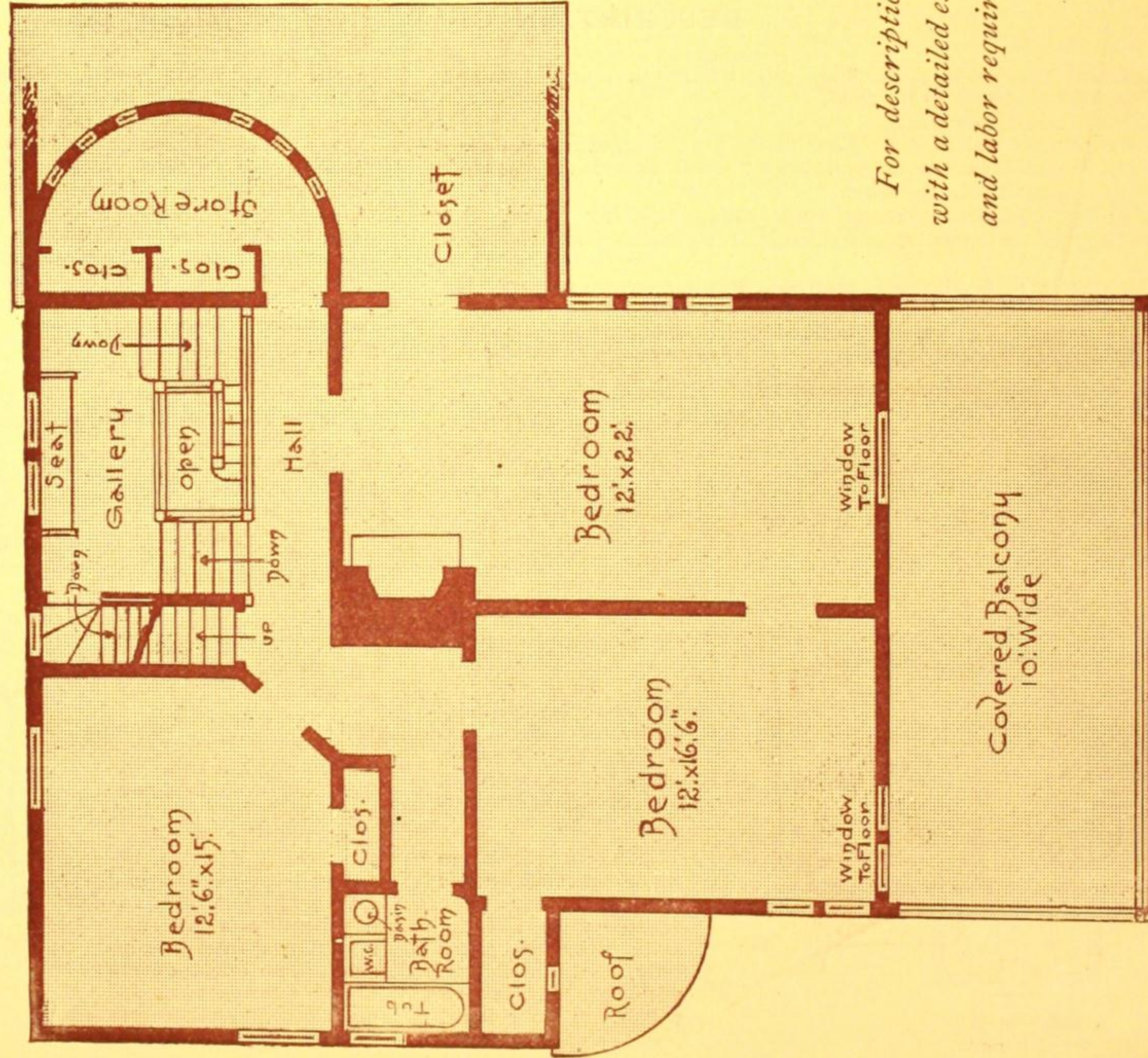
DESIGN NUMBER 491



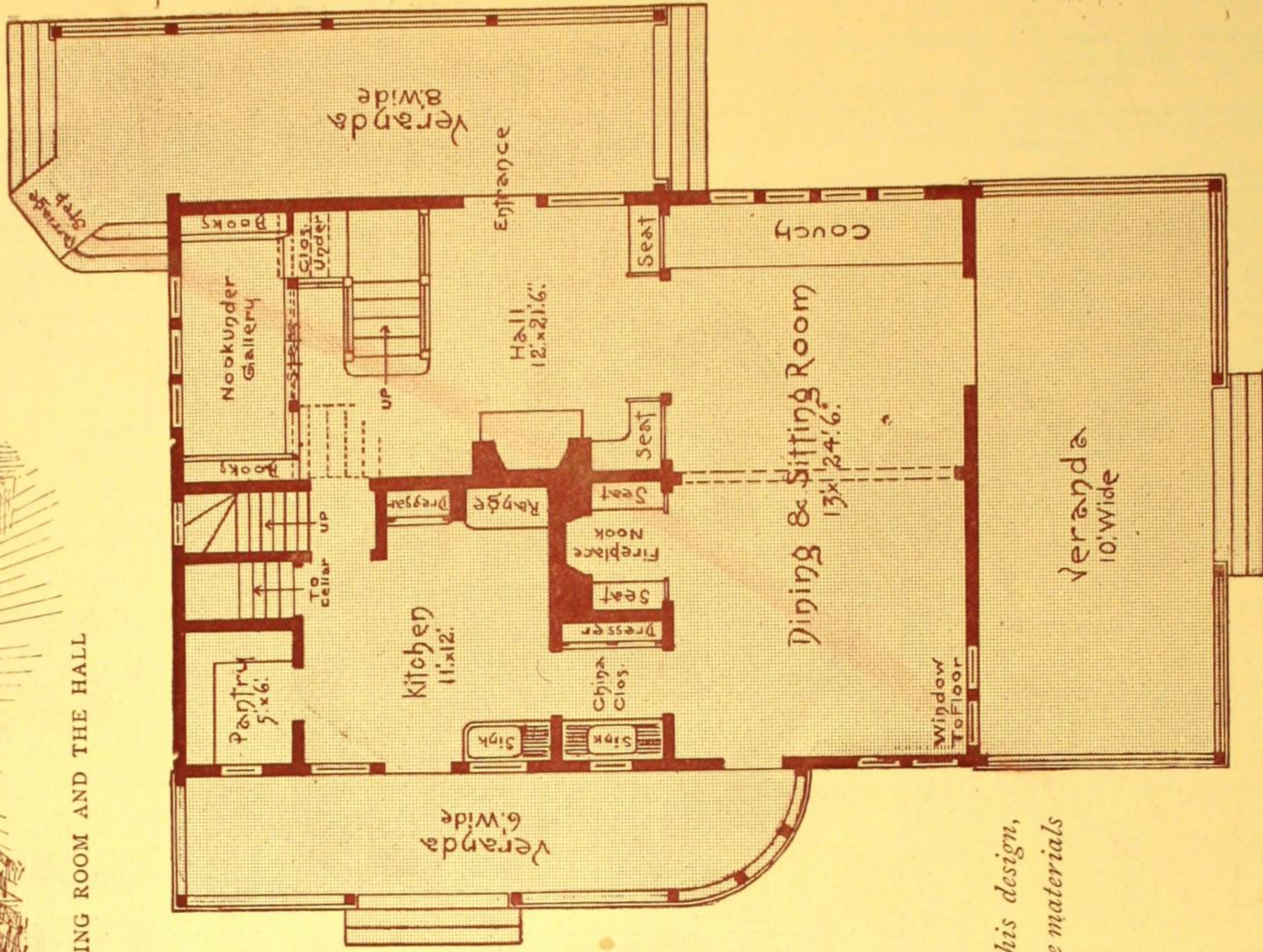
PERSPECTIVE VIEWS SHOWING THE FOUR SIDES



PERSPECTIVE VIEW SHOWING THE DINING-SITTING ROOM AND THE HALL



SECOND FLOOR PLAN

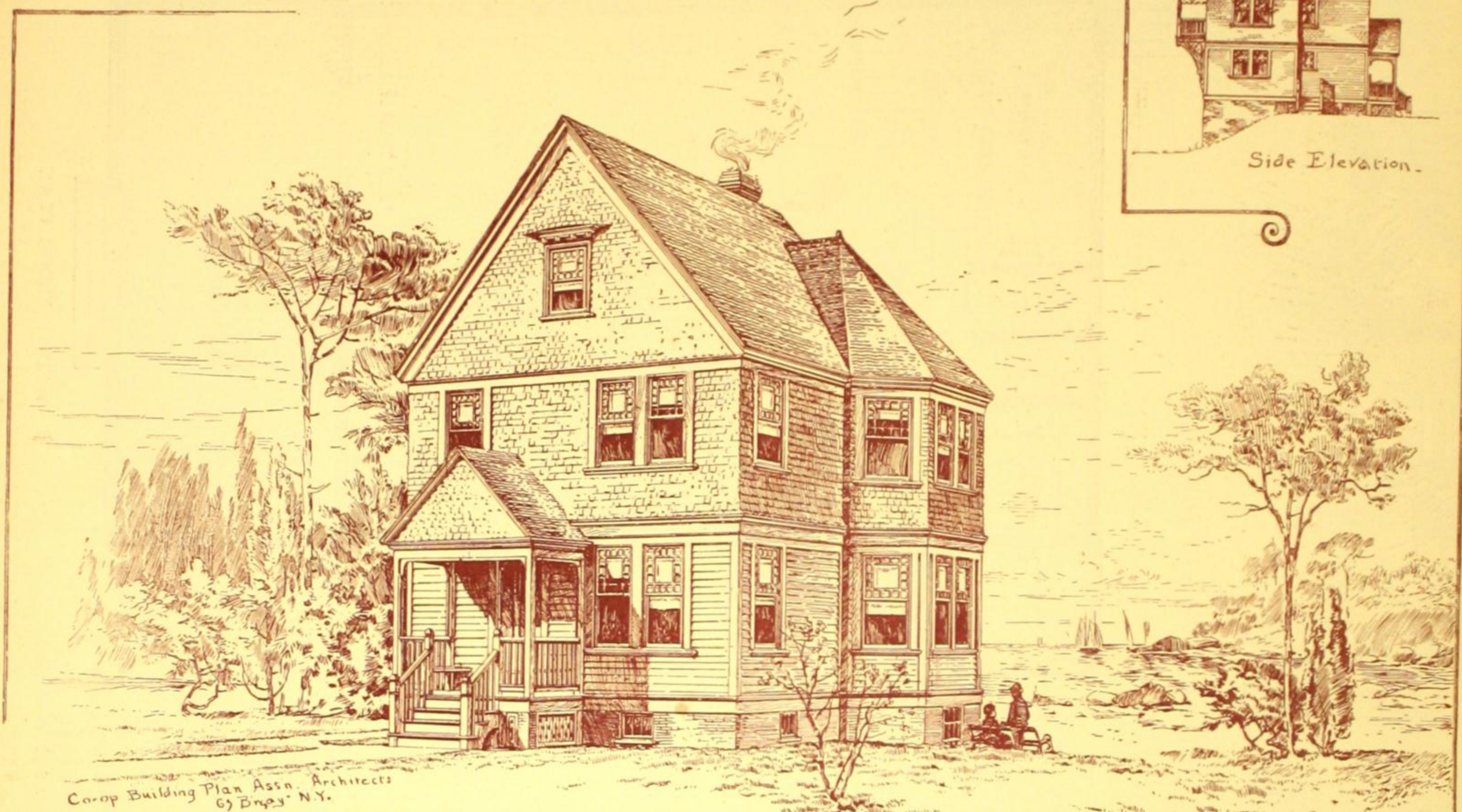


FIRST FLOOR PLAN

Scale of Plans: 8 ft. to the inch

*For description and cost of this design,
with a detailed estimate of all the materials
and labor required, see page 24.*

"SHOPPELL'S MODERN HOUSES" IS PUBLISHED MONTHLY AT 10c A NUMBER. Each number consists of 24 pages and contains at least 10 designs for Houses (mostly of moderate cost), with designs for Barns and Outbuildings and much miscellaneous matter of great value to all readers. Entire contents original.



DESIGN No. 492. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 492

SIZE OF STRUCTURE: Front, 20 ft., 8 in. Width through dining-room and kitchen, 28 ft., 8 in. Side, 27 ft., 10 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundations, stone and brick; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$1,875, complete, except range, and including blinds. See "EXTRAS" on page 28, for items, mostly outside of the house, not included in the estimate.

SPECIAL FEATURES: This house is built in a peculiar style of construction (which we call Plank Framing for want of a better name), having economy as its particular object. The frame is built of inch hemlock or spruce boards, tongued and grooved and driven up close, up to the plate or top of the second story.

The floor joists are 2 x 8 inches; those of the first story resting upon the main sill, and those of the second story on strips nailed to the planking and on the partitions. Nails and spikes are used liberally.

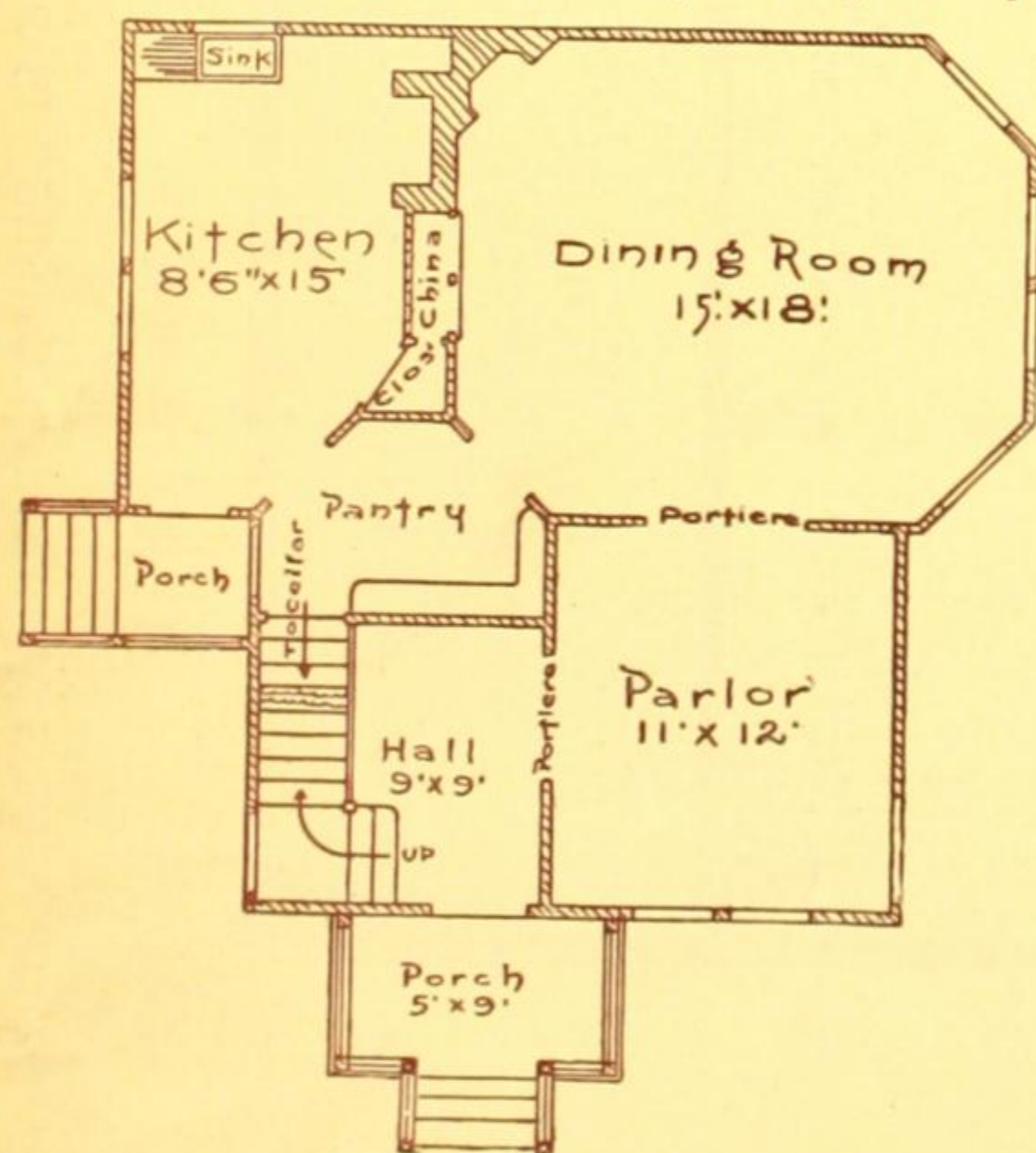
The window and door openings having been cut through, the outside is covered with building paper for warmth and to keep out dampness. Then the clapboarding and shingling are put on as usual.

The partitions are made with inch boards in same manner as the outside walls, but run from floor to ceiling only, and are capped with a grooved strip on which the floor joists rest. The roof is raised

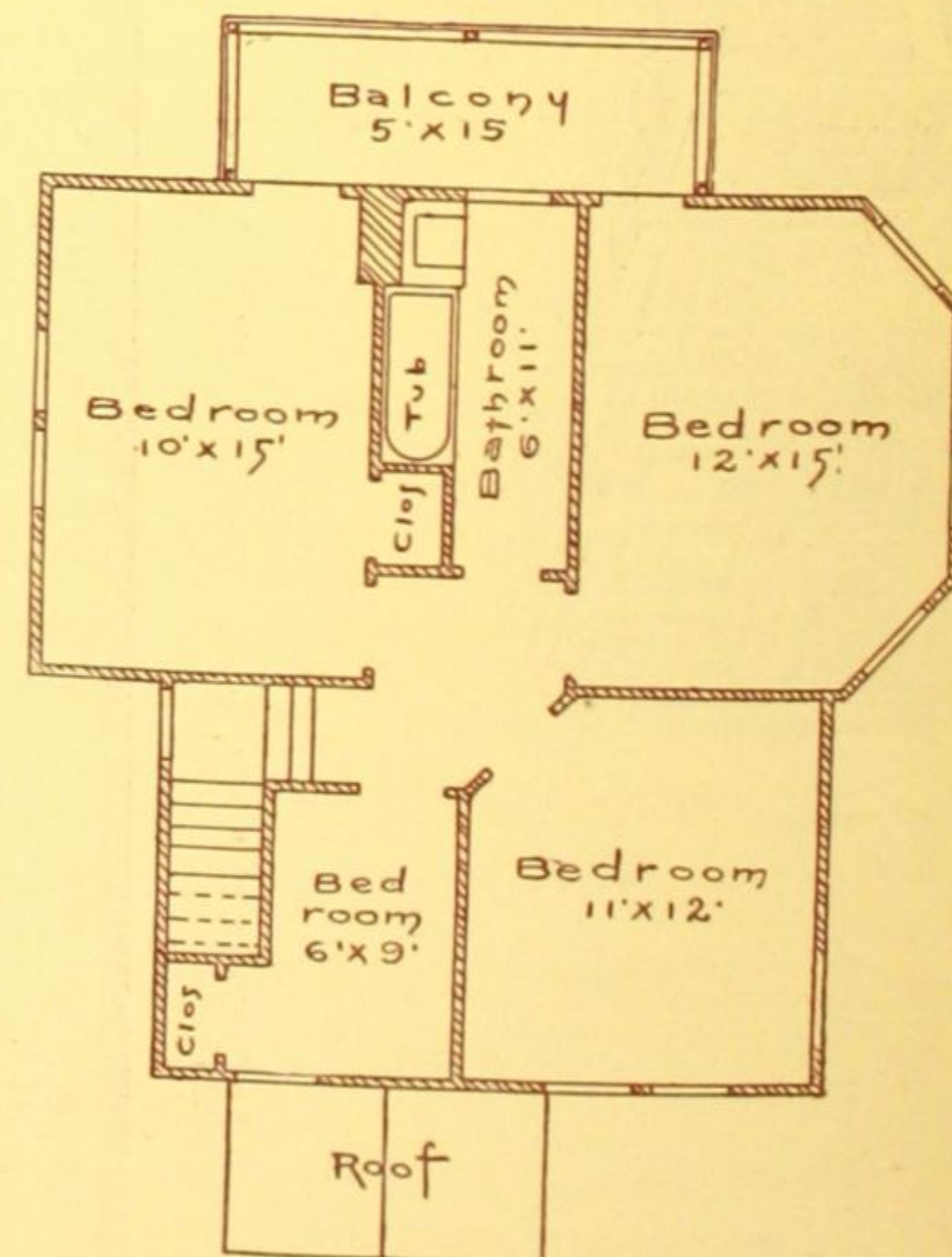
in the usual manner, with 2 x 6 inch rafters placed 2 feet from centres. Strips are nailed to the rafters on which the shingles are laid.

The interior is not plastered but is finished as follows: The walls and ceilings of the kitchen, pantry and bath-room are ceiled with narrow beaded $\frac{1}{2}$ -inch Carolina pine, finished with oil. All other rooms are wainscoted 3 feet high with Carolina pine, and capped with a neat moulding. The walls above the wainscoting and the ceilings are covered with heavy red manilla paper. This paper is as tough as cloth, and as the walls are protected by the wainscoting where there is danger of injury, there can be no objection to it on that ground. The appearance of a room finished in this way is very pleasing. The paper can be painted if different colors are desired or when the walls become soiled. The manner of putting on the paper is this: the walls are first furred by nailing plastering laths vertically about 12 inches apart, and across these are nailed planed laths with about 2-inch spaces between. The paper is dampened and then glued to the lathings. It dries tight and smooth. The cost of the paper and the labor in putting on is about \$75, while plastering would cost double that amount.

The writer recently inspected a house built and finished in this manner, and found it was very substantial and stiff. The peculiar construction could not be detected from outside, and was noticeable only to a critical and experienced eye from the inside. The effect of the rooms finished as above described, was pleasing in the extreme.



FIRST FLOOR, NO. 492



SECOND FLOOR, NO. 492

REFERENCES BY PERMISSION

The names of patrons appearing on this page are printed by authority of their written permission, in answer to the following letter addressed to each of them, after the completion of their buildings. Limited space admits of giving a few only.

"Dear Sir:—If our work for you has proved satisfactory, will you kindly permit us to include your name in our reference list? Yours very respectfully,

"THE CO-OPERATIVE BUILDING PLAN ASS'N, 63 Broadway, New York.
"Per R. W. SHOPPELL."

H. D. Reaves, Santa Barbara, Cal., who says:

"My house looks very pretty and its plan is most admirable."

R. W. Sargent, Esq., Greenwich, Conn., who says:

"My house outshines anything around here for the money."

A. E. Skelding, Esq., Riverside, Conn., who says:

"I have built eleven houses in this place, some from designs by architects to whom I have paid very high prices; but none have pleased me so much as the last house, which I built from your Plans. In future I shall use them; they are cheaper and I consider them more practical than others."

Jesse D. Phelps, Esq., Attorney, Minto, Dakota, who says:

"You have full permission to use my name. I am thoroughly pleased with my house. It shows much better in reality than the conception on paper. I have built it at less expense by having Plans, Specifications and Estimates."

Jas. G. Eastwood, Esq., cor. Howard ave. and 17th st., Washington, D. C., who says:

"I am living in the house I built last summer from Plans and Specifications furnished by you, and will say that your work was satisfactory in every respect."

Thos. W. Wilson, Esq., Dover, Del., who says:

"Your Plans and Specifications saved me much valuable time and money."

Julius Hayden, Supt. Jacksonville & Atlantic R.R., Jacksonville, Fla., who says:

"I am very much pleased with the house built from your Plans."

Chas. E. Thorne, Esq., Welaka, Putnam Co., Fla., who says:

"With your Plans I have made my house—simply beautiful! I have recommended your work to others, and hope they will have the good sense and far-sighted economy to patronize you."

Prof. W. S. Wilson, Agrl. College, Dahlgren, Ga., who says:

"I am satisfied that through you one can get the assistance of architects on the most reasonable terms possible."

J. A. Nourse, Esq., with the Sawyer-Goodman Co., Lumber, Chicago, Ill., who says:

"I shall take pleasure in recommending your Plans whenever opportunity occurs. The house which I built attracts attention, and I am asked frequently where I got the Plans."

R. S. Dickie, Esq., Chicago, Ill., who says:

"We believe your work to be of inestimable advantage to those contemplating building."

E. A. Thomas, Esq., East St. Louis, Ill., who says:

"The cost of our house runs under your estimate."

E. M. Wood, Esq., Grand Crossing, Ill., who says:

"The Plans you sent me saved me a good many dollars in the construction of my house."

Geo. Webster, Jr., Esq., Marion, Ind., who says:

"You have permission to refer to me in any manner you see proper. I have a handsome and very convenient dwelling, made from your Plans, and I was well pleased with your promptness in furnishing Plans, Details, etc."

Jas. Alexander Leonard, Esq., Decorah, Iowa, who says:

"I can most heartily recommend your Association as filling the bill complete, so far as I am concerned."

M. R. Mudge, Esq., Banker, Eskridge, Kansas, who says:

"The Plans worked out all right; the carpenter and mason had no trouble with them whatever."

D. C. Morgan, Esq., Attorney, Monroe, La., who says:

"It affords me pleasure to unite with your other customers in commending you to the public for your artistic manner of getting up building plans."

M. T. Denham, Treasurer Eastern Forge Co., Portland, Maine, who says:

"Your system is, undoubtedly, the best yet devised to secure to people just such homes as they could wish."

Capt. Wm. E. Nason, Saco, Maine, who says:

"A great many people speak well of the Plans, and pronounce the building as one of the finest in Saco."

A. Hoen, Esq., Baltimore, Md., who says:

"The house has attracted considerable attention and you will probably receive inquiries from some of my neighbors who contemplate building."

J. D. Mallory, Esq., 22 Light street, Baltimore, Md., who says:

"Your Plans were of great use to me, and saved me \$450 on my house."

C. W. Kennard, Esq., Chestertown, Md., who says:

"My house is perfect, combines beauty with great utility of space—not a foot of waste room in it. It has been pronounced worth \$500 more than an adjoining house which cost \$750 more than mine. I candidly believe I have a house that is worth \$1,000 more than it cost me. Your excellent Plans have the credit. The house complete, finished in the best manner, cost me \$50 less than your estimate."

F. R. Lewis, Esq., Westfield, Mass., who says:

"I am abundantly satisfied with the Plans obtained from you, and take pleasure in recommending your Plans to my acquaintances."

Jas. W. Taylor, Esq., Amesbury, Mass., who says:

"I feel confident that your Plans and very complete Specifications saved me several hundred dollars; my house more than realizes my most sanguine expectations."

W. T. Smith, Esq., Osceola, Mich., who says:

"I must say that the Working Plans, etc., you sent me were much better than I expected to get. They would have cost me five times the amount here."

H. A. Smith, Cashier Merchants' National Bank, Duluth, Minn., who says:

"I have just completed a house from the Plans you sent me. They have given the best of satisfaction. The mechanic in charge tells me they are quite accurate and intelligible to work from."

L. M. Edwards, Esq., Bank, Bowling Green, Mo., who says:

"I built from your designs, and have the ' slickest ' house in town. I think I saved three to four hundred dollars by having your Plans and Specifications."

J. A. Matteson, Esq., Cape Girardeau, Mo., who says:

"We are more than satisfied with your work. I do not hesitate to refer to you any parties in this vicinity who contemplate building."

C. H. Wolcott, Esq., Billings, Montana, who says:

"Your Plans and Specifications have given unqualified satisfaction, reducing the cost of building twenty-five per cent."

W. M. Cowen, Esq., Wellington, Kansas, who says:

"The house I erected from your Plans is not only beautiful but convenient; it is admired by all. The contractors (Jackson & Mishler) join with me in recommending your Plans to all who contemplate building."

R. Beattie, President Beattie Manufacturing Co., Little Falls, N. J., who says:

"Have built ten cottages from your Plans and they are all very satisfactory."

Harry Kucher, Esq., Camden, N. J., who says:

"Just putting the finishing touches on the house built from your Plans and Specifications. It is conceded to be the nicest and most complete small house in the neighborhood. Ezra Lippencott, a life-long builder of Camden, says that any of your Plans can be put up at your figures unless labor is high."

Rev. Wm. R. Nairn, Franklin, Essex Co., N. J., who says:

"I have used your Plans and the houses, which are now occupied, have proved very satisfactory as to comfort, convenience and appearance."

Prof. A. A. Titsworth, Rutgers College; New Brunswick, N. J., who says:

"After receiving the House Plans I made arrangements which necessitated a change of residence, and I sold the Plans to the contractors, Messrs. A. & O. Burdick, who completed the house and I understand were well pleased; as well they might be for they were able to sell the house at a good profit even before it was completed."

W. R. Merchant, Esq., with Banking House of Geo. K. Sistares' Sons, 18 Broad street, New York city, who says:

"From the Plans and Specifications prepared by you, I have built a house in every respect satisfactory. It affords me pleasure to testify to the fact."

John T. Delany, Esq., Chaumont, N. Y., who says:

"My house is up, and it is a little gem; neat, cheap and convenient."

Francis Gerber, Esq., Sayville, L. I., N. Y., who says:

"The Plans I received from you were all that could be desired. The builder had no trouble in working from them. The house is now completed and is acknowledged to be the most convenient, substantial and the handsomest house in our village."

Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), who says:

"I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."

Wm. A. Sloane, Esq., Port Richmond, N. Y., who says:

"I built my house for the price named in your book. Everybody likes it."

John T. Cowles, Esq., Ridgewood, L. I., N. Y., who says:

"The house I built will stand comparison with other houses in this town that cost two or three times the money to erect."

W. E. Peebles, Banker, Pender, Neb., who says:

"I take great pleasure in saying that I used one of your Plans, and I am more than satisfied with the result. I have a beautiful dwelling, costing not more than an ordinary building, but worth twice as much, either to sell or live in, on account of its convenient interior and its beautiful exterior."

Geo. J. Burgess, Esq., Arapahoe, Neb., who says:

"I am very well satisfied; the house is a daisy—looks nicer than it did in the engraving."

Norman C. Raff, Esq., Albuquerque, N. M., who says:

"You are at liberty to use my name. I built two houses from your Plans, and they give excellent satisfaction."

Wm. M. Lowther, Esq., Findlay, Ohio, who says:

"I shall always deem it a pleasure to impart information to all who make inquiries concerning your Association, with whom I have had the pleasure of doing business, and the prompt manner in which you responded to my recent order."

E. B. Dennis, Attorney, Newark, Ohio, who says:

"The house built from the Plans procured of you is satisfactory, and is very much admired. The house could be built here for considerable less than your estimate."

George H. Bonte, Esq., Cincinnati, Ohio, who says:

"The Plans were satisfactory in all respects. Your estimate of cost was very close. I have the finest, prettiest and best built house in South Norwood, and many parties say within many miles of it, and that is saying a great deal; it is acknowledged to be the finest and best of the three or four hundred houses that are in the neighborhood."

M. D. Harter, Esq., Treasurer, the Aultman & Taylor Co., Mansfield, Ohio, who says:

"I like your plans and methods as far as I know them. I say this after having built two houses under them."

Frank Dayton, Esq., Portland, Oregon, who says:

"I am exceedingly well pleased and have a lovely cozy little home that is much admired."

E. Payson Porter, Esq., Statistical Sec'y Int. S. S. Convention, 725 Chestnut street, Philadelphia, Pa., who says:

"It gives me pleasure to say that the cottage built after the Plans you sent me, and which we call Sylvan Lodge, is not only satisfactory in every respect, but charming."

Louis Renstein, Esq., Philadelphia, Pa., who says:

"I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."

L. R. Frost, Esq., Furniture & Lumber, Towanda, Pa., who says:

"I give you permission to use my name in any way to help on the good work of building artistic houses. The house you designed for me last fall is about completed, and is admired by every one. I find your books a great help. Several parties that contemplated building have had the use of them, which will probably give you several orders."

J. C. Brader, Esq., Nanticoke, Pa., who says:

"Your work for me has given the best of satisfaction and I can cheerfully recommend the same to those who contemplate building."

John J. Houghton, Cashier First National Bank, Ambler, Pa., who says:

"The Plans purchased from your Association have been used in building six houses. The Plans were very satisfactory and the houses present quite a new style of architecture in our neighborhood. They make beautiful houses at a moderate cost. I am satisfied that your Association is of great benefit to all who intend to build. I willingly add my name to your list of references and heartily commend your work."

Benjamin Crowther, Esq., Upland, Del. Co., Pa., who says:

"Your architectural work for me has been very satisfactory not only to me, but to others who saw my house in the course of erection. One of the largest property owners said to me: 'I have been through your house from cellar to attic and think it very complete; it must have cost a deal of thought to arrange everything so well. It is an ornament to our town.'"

F. E. Smith, Esq., Tioga, Pa., who says:

"I have built country houses, barns, etc., a great number. I have never had plans, specifications and full details that I was so well pleased with as with yours."

L. F. Jeanmaire, Esq., McMinnville, Tenn., who says:

"I am delighted with my house. It has received many flattering praises."

James F. Lukens, Esq., Union City, Tenn., who says:

"I was well pleased with the Plans, and consider their cost as money well spent. I have the handsomest and best business house in this city. I take pleasure in referring to your Association all parties here that I find are going to build."

Geo. Smith, Esq., Galveston, Texas, who says:

"I built according to your Plans, and am much pleased with the result. I certainly saved \$125 by having your Plans and Specifications."

Ross White, Esq., Brattleboro, Vt., who says:

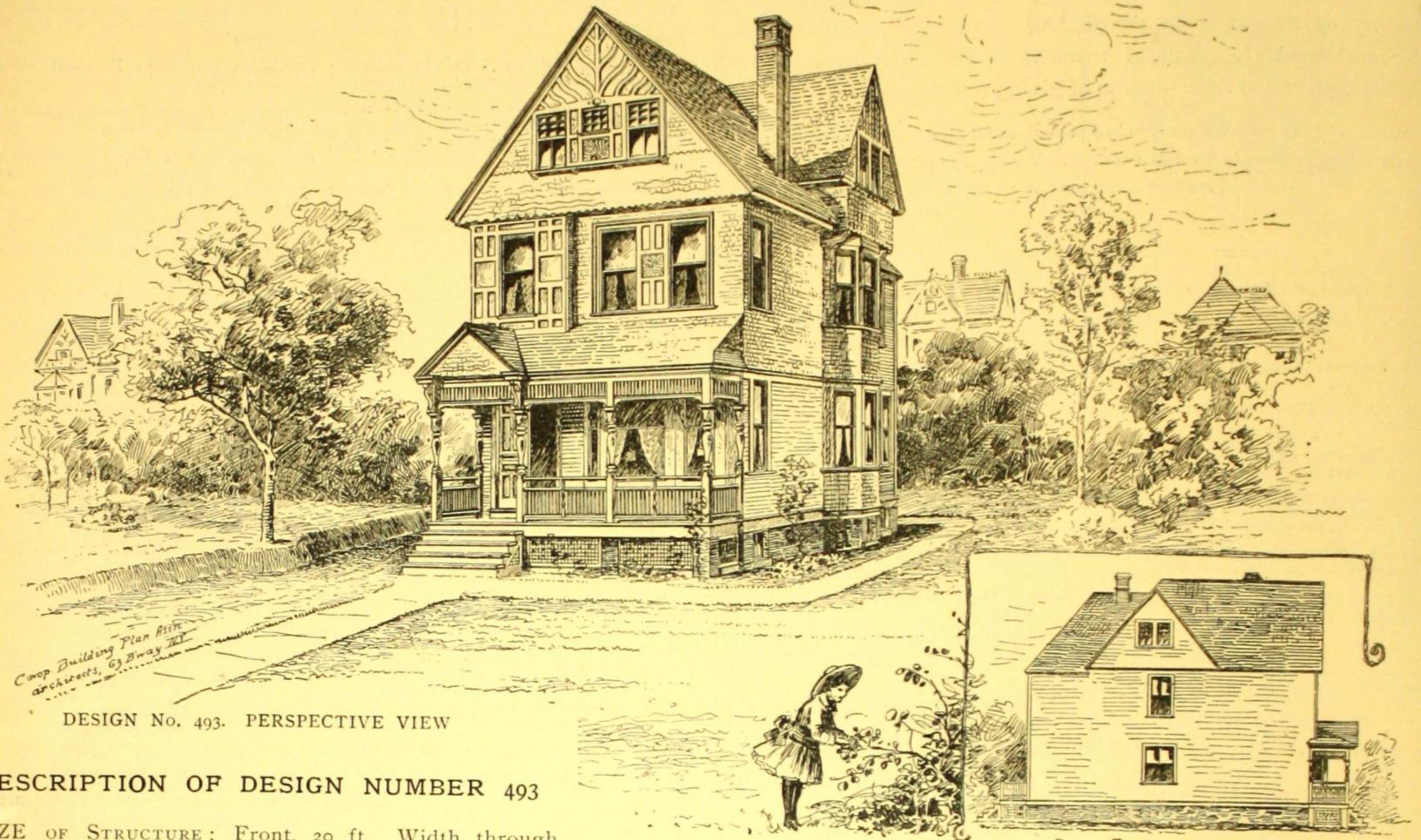
"The Plans you supplied for my house have been more than satisfactory in every respect. I have been the means of your getting three orders in this town and shall be glad to have you refer to me at any time."

J. A. Allen, Esq., Shawano, Wis., who says:

"The Plans we received from you we used for a parsonage, and I must, in justice, say that they gave entire satisfaction in every particular."

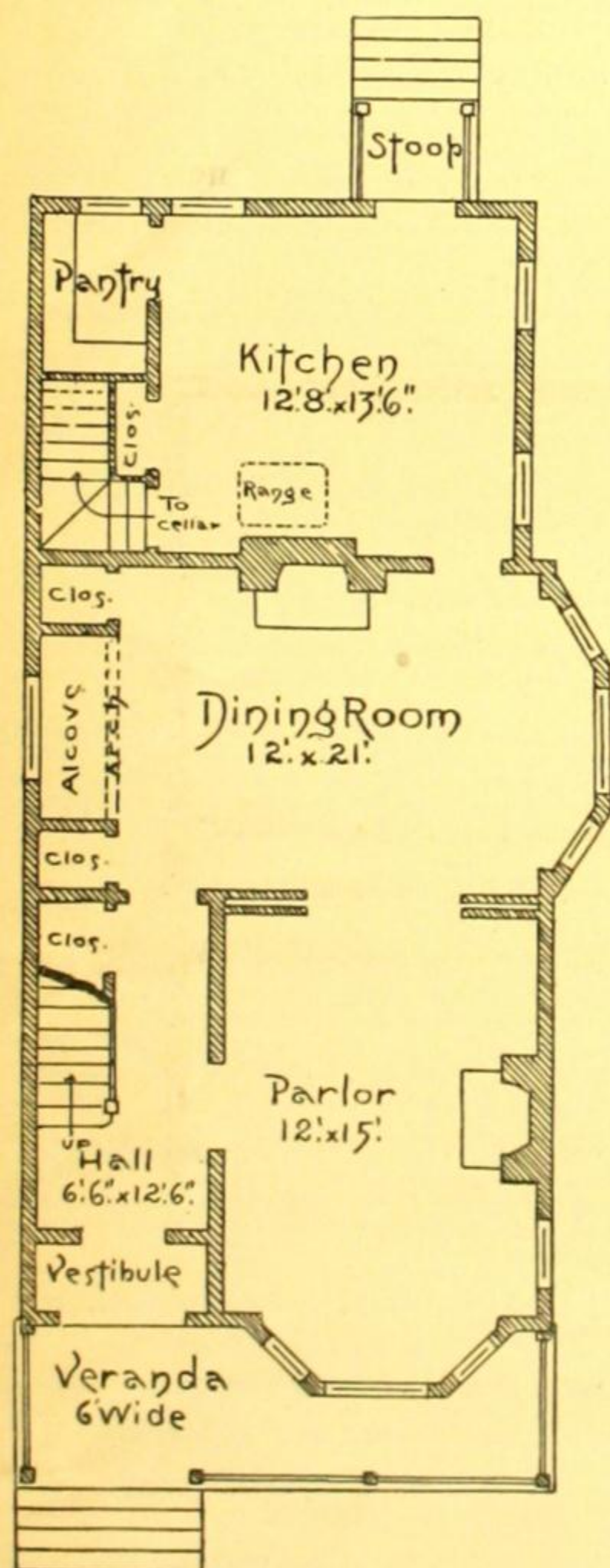
F. & J. Skelding, Neepawa, Manitoba, who says:

"You can use our name. We found everything exactly as required in the Plans sent us—Drawings and Specifications all perfect."



DESCRIPTION OF DESIGN NUMBER 493

SIZE OF STRUCTURE: Front, 20 ft. Width through dining-room, 22 ft. Side, not including veranda, 42 ft.



FIRST FLOOR, NO. 493

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Attic, 7 ft., 8 in.

MATERIALS: Foundations, brick wall 12 in. thick; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$3,498.47, complete, except heater and range. See "EXTRAS" on page 28, for items not included in the estimate.

SPECIAL FEATURES. — Cellar under the whole house with cemented bottom. The walls are set on substantial concrete footings.

Laundry with two stationary tubs, under the kitchen, with outside entrance from the rear yard.

Fire-place heaters placed in parlor and dining-room will heat this house thoroughly.

The dining-room extends the full width of the house and has windows on both sides; this arrangement secures a good circulation of air. The alcove will accommodate a sideboard, with room to spare.

Sliding-doors connect parlor and dining-room.

Two good rooms and a hall are finished in the attic.

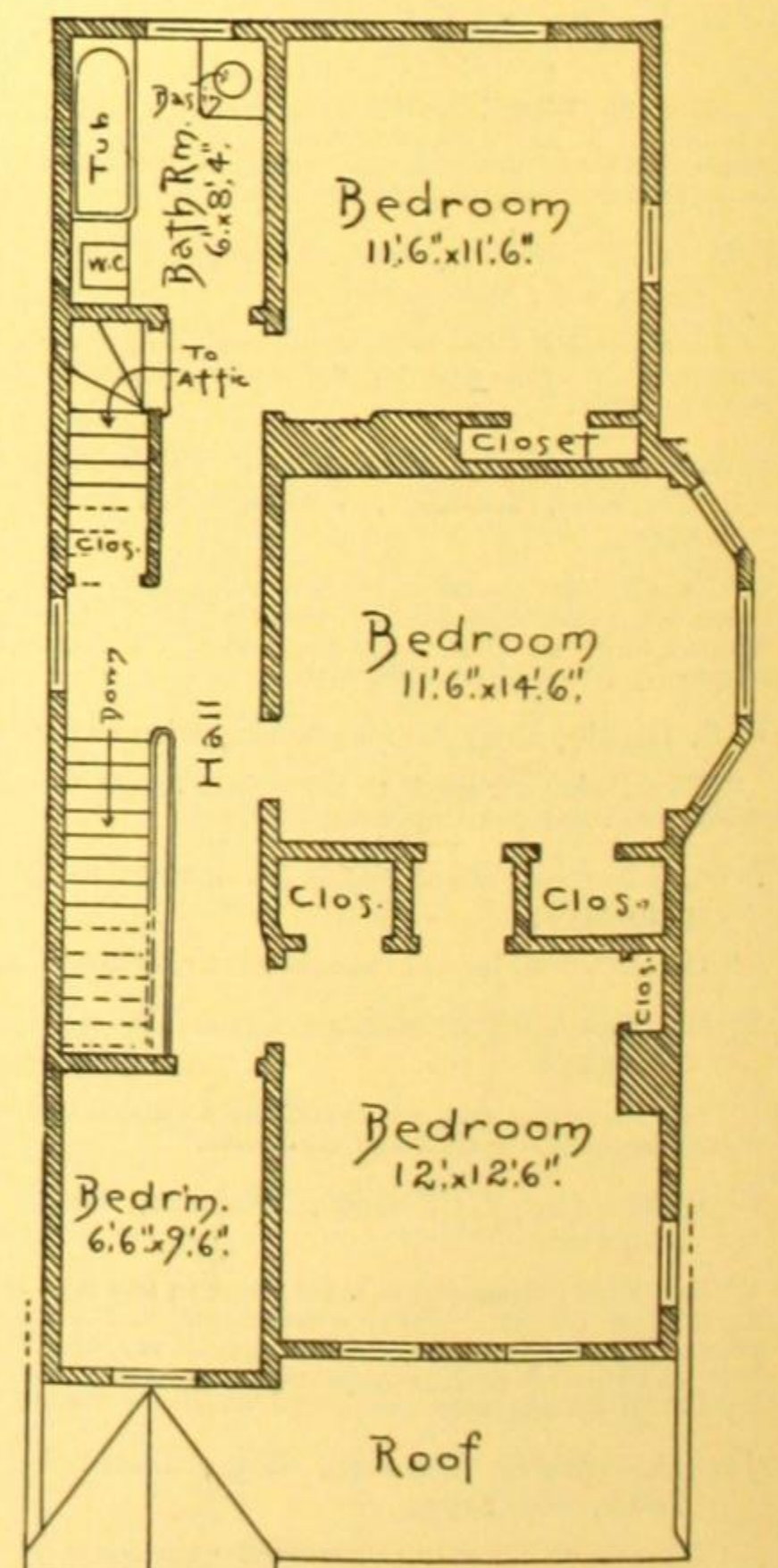
A back stairway can be obtained, if desired, by reducing the pantry slightly and reversing the direction of the cellar stairs. The stairs would come out on second floor where the closet is shown under the attic stairs.

It is intended to use a portable range, with ventilating canopy over.

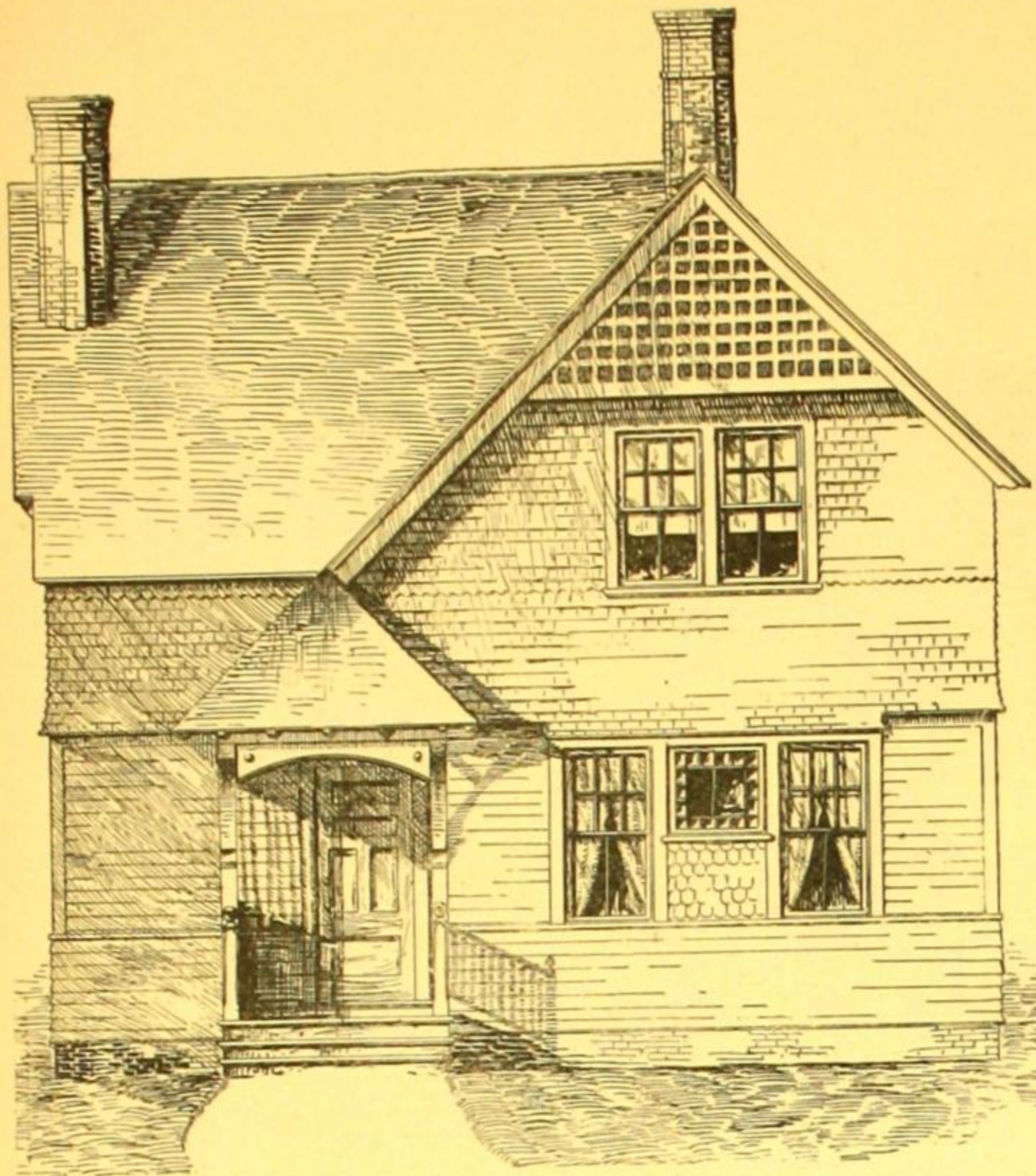
The kitchen and bath-room walls are wainscoted with yellow pine.

Plumbing is of the best; the water-closet is of the porcelain "washout" pattern; the trap and the bowl are in one piece.

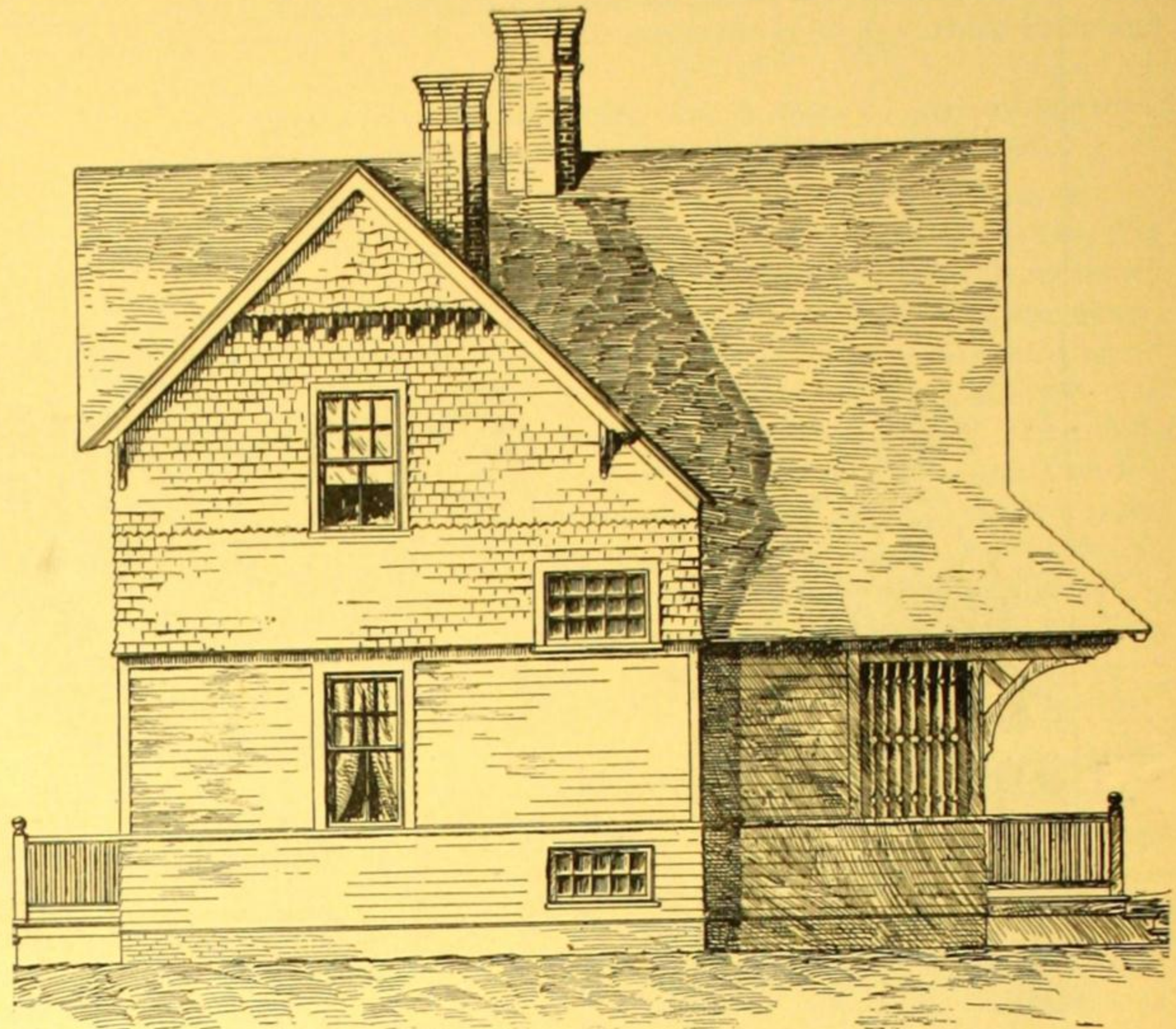
Can be built on a 25 ft. lot.



SECOND FLOOR, NO. 493



FRONT ELEVATION



SIDE ELEVATION

DESIGN No. 494

DESCRIPTION OF DESIGN NUMBER 494

SIZE OF STRUCTURE: 28 ft., 6 in., extreme width. Side, 28 ft., 6 in.

SIZE OF ROOMS: See floor plans.

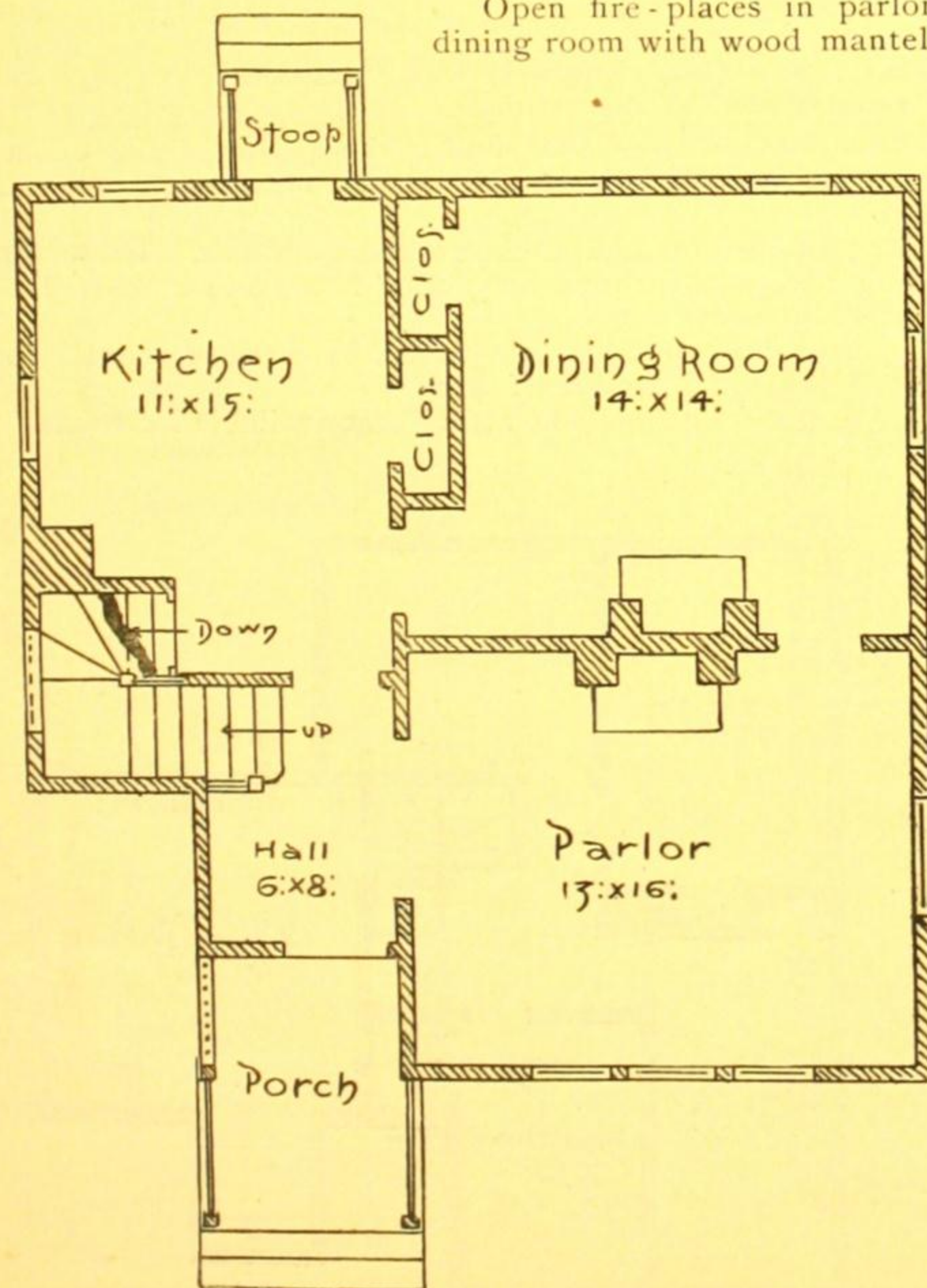
HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, brick; First Story, clapboards; Second Story, shingles; Roof, shingles.

COST: \$1,550, complete. See "EXTRAS" on page 28, for items not included in the estimate.

SPECIAL FEATURES.—Cellar under hall, kitchen and dining-room.

Open fire-places in parlor and dining room with wood mantels.

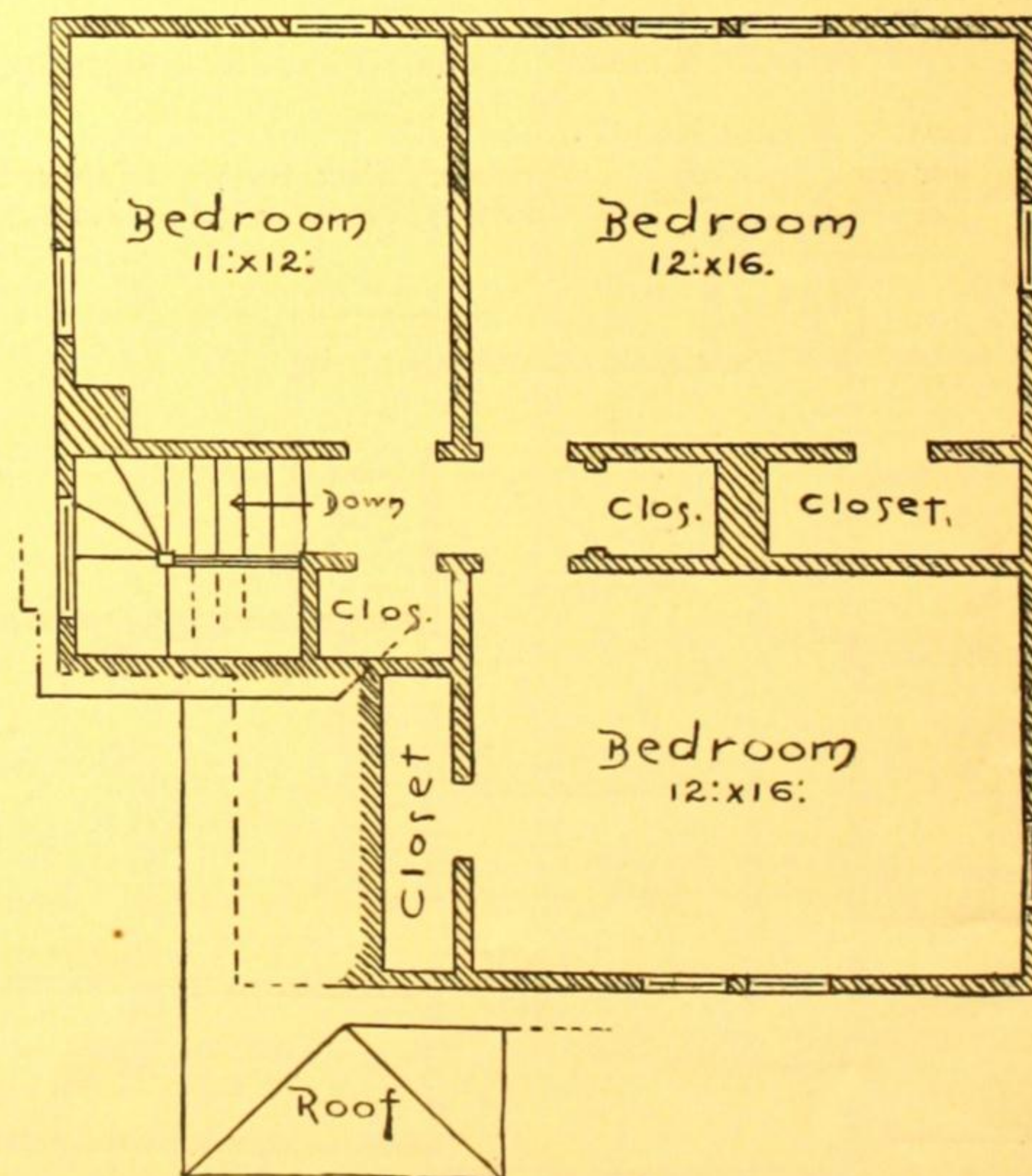


FIRST FLOOR. NO. 494

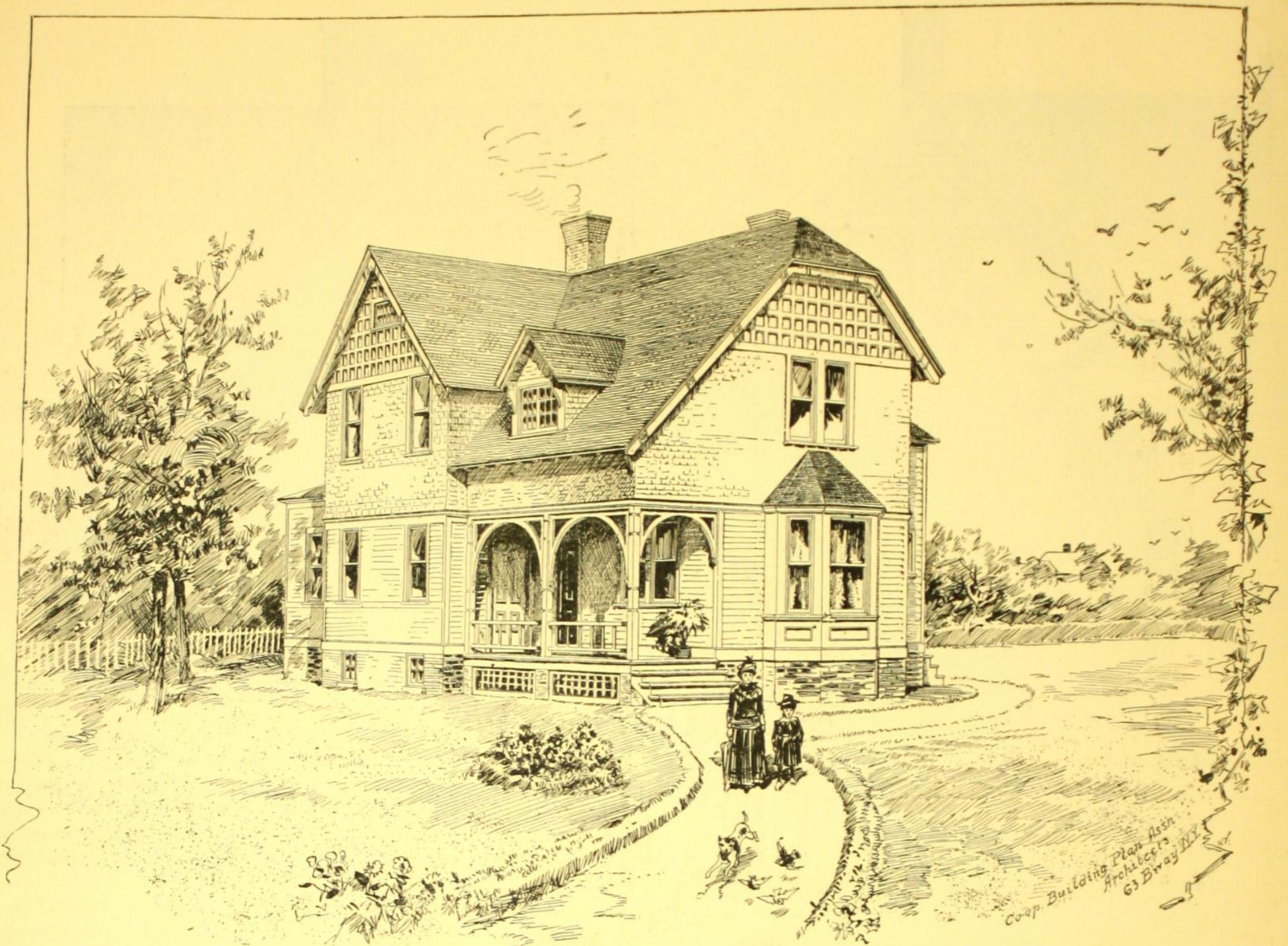
Building a house like this is such a good speculation, that we often wonder why more men of means do not undertake it. The investment is small; the income from its rental is very satisfactory. The time and attention required to let the contract and to watch its construction is not worth mentioning. Indeed, this part of the business proves to be a diversion and a pleasure to many men.

There is no surer way of successfully marketing lots of ground than to build on a few of them. One building will often "leaven the whole lump."

The benefit he confers on the community by placing a new and attractive house in their midst, is another aspect of the enterprise which must gratify every man of right feeling.



SECOND FLOOR. NO. 494



DESIGN No. 495. PERSPECTIVE VIEW

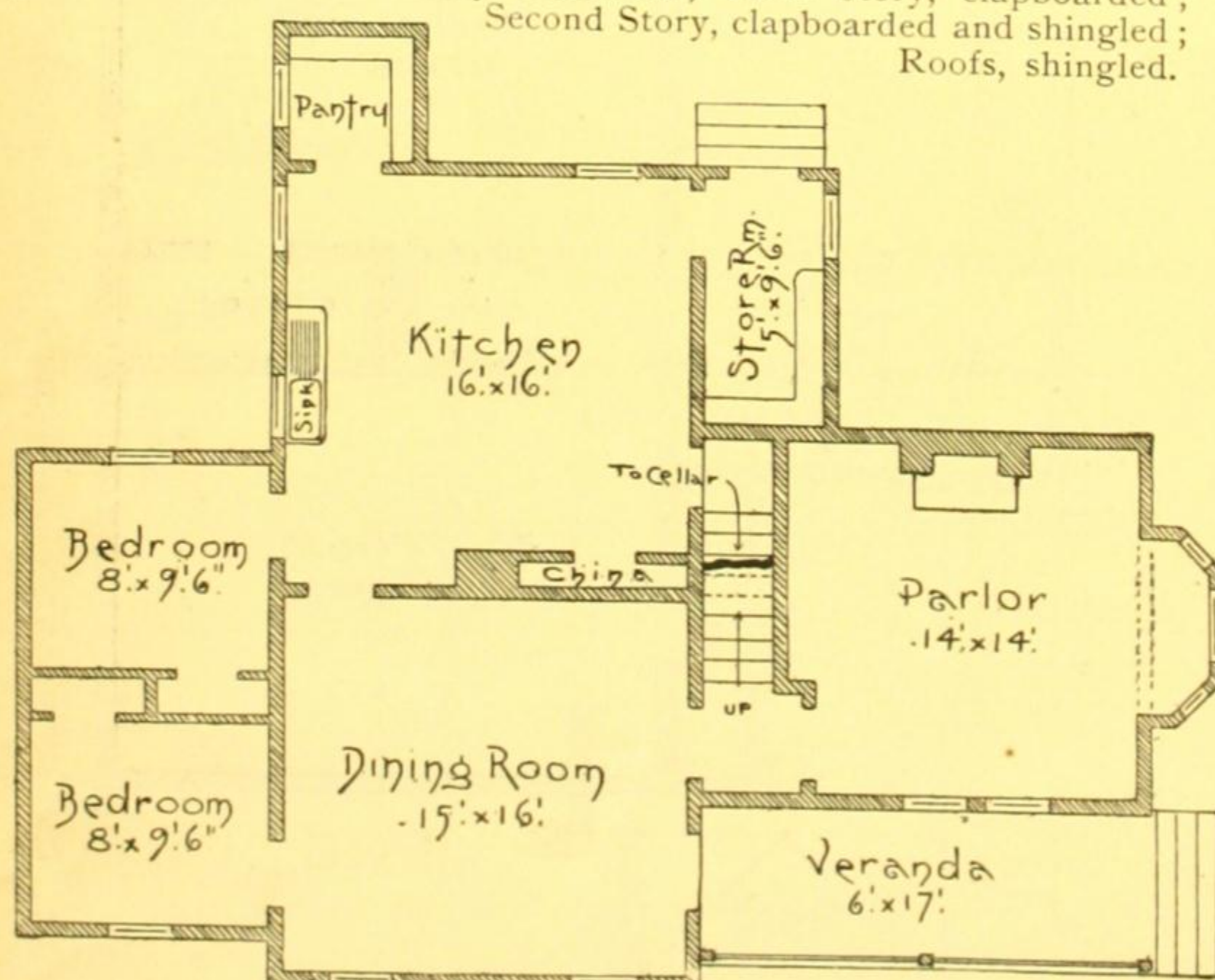
DESCRIPTION OF DESIGN NUMBER 495

SIZE OF STRUCTURE: Front, 21 ft. Extreme width through dining-room, kitchen and pantry, 38 ft. Side, including bay window, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 9 ft.

MATERIALS: Foundations, stone walls under main part, wood posts under the one story extension; First Story, clapboarded; Second Story, clapboarded and shingled; Roofs, shingled.



FIRST FLOOR. NO. 495

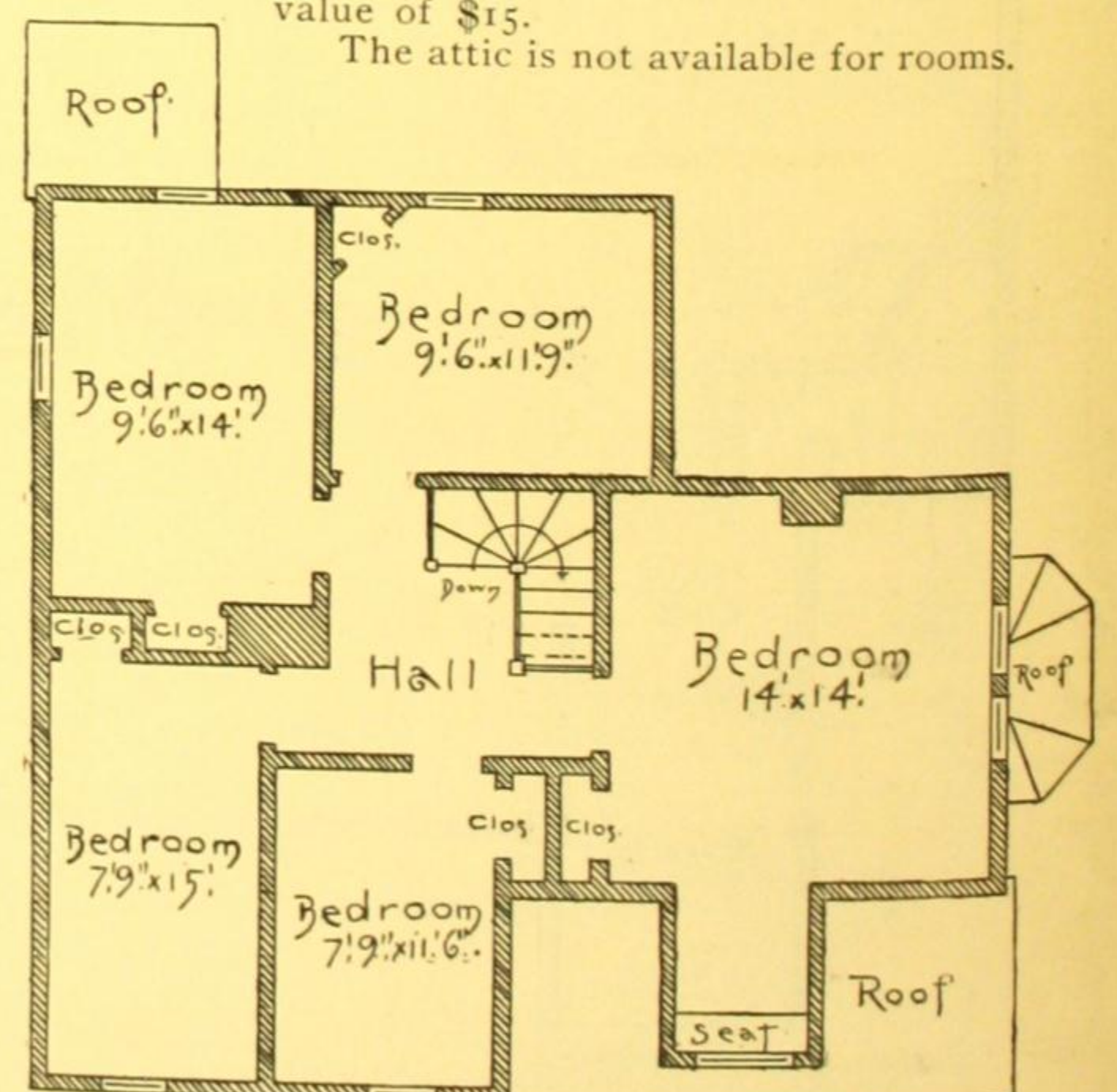
COST: \$2,625.60, complete. See "EXTRAS" on page 28, for items not included in the estimate.

SPECIAL FEATURES.—Cellar under the parlor, dining-room and kitchen, with cemented floor. An outside entrance to the same is provided.

Parlor, dining-room and kitchen are large rooms. The extension containing the two bedrooms on ground floor can be omitted with a saving of about \$225.

The parlor has an open fire-place and a wood mantel to the value of \$15.

The attic is not available for rooms.



SECOND FLOOR. NO. 495

DESCRIPTION OF DESIGN NUMBER 496

A CITY HOUSE

SIZE OF STRUCTURE: Front, 22 ft. Side, 40 ft. Height from sidewalk to top of balustrade over cornice, 40 feet.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 10 ft.; Second Story, 9 ft., 6 in.; Third Story, 9 ft.

MATERIALS: Foundations, stone walls. The walls of first, second and third stories are of hard brick, 12 inches thick; the front is faced with select stock brick laid up in red mortar; trimmings are of moulded brick and terra cotta. The hanging bay window has shingled base and balustrade.

COST: \$4,500, complete, except heater and range. See "EXTRAS" on page 28, for items not included in the estimate.

SPECIAL FEATURES: Inside blinds are provided on the first floor; elsewhere outside blinds. Mantels to the value of \$85, and tile hearths are included.

Cellar under the whole house with cemented bottom.

Open fire-places in parlor, dining-room and front second story bedroom.

A five and half foot curtain opening between hall and parlor.

A four foot sliding-door between parlor and dining-room.

The conventional arrangement of the front stoop and stairway, which prevails in designs for city houses, is modified in this design; the front elevation is well broken up and it has a good deal of color from the materials used.

Intended to be built on a 25 foot lot with 3 foot passage on one side. There is a good air space between the ceiling of third story and the roof.

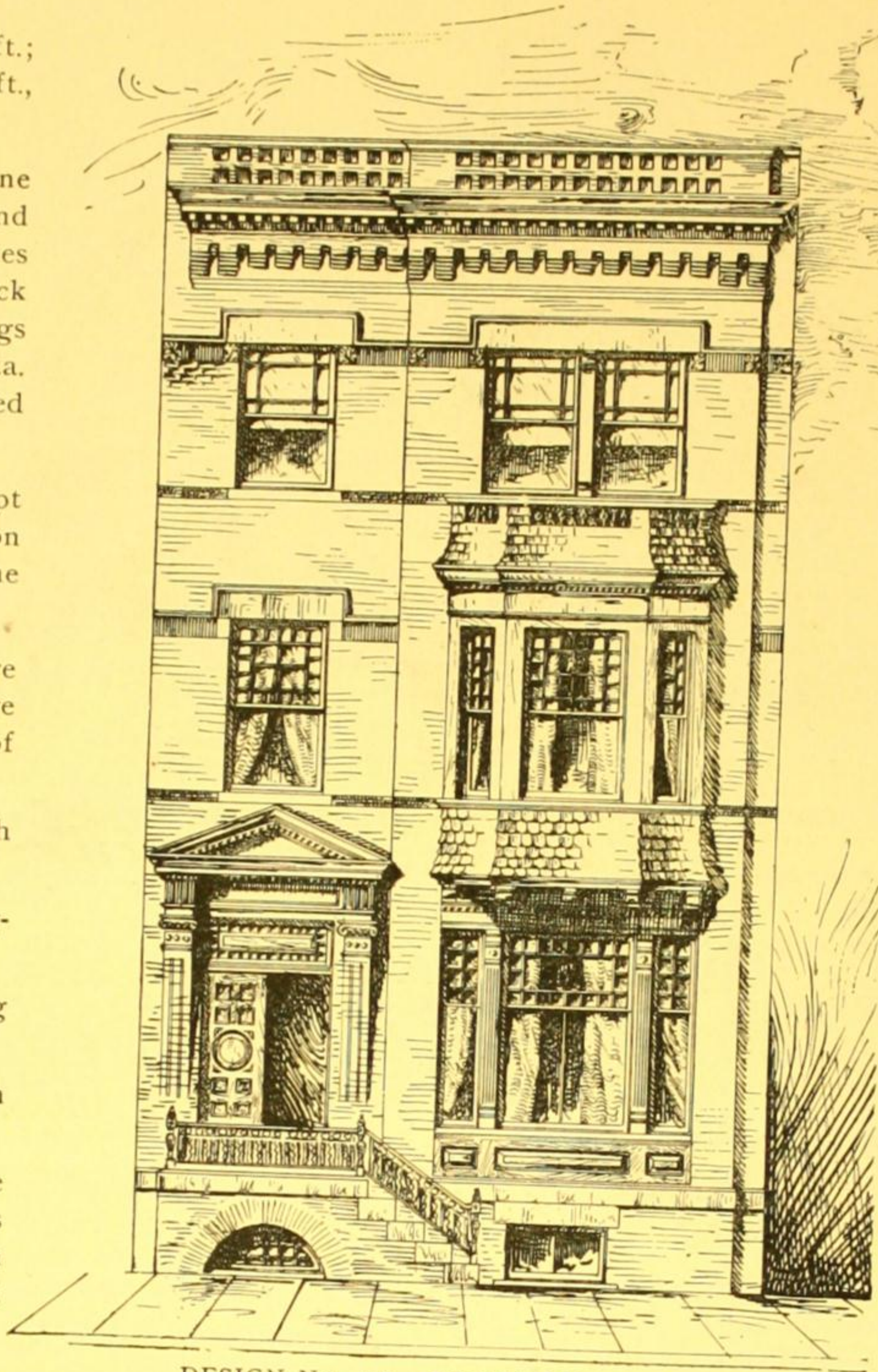
Many people have the false idea that in order to have a handsome and elegant house expensive and rare materials must be used.

In New York city there are long rows of houses veneered on the front with brown stone brought from New Jersey or Connecticut; these fronts are generally devoid of any beauty of line or detail, the effect being gloomy and monotonous in the extreme. The stone veneer is only three inches thick and is backed by brickwork; the other walls are built of a very poor quality of brickwork, and all the work throughout is poor in order to pay for the "show" on the front.

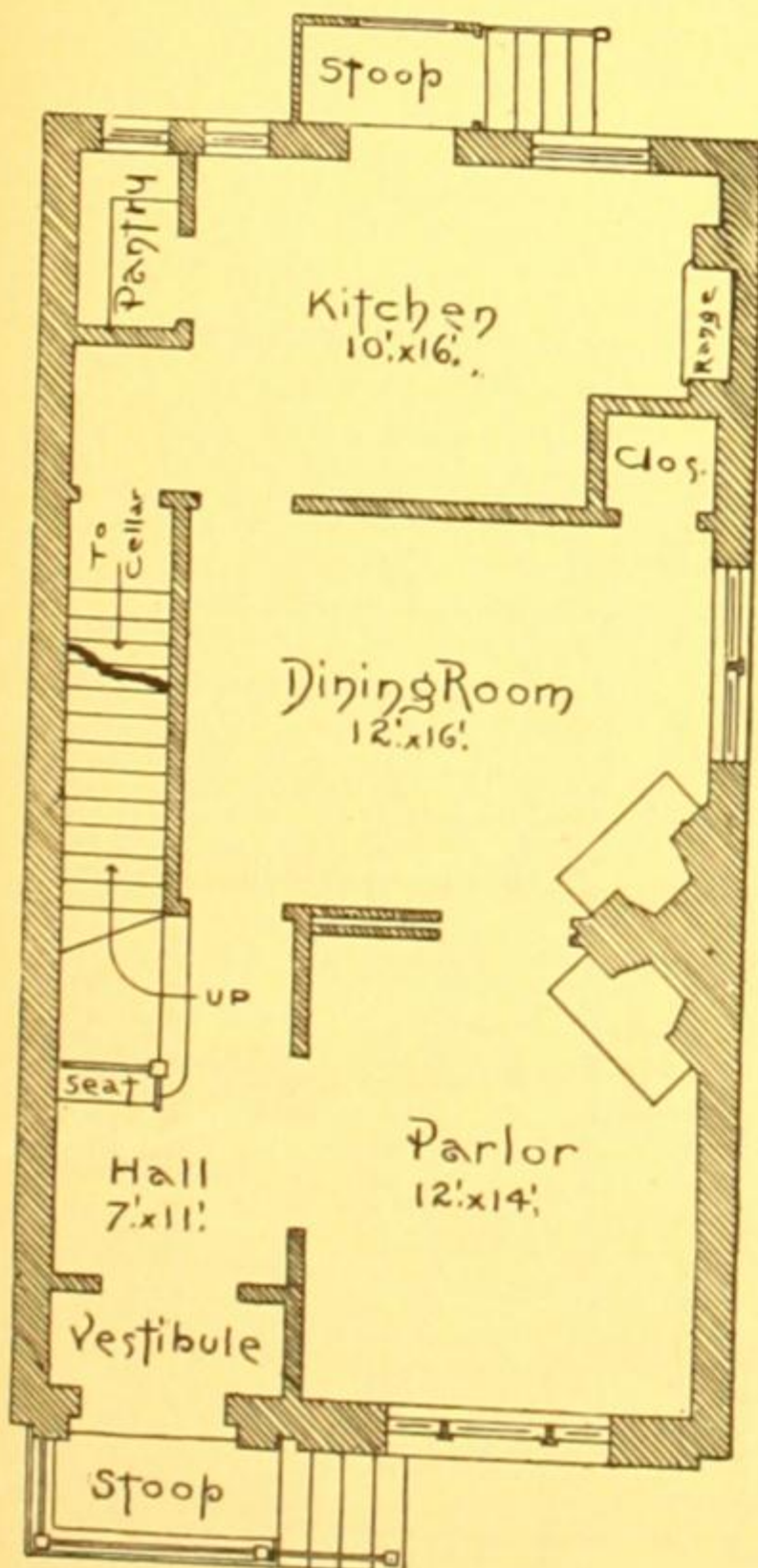
This veneering is wretched in point of construction, and for the money spent on it a substantial and artistic brick front could have been built, with enough money left to have all the work done well.

A brick front need not be of finest press brick to be artistic. We have seen a most beautiful house built of the refuse brick from the kiln.

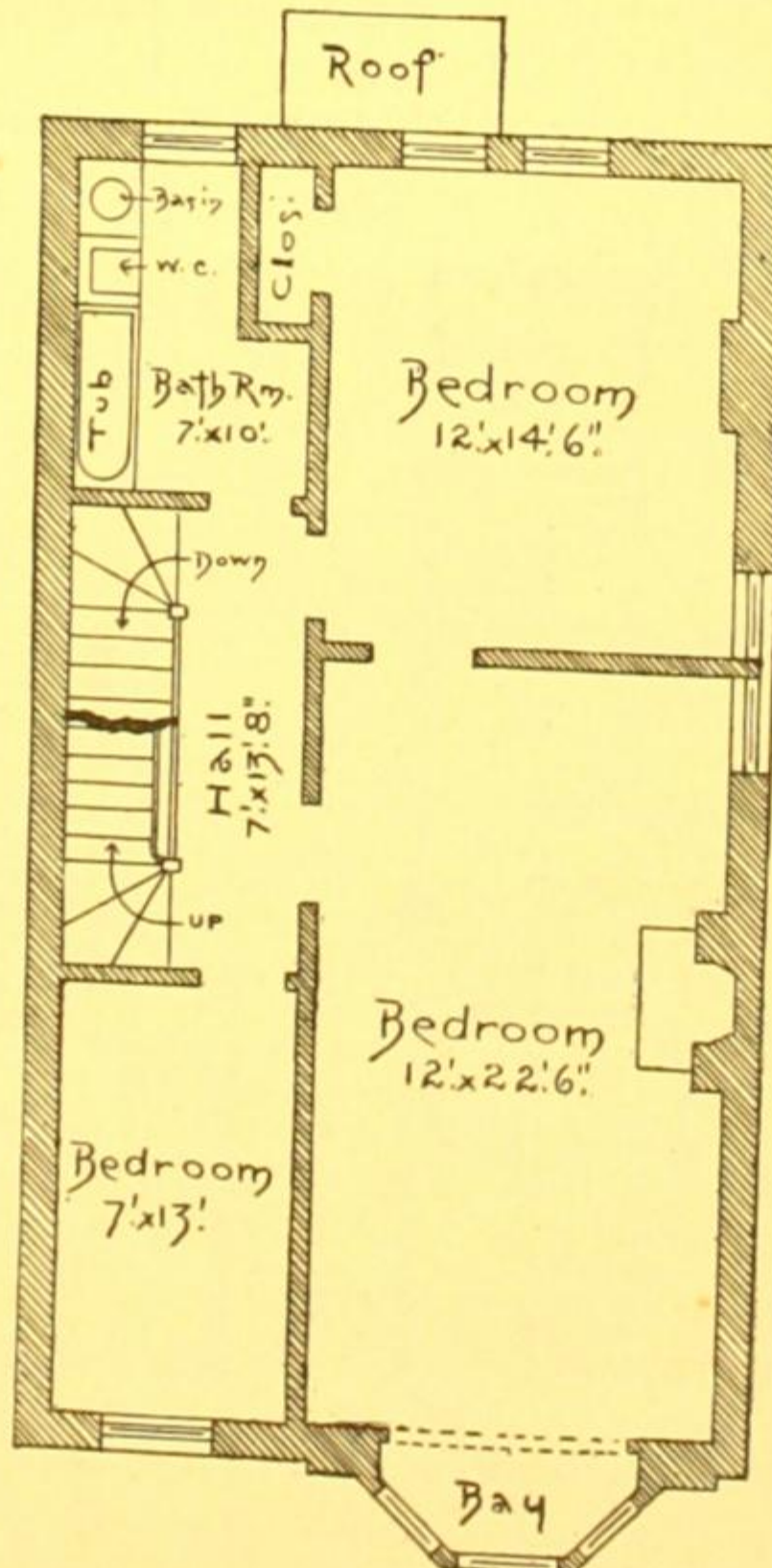
It is worth noting as good evidence that the people are on the right side, that recently brown stone front houses do not sell so readily as the more artistic fronts of brick, stone and terra cotta. This fact is bewildering to the speculative builder, who is generally wholly devoid of taste as to forms and colors. He cannot understand it. It will require a good many severe lessons before his obtuse intellect comprehends that in art and in architecture the world is making progress, and that the veriest tyro has left him far behind.



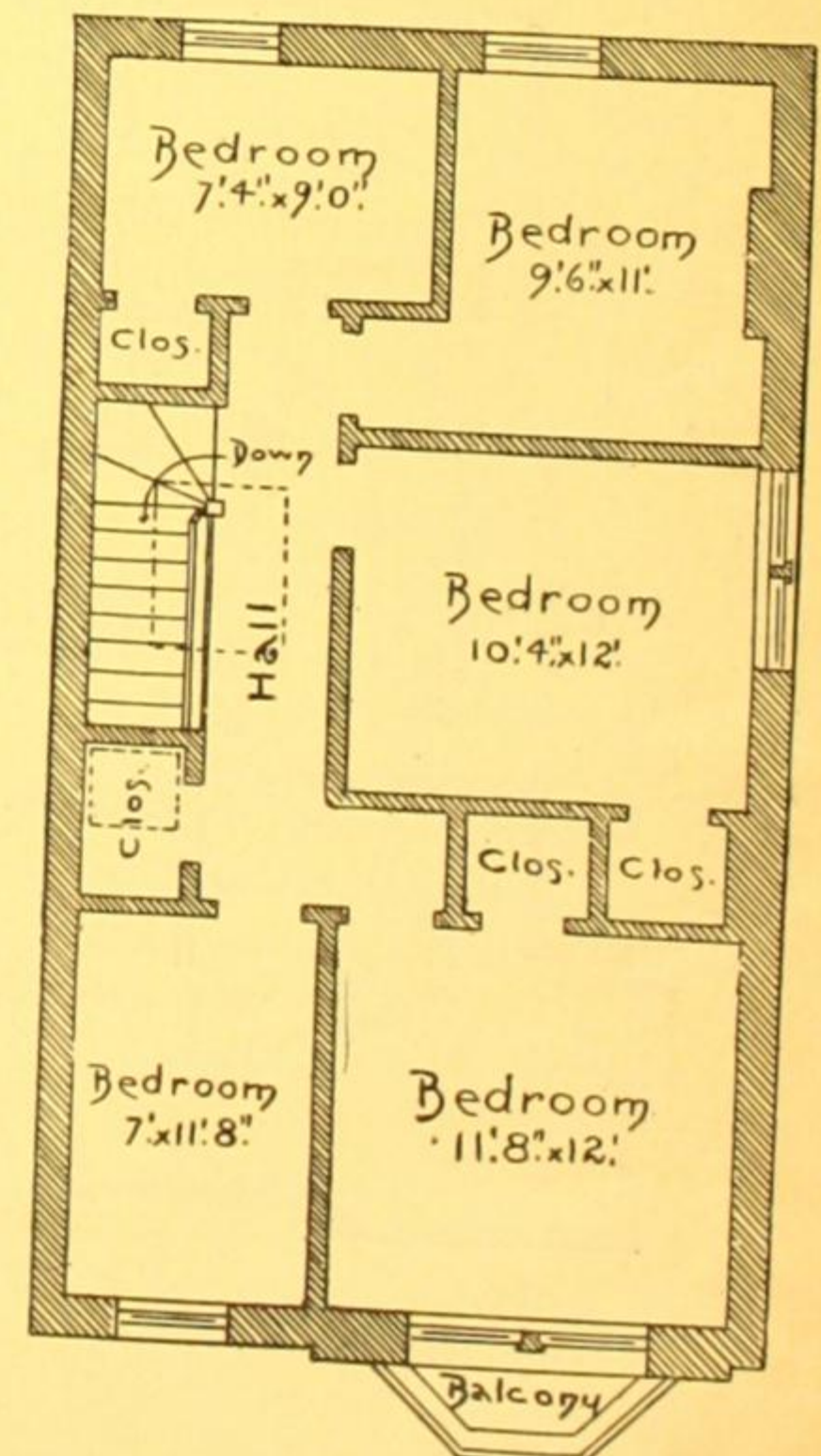
DESIGN No. 496. FRONT ELEVATION



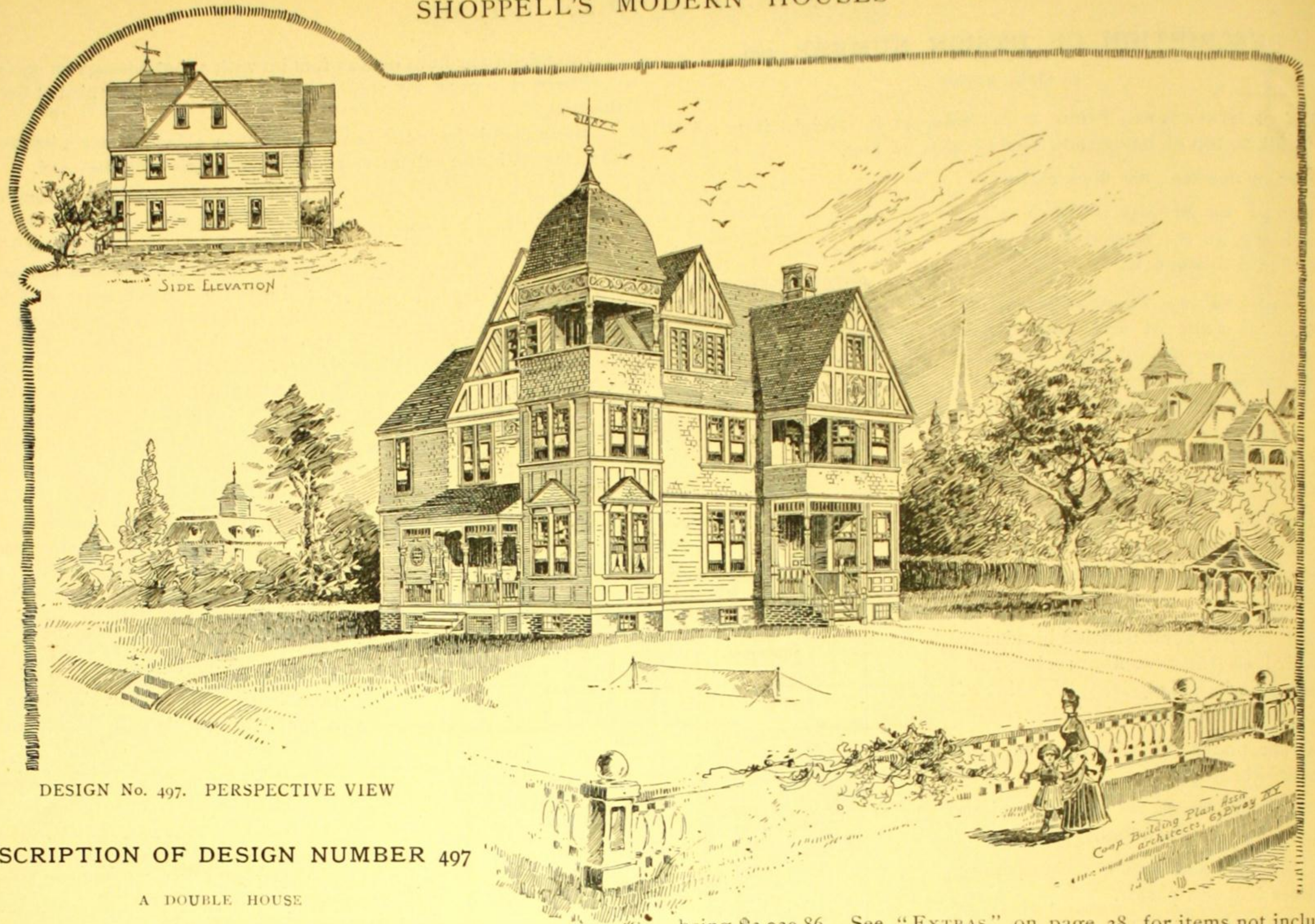
FIRST FLOOR. NO. 496



SECOND FLOOR. NO. 496



THIRD FLOOR. NO. 496



DESCRIPTION OF DESIGN NUMBER 497

A DOUBLE HOUSE

SIZE OF STRUCTURE: Front, 49 ft., 10 in. Side, over all, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 10 in.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 7 ft., 6 in.

MATERIALS: Foundations, stone and brick walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: The complete structure, exclusive of heaters and ranges, costs, \$6,704.71; the cost of the left-hand or larger house, including one-half the party wall, being \$3,674.85; that of the smaller house

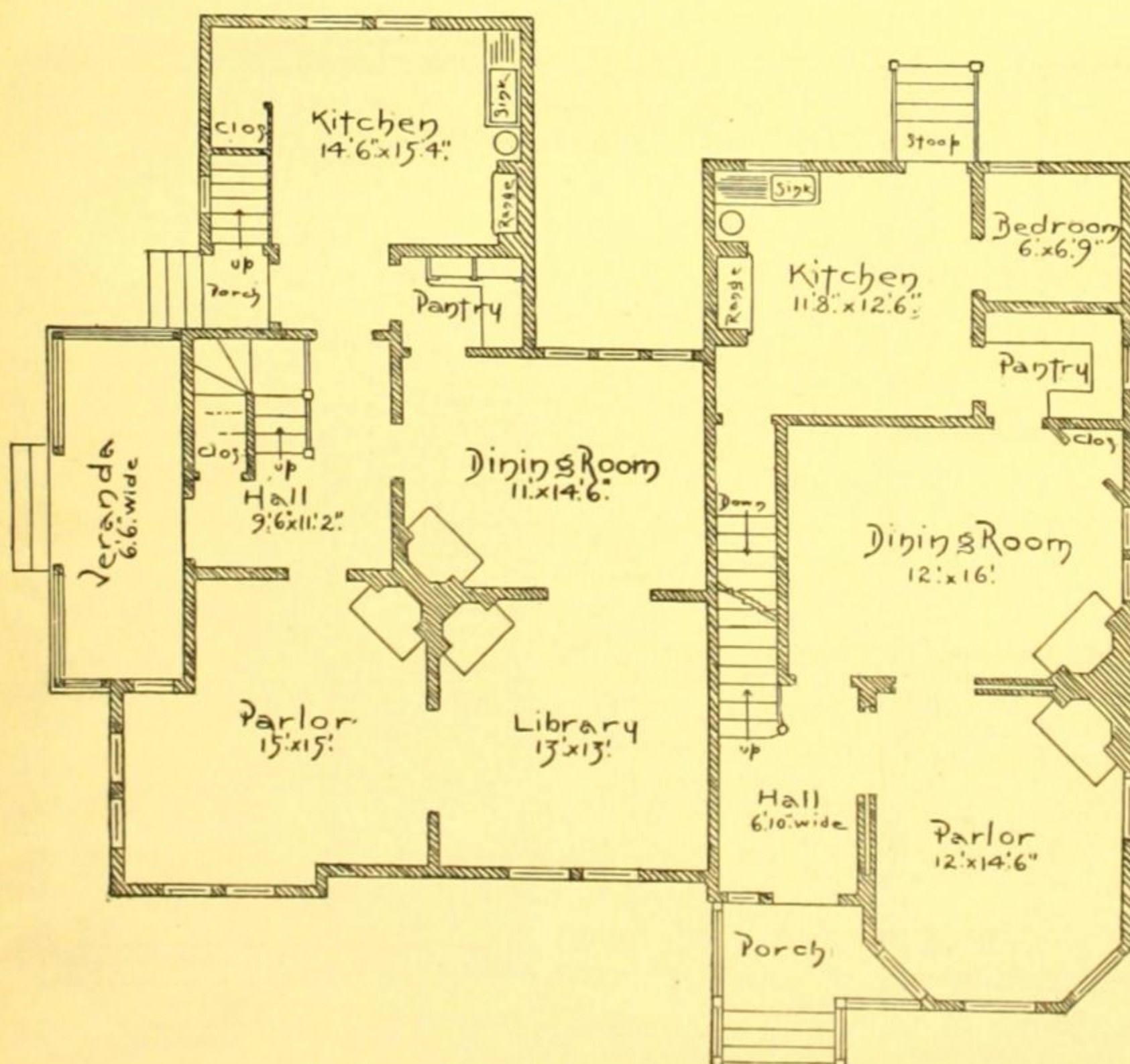
being \$3,029.86. See "EXTRAS" on page 28, for items not included in the estimates.

SPECIAL FEATURES.—A double house, or house for two families. In appearance it is one large house.

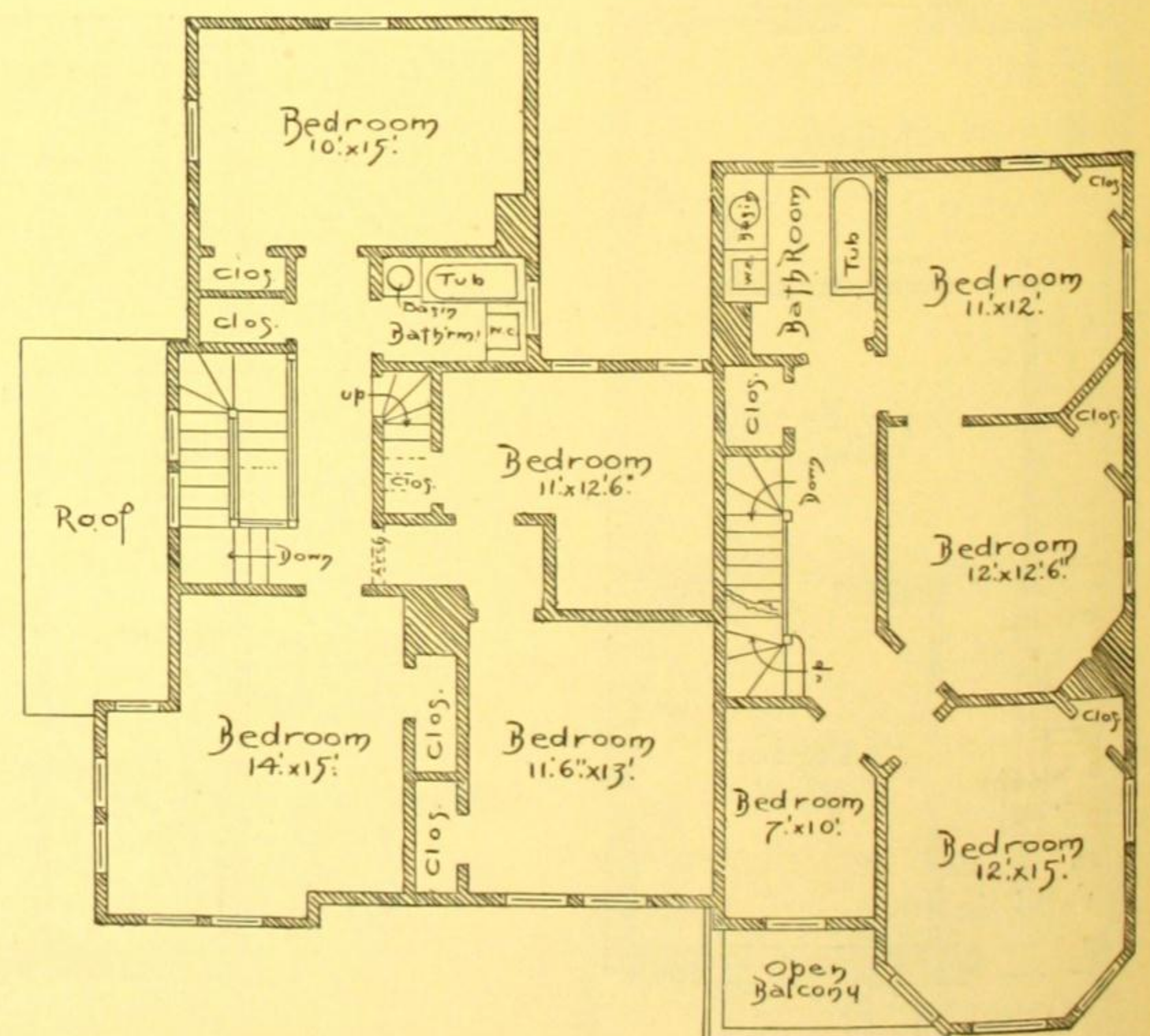
Cellar under the whole of each house, separated by a brick wall. Cellars have cemented bottoms, and entrances from the back yards. Cellar ceilings are plastered.

Open fire-places throughout first stories. Mantels to the value of \$150 are provided.

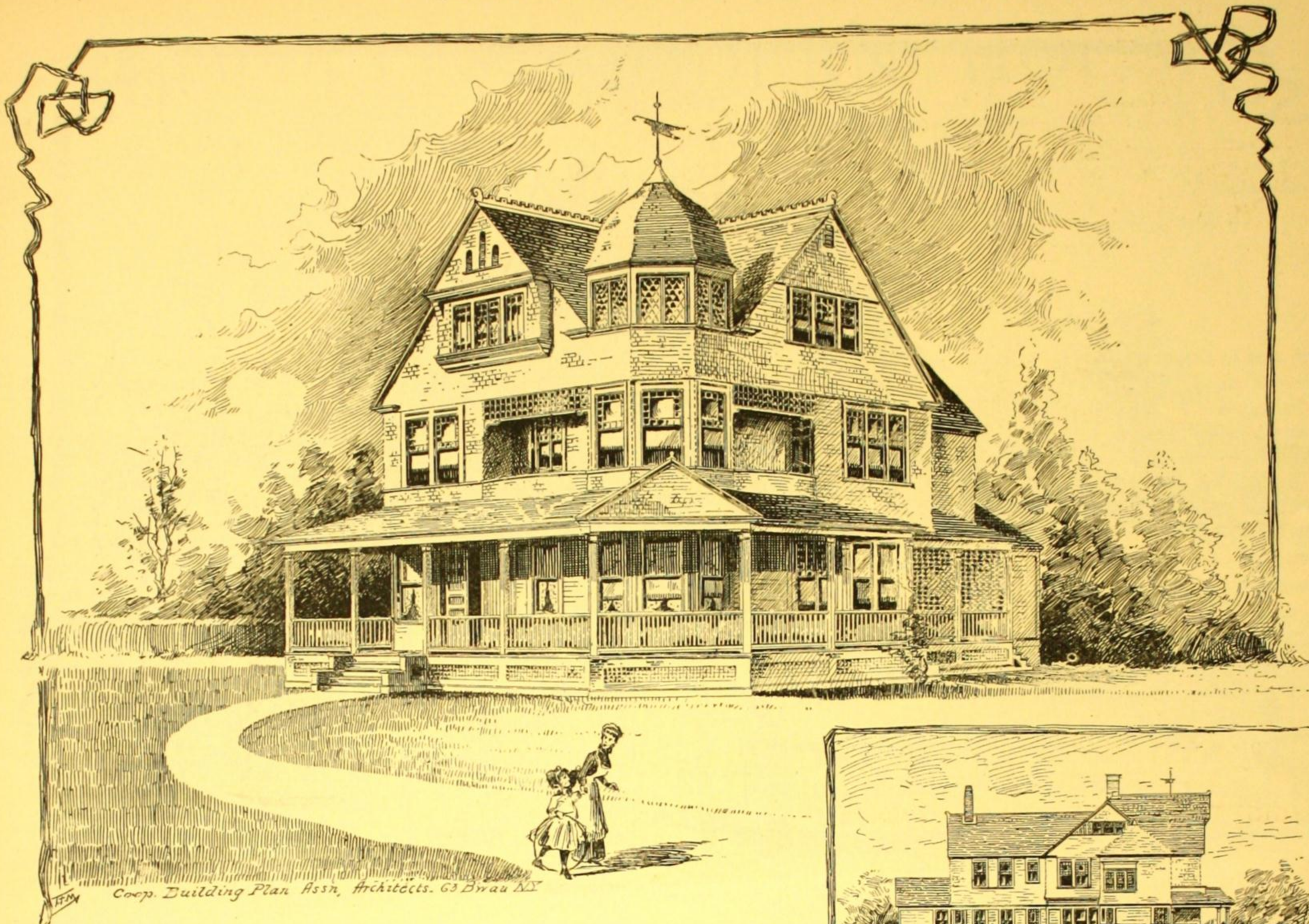
Three large rooms can be finished in the attic of each house, if desired, but this is not included in our estimate.



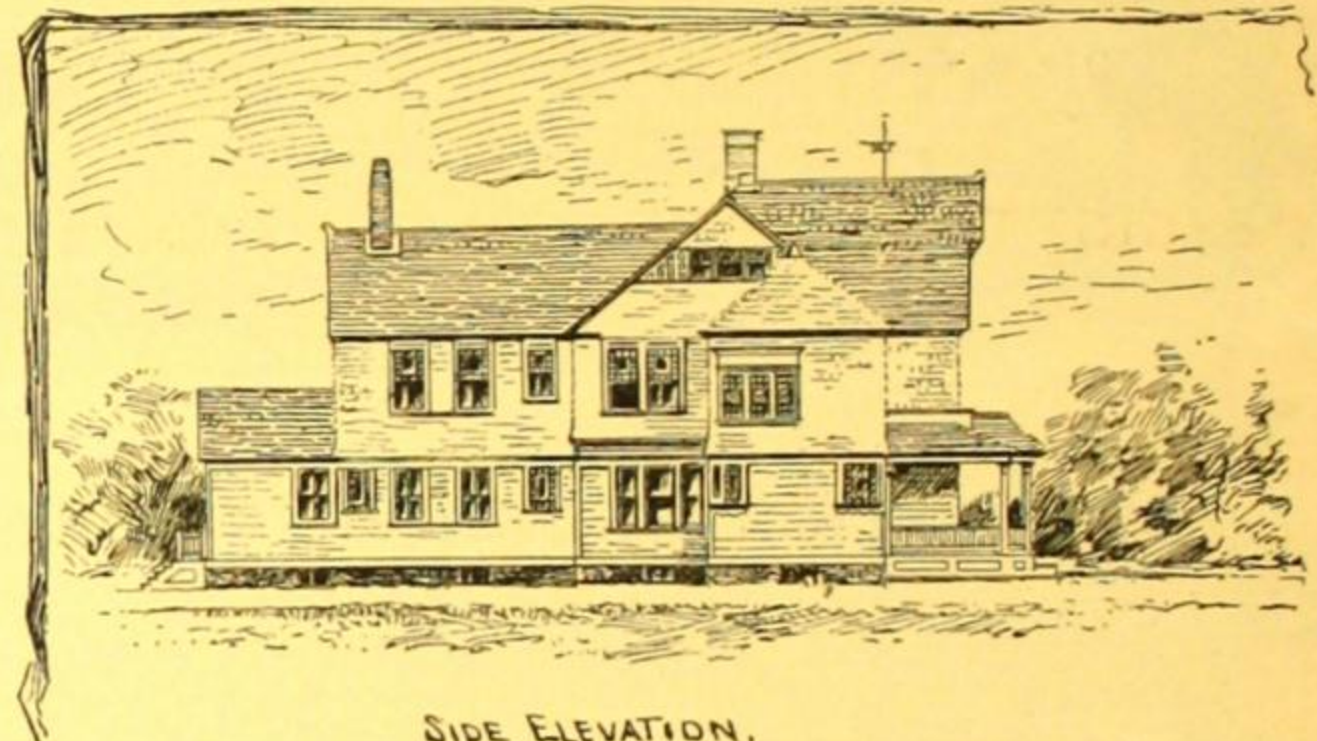
FIRST FLOORS. NO. 497



SECOND FLOORS. NO. 497



DESIGN No. 498. PERSPECTIVE VIEW



DESCRIPTION OF DESIGN NUMBER 498

SIZE OF STRUCTURE: Front, including veranda, 42 ft., 6 in. Side, over all, 75 ft., 4 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 in.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 8 ft.

MATERIALS: Foundations, brick walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$7,516.34, complete, except heater and range. See "EXTRAS" on page 28, for other items not included in the estimate.

SPECIAL FEATURES.—Cellar under the whole house, with cemented bottom. The chimney is built hollow in the cellar, making a large ash pit to which flues carry the ashes from the several fire-places in the first and the second stories.

The principal rooms and the hall of first story are connected by double sliding-doors.

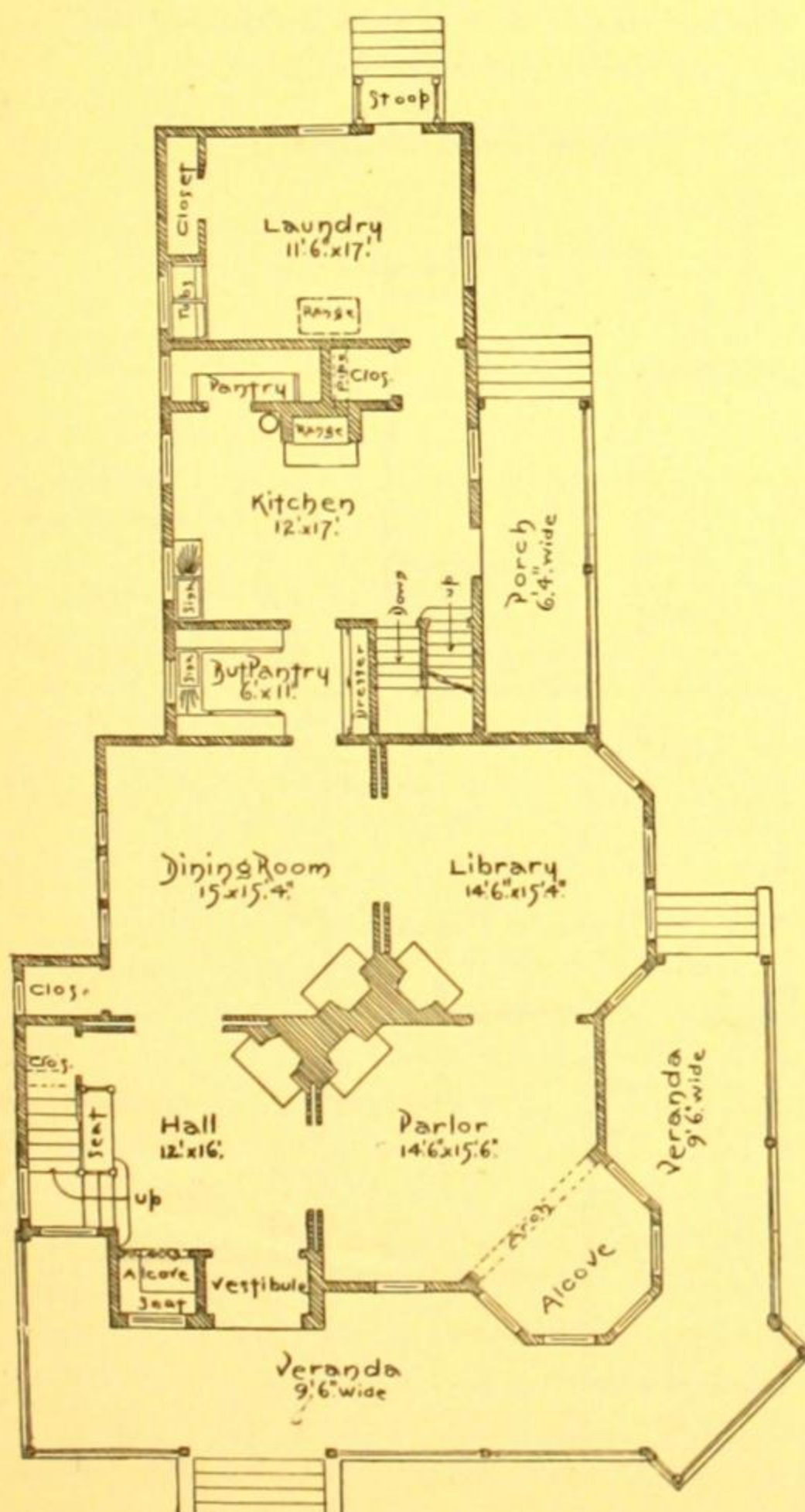
The laundry can be used as a kitchen in summer weather.

The six bedrooms on the second floor and three in the attic give sleeping accommodations for a large family. Large store-room in the attic.

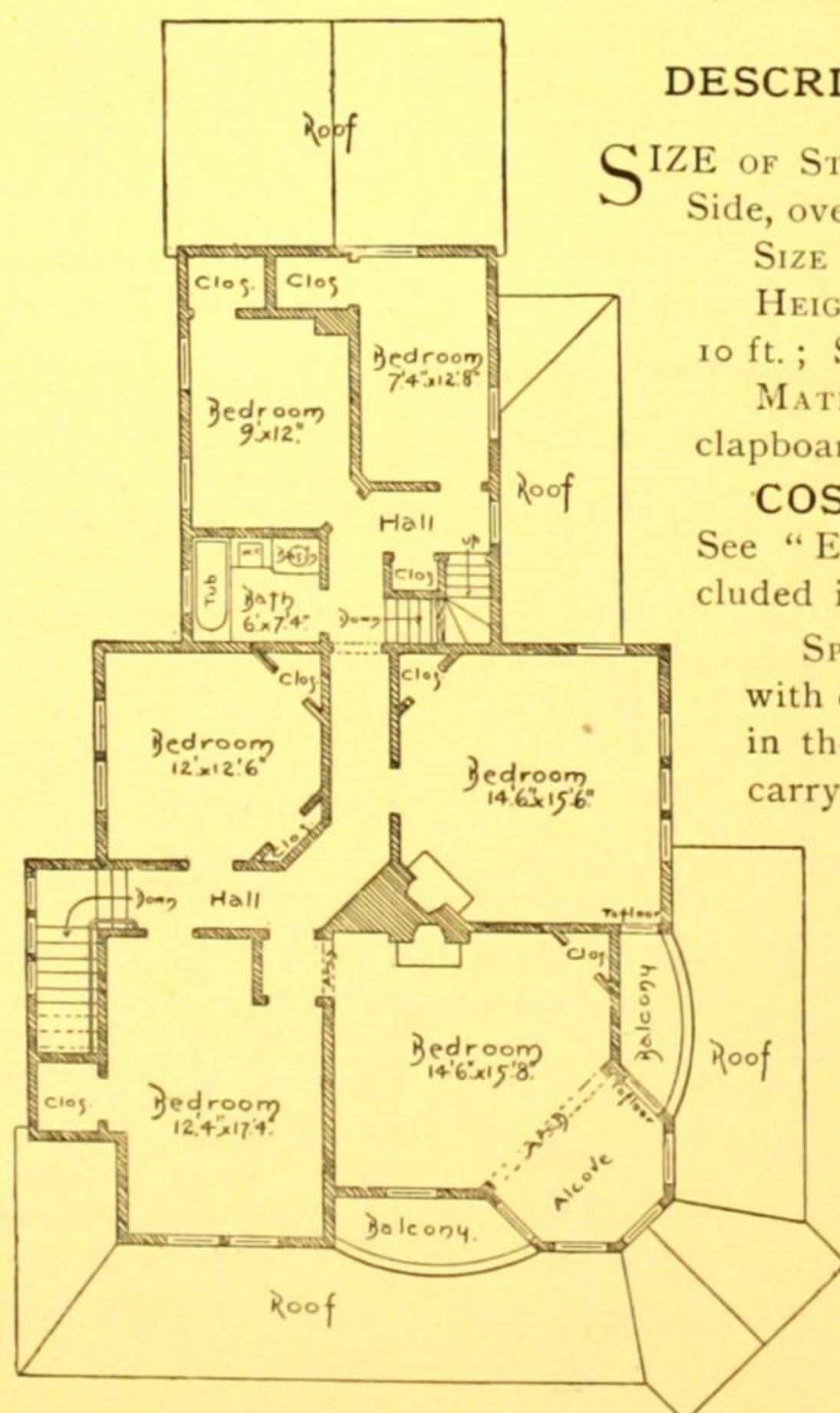
Mantels to the value of \$200, and tile hearths are included in the estimate.

The staircase is of oak and very rich in design.

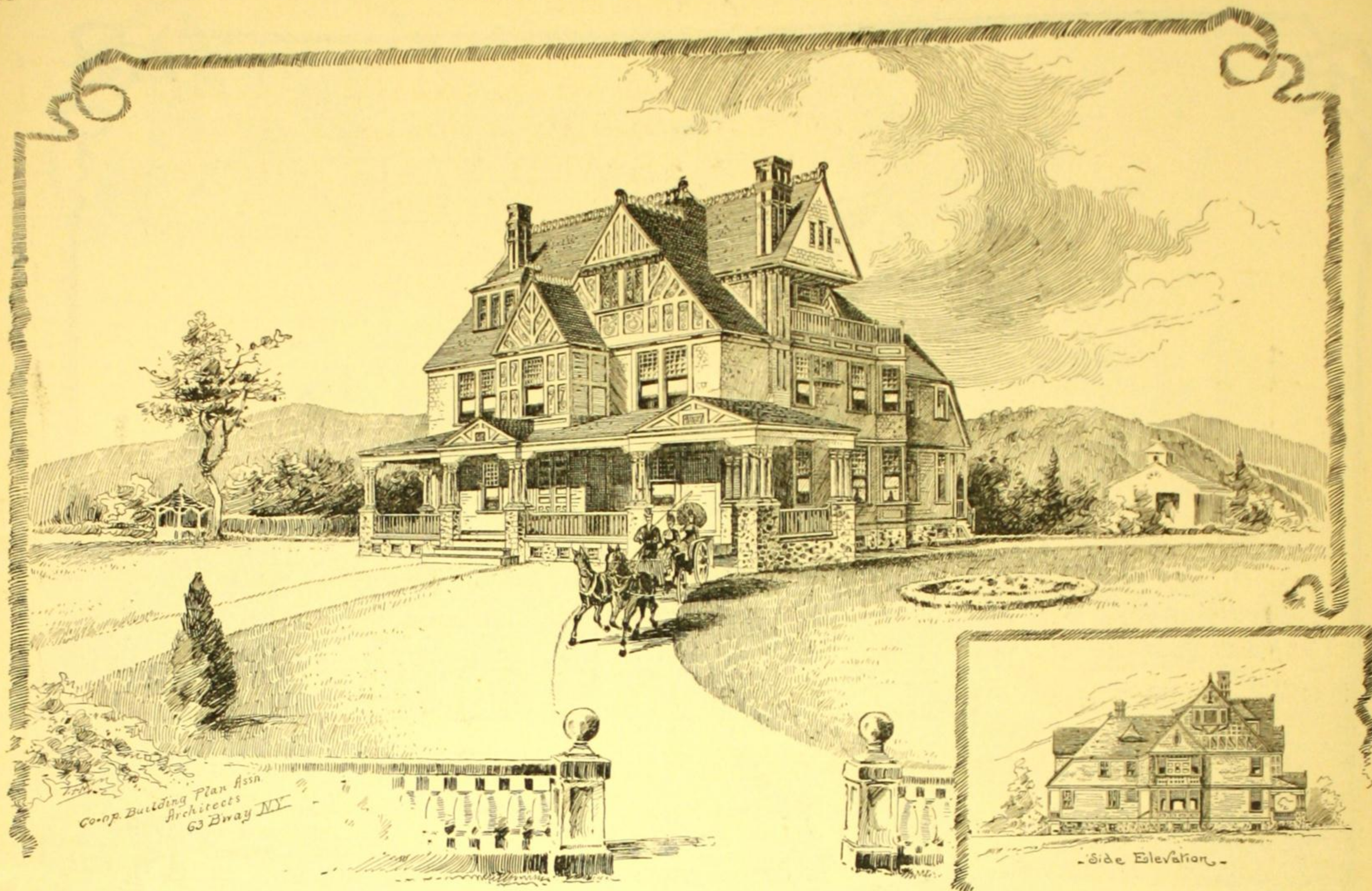
Electric bells and annunciators.



FIRST FLOOR. NO. 498



SECOND FLOOR. NO. 498



DESIGN No. 499. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 499

SIZE OF STRUCTURE: Front, not including carriage porch, 42 ft.

Side, including front veranda, 68 ft.

SIZE OF ROOMS: See floor plans.

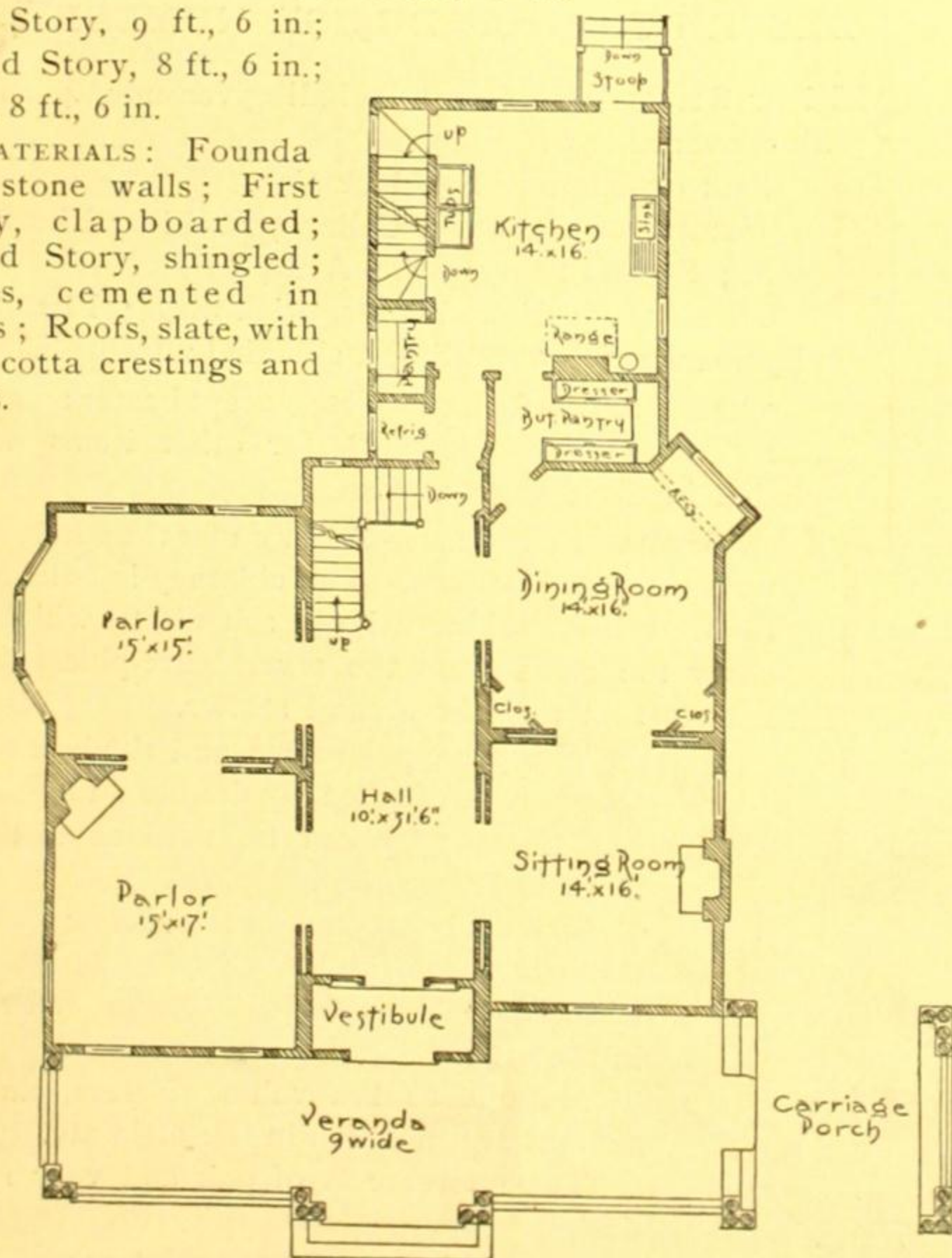
HEIGHT OF STORIES: Cellar, 8 ft.;

First Story, 9 ft., 6 in.;

Second Story, 8 ft., 6 in.;

Attic, 8 ft., 6 in.

MATERIALS: Foundation, stone walls; First story, clapboarded; Second Story, shingled; Gables, cemented in panels; Roofs, slate, with terra cotta crestings and finials.



FIRST FLOOR. NO. 499

COST: \$9,000.00, complete, except heater, range and mantels. See "Extras" on page 28, for other items not included in the estimate.

SPECIAL FEATURES—Cellar under the whole house. A billiard room, 14 x 18 ft., is finished underneath the back parlor.

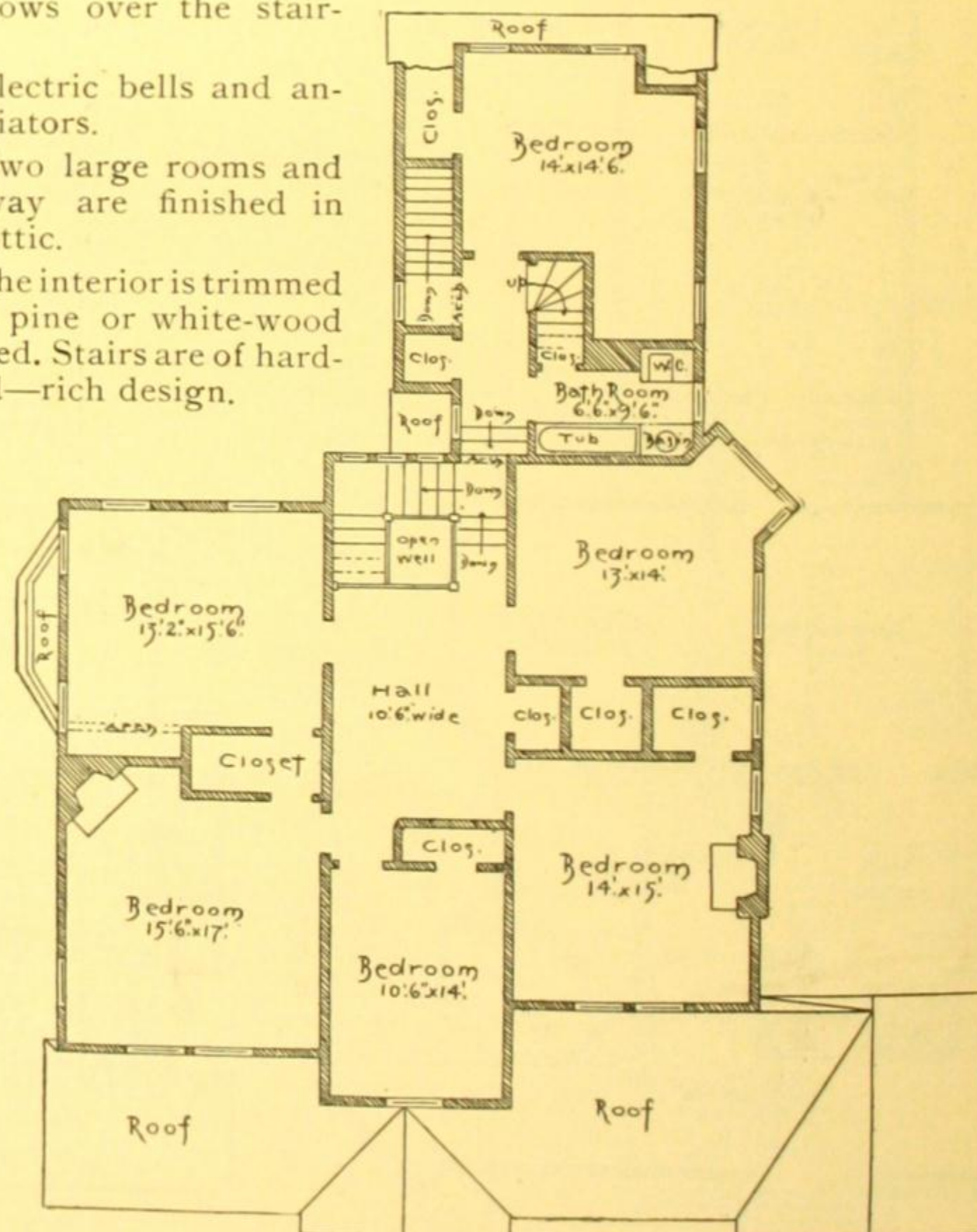
Sliding doors on first floor, hung from the top.

Large stained glass windows over the staircase.

Electric bells and annunciators.

Two large rooms and hallway are finished in the attic.

The interior is trimmed with pine or white-wood stained. Stairs are of hard-wood—rich design.



SECOND FLOOR. NO. 499

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL MONTHLY

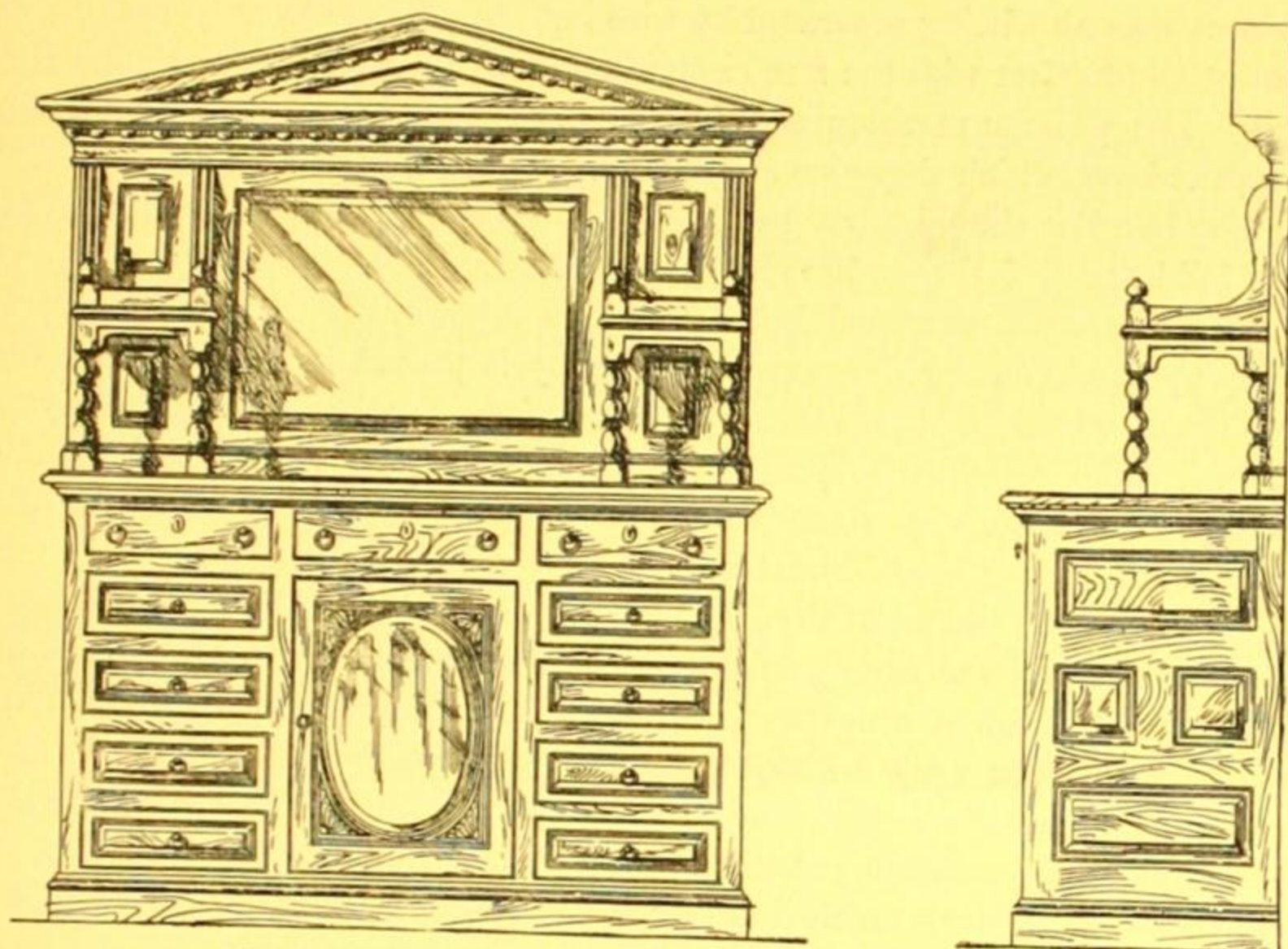
VOL. II. }
No. 4. }

NEW YORK, OCTOBER, 1887

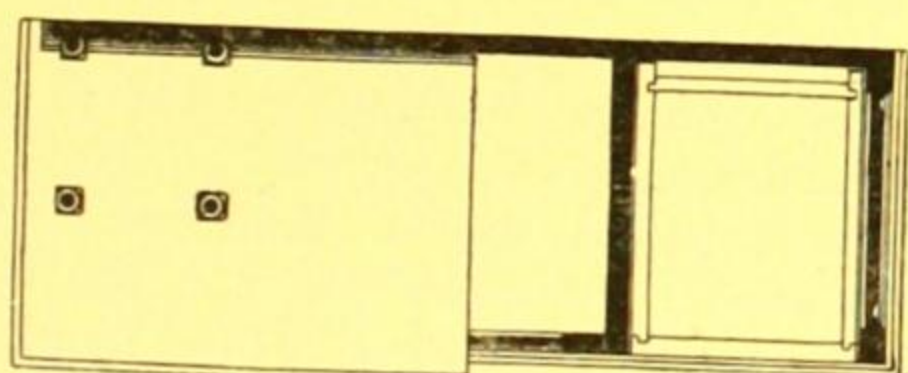
{ WHOLE NO. 8.

SIDEBOARDS AND DRESSERS

THE prevailing low prices for fine tableware and glasses and for serviceable and beautiful plated silver enables the humblest of us to make a display in our dining-rooms that would have astonished our ancestors, who, if they were plebeian, were satisfied with a few pewter plates and cups, which they kept in a small cupboard when not in use. If our ancestors were gentry



FRONT AND SIDE ELEVATIONS OF SIDEBOARD



PLAN OF SIDEBOARD

THE RIGHT HALF SHOWS PLAN AT THE FLOOR; THE LEFT HALF THE PLAN AT THE COUNTER

they had much less table service than we have, but they had a sideboard on which to display it, or to be more exact, they utilized the buffet (a cabinet for wine) for this purpose.

Sideboards are needed less for display than for the more practical purpose of keeping our ware and plates in order and ready for use, although we cannot call needless a display that keeps before our eyes beauties of form and color. We may as well combine the sideboard with the buffet as our ancestors did, and in the same piece of furniture or cabinet work have some compartments for wines, liquors and cordials, and for relishes, pickles and sauces.

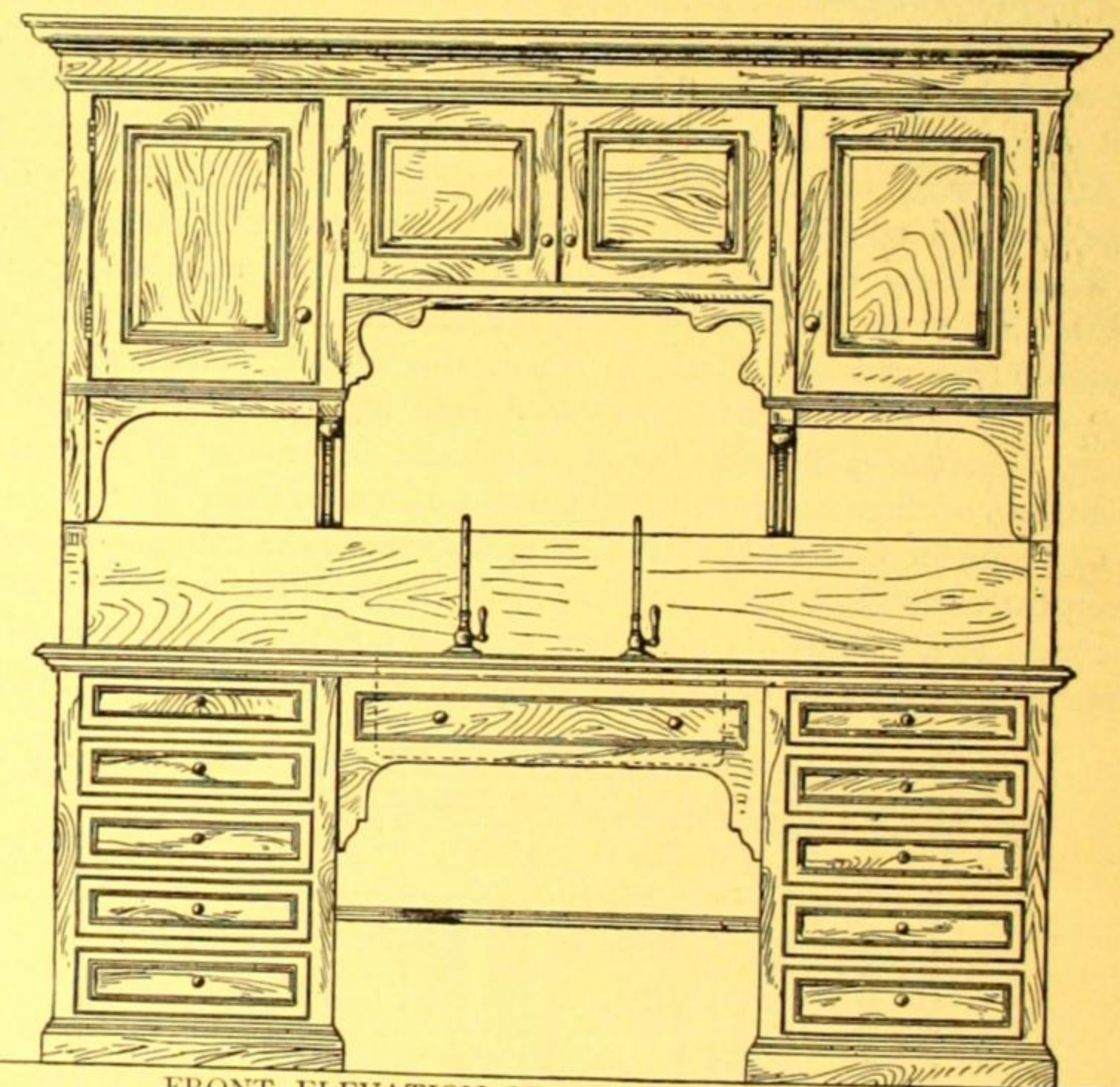
The foregoing outlines the history of the sideboard and defines its purpose. We have no intention of discussing this subject from an art standpoint nor of giving fine examples of the work. The specimen illustrated is for the modern lord who lives in a cottage, and is within his means. Any carpenter is able to make it without the assistance of a cabinet maker. Where any carved work is shown plain moulded or turned work may be substituted and thus reduce the expense somewhat. A marble slab is used for the top but wood may be substituted to reduce cost. The plan and elevation are made to a scale of $\frac{1}{2}$ -in. = 1 ft. The estimated cost, if made of white wood and with marble slab, is about \$50. This price includes treatment with filler and three coats of hard oil varnish, either rubbed to a dull gloss or left bright.

The pantry dresser is an auxiliary of the sideboard; the plainer and commoner ware may be kept in it. It serves also as a halting place for food on

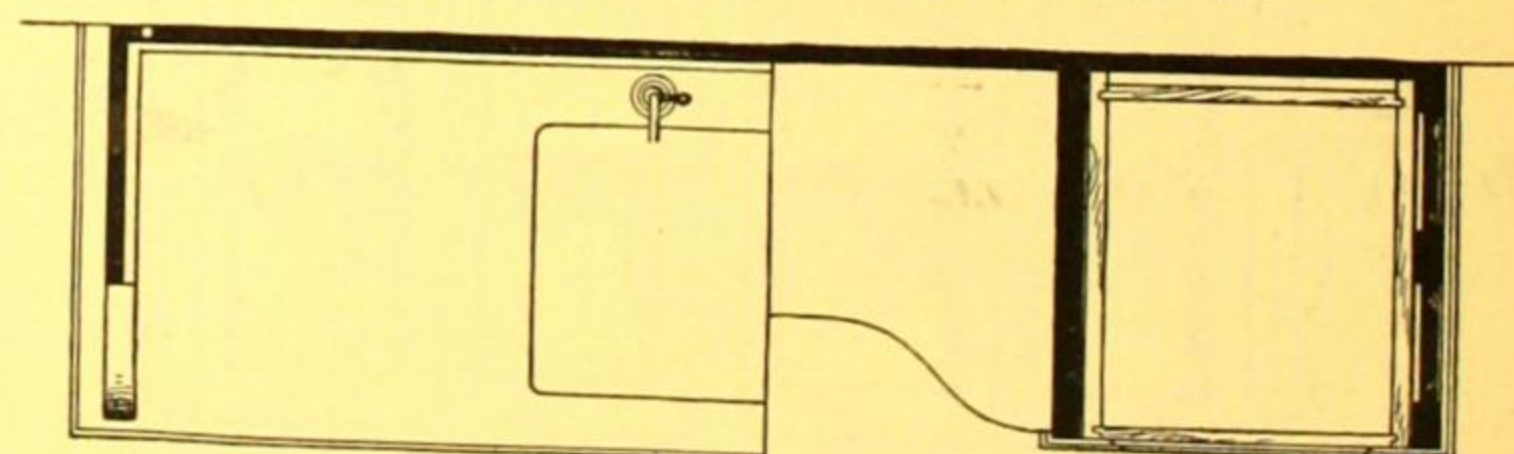
its way to the dining-room, where it may be transferred to finer dishes or where it may receive a final dressing or the like. It should have a sink for washing all the fine china, glasses and silver ware. The estimated cost of the pantry dresser illustrated is \$25. This estimate calls for whitewood, single thick American glass and bronzed iron hardware. The finish to be cherry stain and two coats of hard oil varnish. The estimate includes a counter sunk marble slab, but it does not include the sink and the plumbing.

The drawings are made to a scale of $\frac{1}{2}$ -in. = 1 ft.

The kitchen dresser is another auxiliary of the sideboard; the service for the servants' table should be kept therein and many of the dishes that are



FRONT ELEVATION OF A PANTRY DRESSER



PLAN OF PANTRY DRESSER

needed by the cook. The specimen illustrated has a wide shelf above the drawers. Its estimated cost is \$25, made of whitewood, the finish to be of cherry stain, with two coats of hard oil varnish, single thick American glass and bronzed iron hardware.

The drawings are made to a scale of $\frac{1}{2}$ -in. = 1 ft.

Henry R. Edmunds, Esq., Attorney, Philadelphia, Pa., writes to the Co-operative Building Plan Association, of New York: "I built a house after the Plans and Specifications you sent me, and although it cost me a little more than your estimate, I can freely say that it has given, not only me, but every one who has seen it, perfect satisfaction. It is by all odds, the handsomest house of its size anywhere in the neighborhood."

ABOUT FOUNDATIONS

THE cheapest foundation, where a cellar is not required, is of wood posts. Locust, cedar, and chestnut are the best; locust will stand the longest without rotting. The posts should be set in a hole dug for them, and should not be driven down. The ends should be cut square off and a flat stone or a few inches of concrete should be put in the bottom of the hole, say 18 inches square, for footings. The posts should be thoroughly creosoted or tarred before being set.

Posts can be thoroughly protected at a slight additional expense by being surrounded from the ground line down by concrete, making an air-tight case. Dig the hole, say 16 inches square, mix up a concrete of three parts gravel and sand to one part fresh cement, throw it 6 inches deep in the bottom of the hole, and after it is hard set the post in the center of the hole and throw in the concrete around it, tamping it down firm and solid, until it is a few inches above the grade. A still better way is to build a plank box and carry the concrete up to the top of the post, making, virtually, if the cement is good, a stone pier, which, if the post should rot, will support the building. The box is removed after the cement is hard.

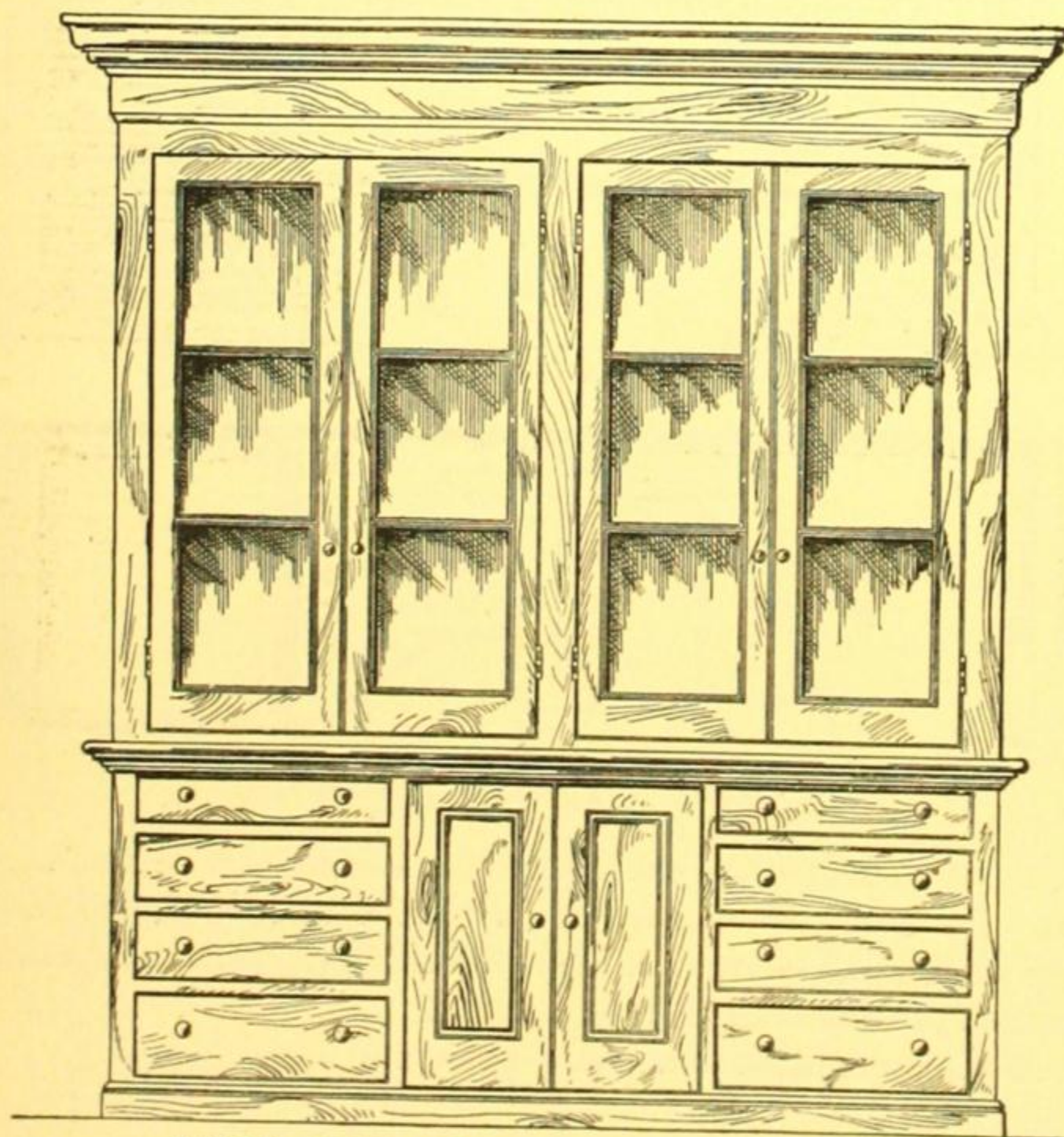
Brick piers make a much more substantial foundation, and should always be carried below the depth to which frost penetrates and should be started on a large flat stone, or have concrete footings larger than the pier. The lower courses of the brickwork should be stepped out to gain a larger bearing on the footings.

If there is any great weight coming on the piers the footings must be made heavy and wide, and must start on a solid bottom of hard pan or rock. If the soil is boggy or quicksand is struck, piles must be driven down until they will go no further, and the piers started on them.

All brickwork or other masonry below ground, or having earth against it, should be laid up with mortar having a good proportion of cement in it.

When a house is built on piers or on trench walls, and the space underneath it is not excavated for a cellar, the alluvial or top soil should always be removed from under the house, as it contains organic matter, which, decaying, would be liable to send germs of disease into the house. If the soil is damp, the space underneath the house should be covered with cement concrete, two or three inches thick, to prevent dampness rising.

Concrete for footings can be made as follows: Take one part cement and two parts clean sharp sand and mix thoroughly with enough water to bring the mass to a paste-like consistency. When mixed, add five parts broken stone or bricks, gravel or iron slag, and mix the whole thoroughly; wheel it



FRONT ELEVATION OF KITCHEN DRESSER

to the desired point and dump it into the trenches from a height of two or three feet, and quickly ram it solid. The above will make good walls for a cellar if built in a plank box. Not more than one foot in height should be built in one day, so that it will thoroughly harden.

A well-built concrete wall will be water-tight without any coating of asphalt or any such material. Its cost will be about one-quarter to one-third less

than a common rubble wall. In building a concrete wall small field stones or cobble stones may be used.

Brick walls make an excellent foundation when the bricks used are of good quality, well burnt and hard. Pale bricks or salmons should not be used, as they absorb water and crumble under weight.

The weight that a square foot of brickwork will sustain before crushing is 50 tons; while common rubble stonework will sustain only one-seventh as much. The safe load for either is one-third of the crushing weight.

DESCRIPTION AND ESTIMATE OF POULTRY HOUSE

THE yards in which the fowls are to run are supposed to extend out from what is termed the front. The openings through which they enter the yards, shown in the drawing, are closed by sliding lids inside. The runs may extend out any distance from the building, and are generally enclosed by wire netting. The run for each section should be partitioned from its neighbor by wire, so that no overcrowding of the roosts and nests may take place by too many fowls entering any one section of the house. Having once entered the house the fowls cannot pass from one section to another, the sections also being separated by wire netting. These wire partitions do not at all interfere with the free circulation of air throughout the whole building. The passage partition and the doors are of matched boards to a height of 4 ft. above which they also are of wire.

The building should front south. The whole front is glass slanted to get the full benefit of the sun's rays.

Ventilators are provided in the roof to allow hot air to pass out and to keep up a circulation. A cement chimney is placed in the central room, where, in winter, a large stove will supply heat for the building. Only the central room, where the incubator is to be placed, is floored with boards. A dry earth floor, in which they can scratch, is best for the health and comfort of the feathered inmates.

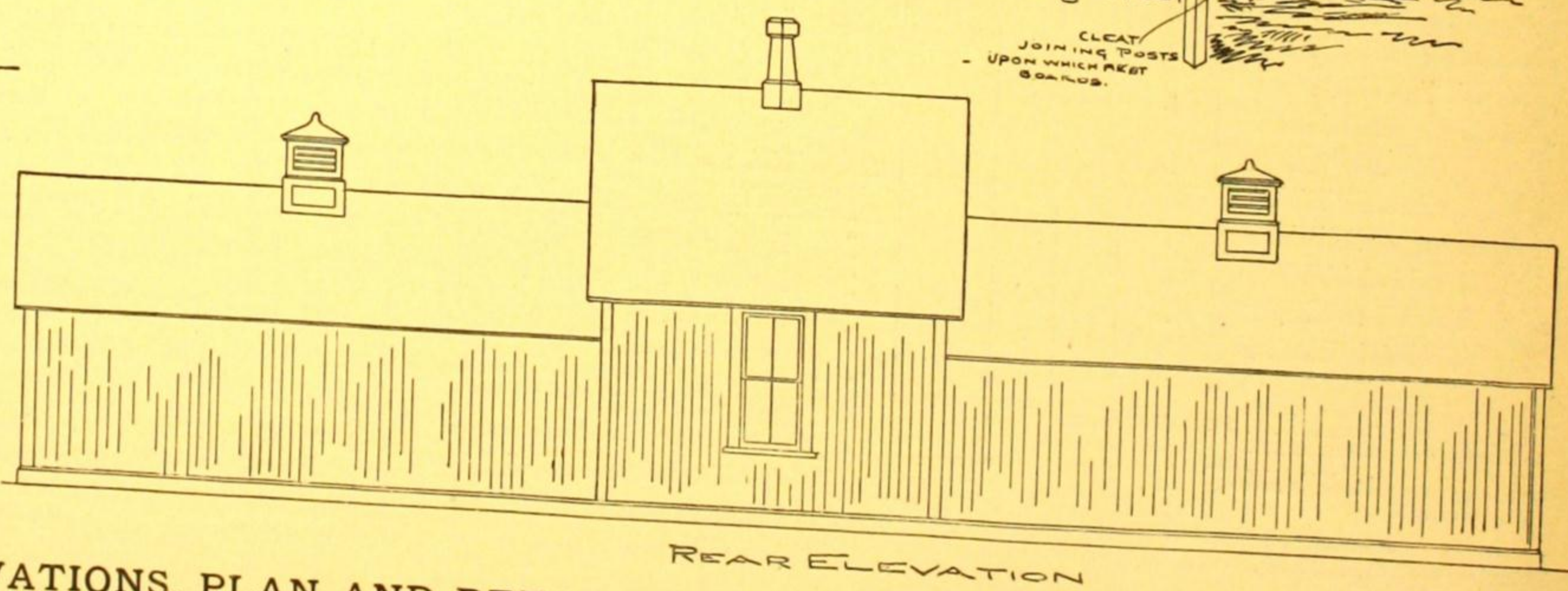
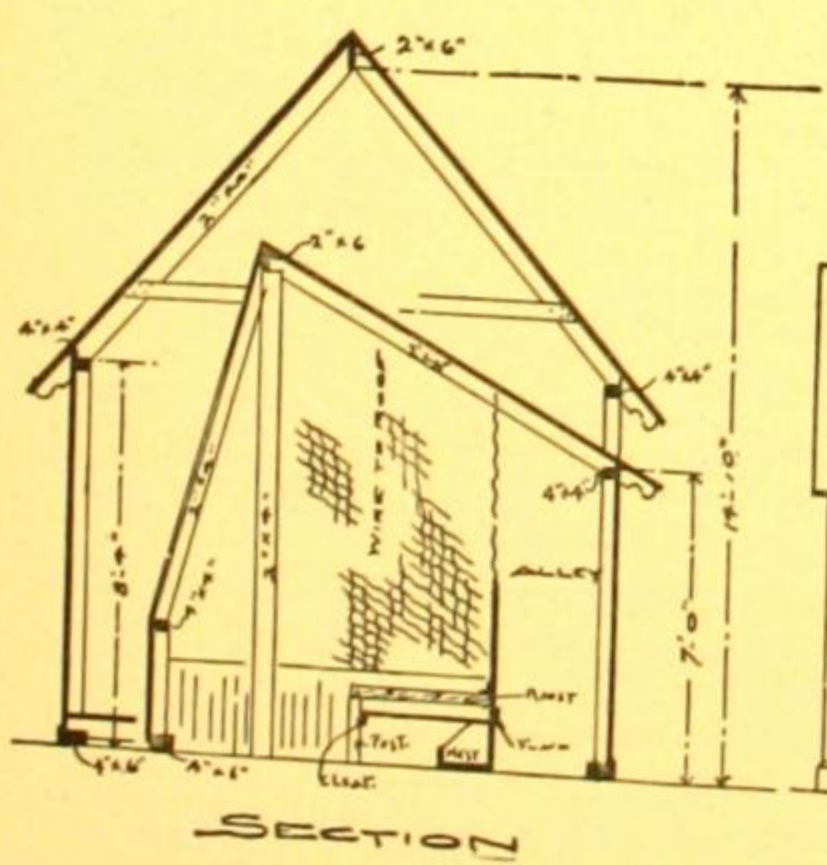
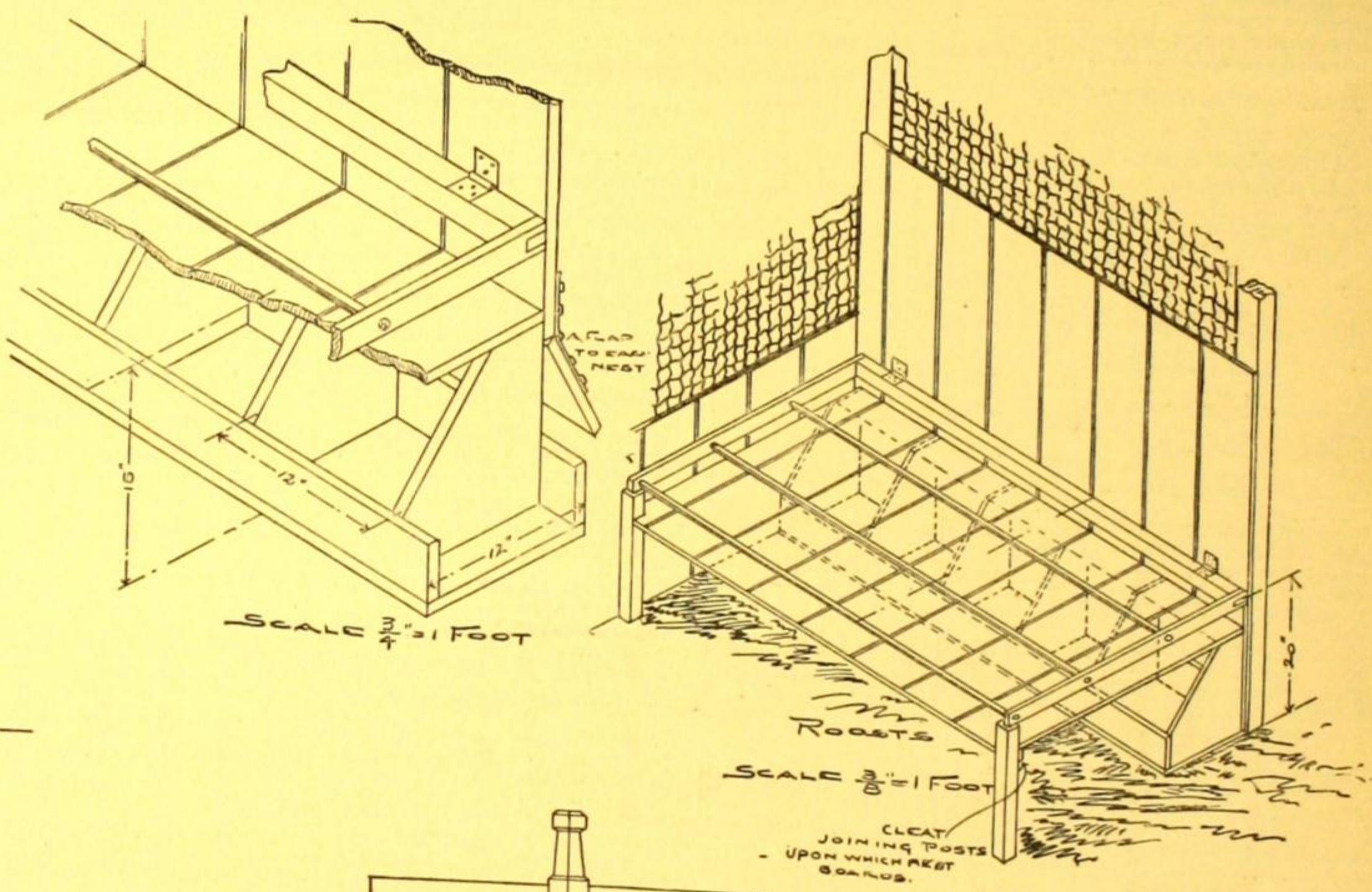
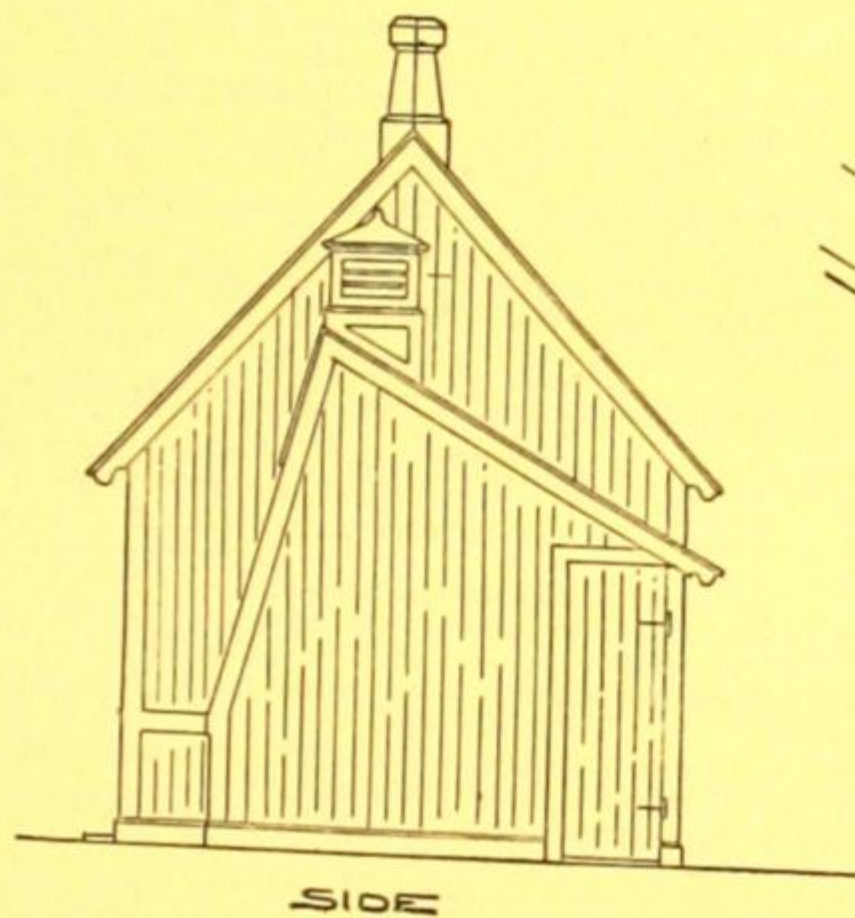
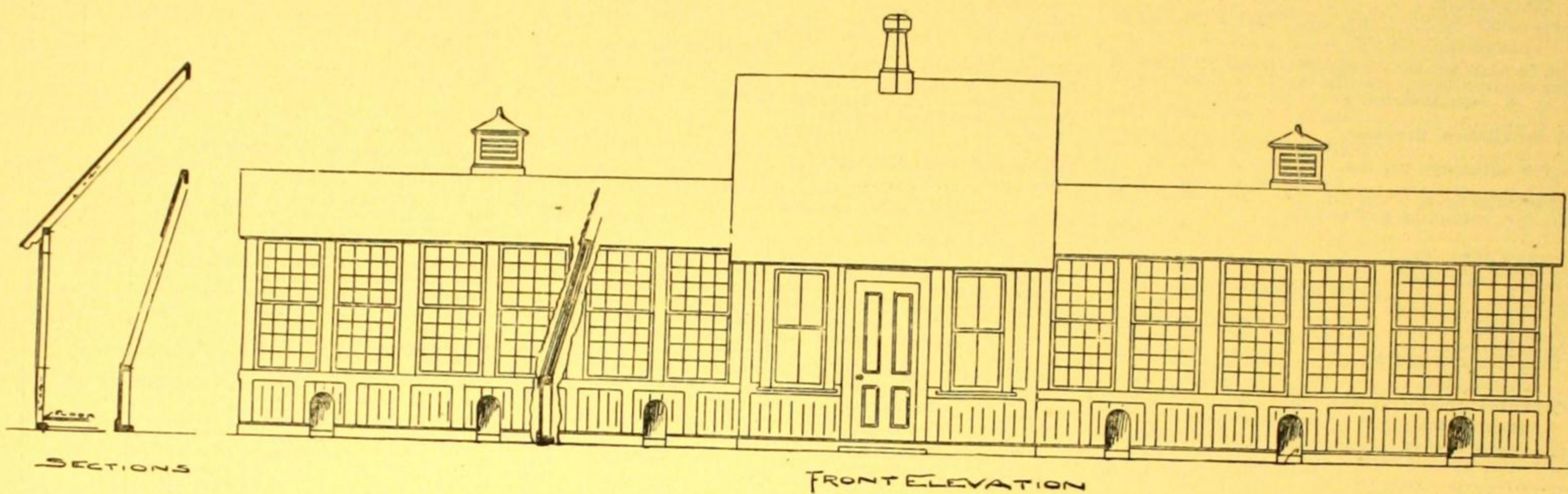
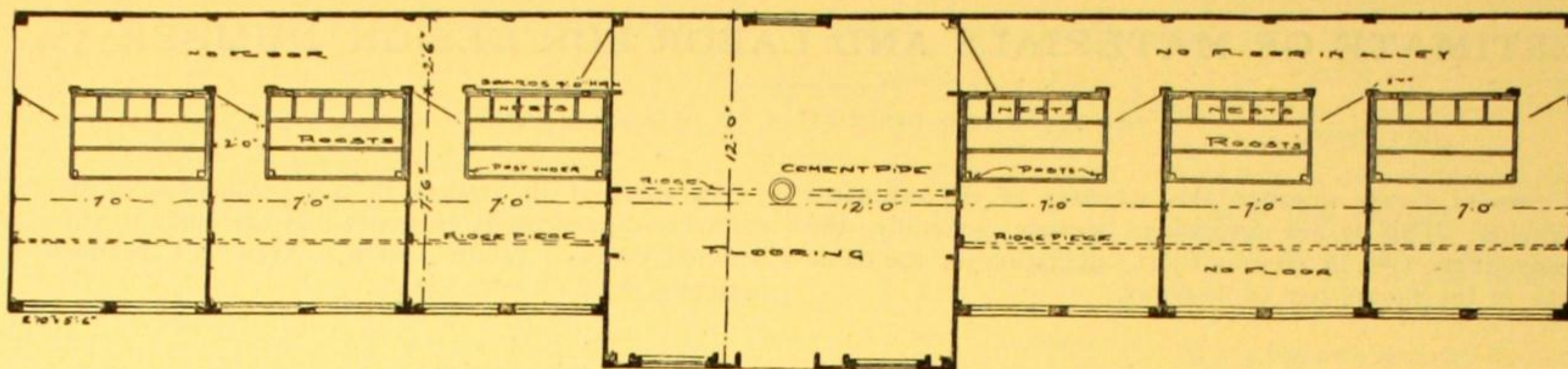
The nests are placed at the back of the rooms along the side of the passage, resting on the floor; they have an open front; the backs are closed with a hinged lid in the lower part of the partitions, which can be lifted up to remove the eggs, without entering the rooms.

Sixteen inches above the nests, and hinged to the passage partition, is a board platform, extending out three and a half feet, the front resting on two posts or legs, to which it is fastened. Four inches above the platform is a light frame, also hinged to the passage partition, to which are fastened three round roosts. These are to be turned up during the daytime. The platform keeps dirt from the nests and catches all droppings which can be easily removed every morning. When it is desired to clean out the nests the platform can be turned up.

There are five nests to each section. Each section will accommodate fifteen fowls. Experience has shown that it is better not to let a large number of fowls run together. If kept in small squads they are cleaner, disease is not so likely to spread and they lay better.

ESTIMATE OF MATERIALS AND LABOR.

	Quan.	Price.	Cost.
Sills, 4"x6".....	350 ft. B.M.		
Plates, 4"x4" (frame sills).....	257 "		
Studding, 2"x4".....	597 "		
Ridge, 2"x6".....	70 "		
Rafters, 2"x4".....	400 "		
Collar beams, 2"x4".....	100 "		
Floor " 2"x4".....	75 "		
Roof boarding.....	1,849	\$18.00	\$33.28
Flooring.....	1,246 ft. B.M.		
Shingles.....	175 "		
T. & G. ceiling.....	1,421	16.00	22.73
Wire netting.....	6,000	5.00	30.00
Lumber in nests and roosts.....	1,200	30.00	36.00
Pair sash in fronts, 2'10"x5'6".....	141	.20	28.20
" " 2'2"x4'10".....	550	.03	16.50
Door, 4 panels, 2'6"x6'8".....	12	2.10	25.20
Pair 3-in. hinges for inside doors.....	3	1.15	3.45
" T " " outside ".....	1		2.75
Thumb catches.....	8	.04	.32
Lock and knob for front door.....	2	.08	.16
Pair 3-in. wrought flaps for roosts.....	10	.05	.50
" flaps for nests.....	1		.40
Locks for outside doors.....	6	.04	.24
Cutting up lumber.....	30	.02	.60
Mouldings.....	2	.40	.80
Ventilators.....	250	.03	7.50
Chimney top.....			5.00
Labor.....	2	5.00	10.00
	1		5.00
Cost of Poultry House.....			100.00
			\$328.63



ELEVATIONS, PLAN AND DETAILS OF A POULTRY HOUSE

SEE DESCRIPTION ON PAGE 42.

SEE PLANS AND DESCRIPTION OF DESIGN ON PAGE 54

The value of the designs in this publication is greatly enhanced by the careful and painstaking estimates that are made to arrive at the costs. The detailed estimate printed below is given as a specimen of the way the estimating is done for each design.

Quan.	Price.	Cost.
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Brought forward.	
Sheathing paper.....	sq. ft.
Clapboards.....	ft. B.M.
Plank for cellar coal bins, 2 in. matched.....	"
Ceiling T. and G. dressed.....	"
Shingles for side walls, dimen- sion.....	per M.
Shingles for roofs.....	
Flooring, 2 stories, 1"x4", white pine.....	3300 ft. B.M.
Flooring, attic and laundry, 1"x6".....	1650 "
Flooring for veranda, 1"x4", yel- low pine.....	"
FINISHING WORK OUTSIDE.	
Ridge roll, 2"x2".....	lin. f.
Lumber for finish, gutters, etc., 1".....	900 ft. B.M.
Lumber for panels, etc., matched, 1"x3".....	1600 "
Lumber for finish, 1½" 2".....	1300 320 "
" " balcony posts, 6" 144	"
Mouldings for cornice, 1½"x5¼" 1¼"x2½".....	lin. ft.
" " frieze, 2"x4".....	"
" " " 1½"x2¾"	"
" " " 1¼"x2"	"
" " belts, 1"x4¾"	"
" " sill course, 1"x2".....	"
" " cove, ¾"	"
Patent roofing for balcony floors.....	sq. ft.
Turned spindles for balcony frieze 2"x 18 in.....	
Brackets for gables, 6"x6"x4" frieze, 11"x13"x5".....	
" " dormer, 8"x21"x4".....	
Carved panels, window cap and circular casings.....	
Ramps for balcony, 2"x9".....	
Bracket for front bay, 45"x54"x4"	
VERANDA AND PORCH.	
Cornice moulding, 1¼"x7".....	lin. ft.
Cove moulding.....	
Brackets, 8"x10"x2" 4"x12"x4".....	
Posts, 6"x6"x9" turned.....	
Hand rail, 3"x4".....	lin. ft.
Bottom rail, 3"x3".....	
Ramps for hand rail.....	
Balusters and spindles.....	30 ft. B.M.
Steps, yellow pine, 1½-in.....	53
Risers, fascia and boxing, 1-in. 200	"
3 posts for porch, 6-in.....	54
Lattice under sills, halved.....	sq. ft.
Lattice panel enclosing porch, halved.....	"
SASHES.	
Pair sash for 1st story, 3'x6'x1½" 2'x8'x1½".....	
" " " 2'x6'x1½".....	
Single sash for dining-room, 4'x2'4'x1½", stained glass.....	
Single sash for hall, 3'x2'8'x1½", stained glass.....	
Single sash for kitchen dpt., 2'6'x3'6'x1½" Pair " " 3'x5'6'x1½".....	
" " " 2d story, 4'x5'6'x1½".....	
" " " 3'x5'6'x1½".....	
" " " 3'x5'1'x1½".....	
" " " casement, 4'x6'6'x1½".....	
Single " " 3'6'x6'6'x1½".....	
" " " 2'6'x3'6'x1½".....	
" " " 10'x2'8'x1½".....	
" " " attic, 2'x3'4'x1½".....	
" " " 2'4'x2'4'x1½".....	
Pair " " 3'x4'x1½".....	
" " " 2'8'x4'x1½".....	
Single " " gable, 16'x1'6'x1¼", cir- cular.....	
" " " single sash for gable, 2'x2'x1¼", cir- cular.....	
Single sash for cellar, 3'x1'8'x1¼" 2'x1'8'x1¼".....	
" " " balcony, 7'8'x3'6'x1½".....	
" " " 4'x3'6'x1½".....	
" " " 2'4'x3'6'x1½".....	
" " " 7'8'x1'10'x1¼".....	
" " " 4'x1'10'x1¼".....	
" " " 2'4'x1'10'x1¼".....	
BLINDS.	
NOTE.—Sash sizes are given. Outside blinds to be ¾" narrower and 1" longer. all 1¼" thick.	
Pair outside slat blinds for 1st story, 3'x 5'6".....	
Pair outside slat blinds for 2d story, 4'x5' 6".....	
Pair outside slat blinds for 2d story, 3'x5' 6".....	
Pair outside slat blinds for 2d story, 3'x5' 6".....	
Pair outside slat blinds for 2d story, 3'x5' 6".....	
Pair outside slat blinds for 2d story, 3'x6' 6".....	
Carried forward.	

Carried forward.....

	Quan.	Price.	Cost.			Quan.	Price.	Cost.
			\$386.56	Brought forward.....				\$1130.11
ft.	4,100	\$.00 ¼	10.25	Pair inside blinds for 1st story, 3'x6'.....	3	\$3.20	9.60	
M.	1,500	30.00	45.00	" " " " " " 2'6"x6'.....	6	3.20	19.20	
				" " " " " " 2'8"x6'.....	2	3.20	6.40	
	600	.02 ½	15.00	LUMBER FOR WINDOW FRAMES.				
	525	.03	15.75	Pulley stiles and heads, 1".....260 ft. B.M.				
I.	10,000	5.00	50.00	Sills and blind stops, 1".....125 "				
	1,800	3.50	6.30	Sub-sills, 2".....215 "				
				Casements, 1 ¼".....50 "				
				Plank for cellar frames, 1 ½".....135 "				
						785	.03	23.55
				Parting strips.....lin. ft.		520	.00 ½	3.12
	4,950	30.00	148.50	Stop beads.....		520	.00 ½	3.12
				INSIDE WINDOW AND DOOR TRIM.				
	500	.03 ½	17.50	Moulded stool caps, 1 ½"x3".....lin. ft.	112	.02 ½	2.60	
				" aprons, 1 ½"x2"....."	112	.01 ½	1.60	
				" casings, 1"x4 ½"....."	1,100	.02 ½	27.50	
t.	67	.02 ½	1.61	Back band for casings, 1 ½"x2"....."	1,200	.01 ½	18.00	
				Moulded casings, 1"x4 ½"....."	220	.02 ½	5.50	
				" 1"x3 ½"....."	325	.02 ½	7.80	
				Corner blocks, 4 ¼"x4 ¼", turned.....	132	.06	7.92	
				Paneled backs.....	11	1.50	16.50	
				Paneling under dining-room window.....sq. ft.	14	.35	4.90	
	4,264	.03 ½	149.24	DOORS.				
	560	.04 ½	25.76	Front door, glazed, 3'4"x7'6"x1 ¾".....	1		15.00	
	255	.01 ¾	4.46	Outside " for dining room 3'x7'6"x1 ¾".....	1		8.50	
	115	.04 ½	5.52	Pair sliding doors, 5 panels 6'8"x8'x1 ¾".....	1		17.00	
	15	.02	.30	" " " " 5 " 5'8"x8'x1 ¾".....	1		14.00	
	115	.01 ½	1.72	" " " " 5 " 4'4"x8'x1 ¾".....	1		12.60	
	181	.03 ½	5.79	Doors, 5 panels, 1st story, 2'10"x7'4"x1 ½".....	3	3.34	10.02	
	270	.01 ½	3.24	" 5 " closet, 2'6"x7'4"x1 ¾".....	1		2.61	
	250	.00 ½	1.25	" 5 " kitchen, 2'8"x6'10"x1 ½".....	1		2.92	
	154	.03	4.62	" 5 " " 2'6"x6'10"x1 ½".....	1		2.78	
				" 5 " " 2'6"x6'10"x1 ½".....	1		2.27	
	36	.10	3.60	" 5 " " 2'4"x6'10"x1 ½".....	2	2.17	4.34	
	15	.15	2.25	" 5 " 2d story, 2'8"x6'10"x1 ½".....	7	2.92	20.44	
	6	.50	3.00	" 5 " closets, 2'6"x6'10"x1 ½".....	5	2.27	11.35	
	2	.75	1.50	" 5 " " 2'4"x6'10"x1 ½".....	2	2.17	4.34	
				" 4 " " 2'6"x6'10"x1 ½".....	1		1.92	
	8	.50	4.00	" 4 " attic, 2'6"x6'8"x1 ¾".....	3	2.23	6.69	
	1		4.50	" 4 " cellar, 2'10"x6'6"x1 ¾".....	1		2.39	
				" 4 " " 2'6"x6'6"x1 ¾".....	1		2.14	
				Glazed door, cellar, 2'8"x6'6"x1 ¾".....	1		3.76	
	53	.05 ¾	2.78	LUMBER FOR DOOR JAMBS.				
	300	.00 ½	1.50	Jambs for outside doors, 1 ½".....112 ft. B.M.				
	16	.10	1.60	ordinary doors, 1".....				
	2	.20	.40	Lin. ft. moulded door stops, ½"x2".....	322	.05	16.10	
	9	2.50	22.50	" saddles, ¾"x4".....	450	.01	4.50	
	57	.07 ½	4.10		110	.02	2.20	
	57	.05 ½	3.08	STAIRS—FIRST STORY TO ATTIC.				
	14	.60	8.40	Material and labor complete.....			150.00	
				BACK STAIRS.				
				Strings, treads, risers, etc.....	175	.03	5.25	
				CELLAR STAIRS.				
	337	.03	10.11	Treads and strings.....90 ft. B.M.				
	53	.05	2.65	Risers and enclosing.....150 "				
	36	.15	5.40	BASE OR SKIRTING.				
				Moulded shoe, 1 ½"x3" for 1st story lin. ft.	120	.02	2.40	
				" " 1 ½"x2" " 2d ".....	240	.01 ½	3.60	
				" cap, 1 ½"x2", for both stories ".....	360	.01 ½	6.48	
3	2.65	7.95		Plinth, 1"x5", for both stories.....160 ft. B.M.				
2	2.50	5.00		Base, 1"x6", for closets.....97 "				
6	2.35	14.10				257	.03 ½	8.99
1		7.50		*WOOD MANTELS.				
				Mantels for parlor sitting and dining rooms.....	3	35.00	105.00	
1		6.00		Mantel for hall.....	1		30.00	
2	1.15	2.30		" bedrooms.....	3	10.00	30.00	
1		4.60		WAINSCOTING, ETC.				
7	2.30	16.10		Ceiling strips in kitchen, ¾"x3", white pine.....ft. B.M.	300	.03	9.00	
1		4.50		Ceiling strips in bath-room ¾"x3" cherry....."	175	.05	8.75	
1		3.70		Capping, 1 ½"x2", cherry.....lin. ft.	32	.02 ½	.80	
2	1.22	2.44		" 1 ½"x2", pine....."	64	.01 ½	.96	
2	1.00	2.00		Floor Moulding....."	100	.01	1.00	
1		.95		Bath tub top cherry 1 in.....9 ft. B.M.				
1		.85		Water closet, seat, flap, back and sides.....15 "				
2	1.80	3.60			24	.06	1.44	
1		1.40		DRESSER.				
1		1.00		Glazed doors for front size about 12x48 in. Pine lumber.....ft. B.M.	5	.60	3.00	
2	1.50	3.00		Mouldings 4 in.....lin. ft.	140	.04	5.60	
8	.80	6.40		Drawer pulls.....	12	.02 ½	.29	
1		.55			12	.03	.36	
1		4.10		THREE WASH TRAYS.				
1		2.10		Fronts, backs, bottoms and partitions, 1 ½ in. plank.....100 sq. ft.				
2	1.25	2.50		Top and lids, 1 ¼ in. stuff.....13 "				
1		2.30						
1		1.20		Supports, turned legs.....	113	.04	4.52	
2	.80	1.60		".....	4	.10	.40	
				MISCELLANEOUS.				
				Angle beads.....lin. ft.	90	.01 ½	1.35	
				Cellar hatchway.....45 ft. B.M.				
				Shelving, etc.....215 "				
						260	.03	7.80
2	1.45	2.90		Drip boards for sinks, ash.....ft. B.M.	13	.06	.78	
1		1.90		Legs for sinks, turned.....	4	.15	.60	
				Total for Carpenter's Materials.....			\$1851.03	
				HARDWARE.				
1		.93		Common nails.....lbs.	1,500	.03	\$45.00	
				Finishing nails.....	200	.05	10.00	
1		1.71		Brads and screws.....			11.00	
				Pair bronze butts, 4"x4", for dutch doors.....	4	2.25	9.00	
				Carried forward.....			\$75.00	
			\$1130.11					

ESTIMATE OF DESIGN NUMBER 504—Continued.

Quan. Price. Cost.			Quan. Price. Cost.			Quan. Price. Cost.					
Brought forward.....			Brought forward.....			*PAINTING.					
Pair bronzed butts, 3"x3", for other doors.....	29	\$.55	15.95	3-in. leaders.....	139	\$.12	16.68	856 Sq. yds. to paint 3 times, exterior work=.....	2,568	\$.07	\$179.76
Pair bronzed butts, 3"x3", for French window.....	4	.42	1.68	2-in. ".....	36	.08	2.88	Sq. yds. to stain shingling.....	150	.07	10.50
Pair bronzed butts, 2"x2", for case-ment and cellar windows.....	13	.36	4.68	Total for Tinner's Materials (including labor).....			\$47.36	28 Sq. yds. to paint 2 times brickwork=	56	.07	3.92
Pair brass butts, 2"x2" for bath-room and dresser, etc.....	10	.04	.40	*SLATING.				44 Sq. yds. to oil 2 times, ceiling=.....	88	.05	4.40
Pair strap hinges for cellarway.....	2	.10	.20	Sq. ft. roof slating.....	2,373	.08	\$189.84	Sq. yds. to stain and finish in hard oil inside.....	575	.20	115.00
Front door locks.....	2	1.50	3.00	" roofing paper or felt.....	2,373	.00 1/2	11.86	Lbs. putty.....	78	.06	2.19
Sliding door lock.....	3	1.00	3.00	Zinc flashing..... lin. ft.	165	.15	24.75	Total of Painter's Materials (including Labor).....			\$315.77
4-in. mortise door locks.....	13	.35	4.55	Hip and ridge covering zinc.....	115	.10	11.50	CARPENTER'S LABOR.			
3 1/2-in. rim door locks.....	16	.25	4.00	Total for Slating (including labor).....			\$237.95	Framing, raising and enclosing, exterior trimming, making and setting frames in exterior walls.....			635.00
French window locks.....	2	.50	1.00	PLUMBING.				Laying floors, setting minor partitions and grounds for plastering.....			115.00
bolts.....	4	.15	.60	Lin. ft., 4-in. cast iron pipe.....	40	.18	\$ 7.20	Finishing veranda porch and balconies. Setting inside trim, hanging sash, doors and blinds, fixing hardware, and all carpenter's inside work not included above.....			390.00
Pair front door knobs, wood.....	2	.35	.70	2-in.	90	.12	10.80	Total Carpenter's Labor.....			\$1215.00
" door knobs, wood.....	4	.35	1.40	Lead pipe for water and waste service..... lbs.	1,580	.06	94.80	RECAPITULATION.			
" mineral.....	25	.10	2.50	Lead traps.....	7	.75	5.25	Mason's materials and labor.....			\$1,338.59
Small knobs for cupboards, etc.....	12	.03	.36	Finished brass cocks.....	8	.75	6.00	Carpenter's materials.....			1,851.03
Sets sliding door flush furniture and stop Brass rail for sliding doors.....	35	.10	3.50	Rough stop cocks.....	2	1.50	3.00	Hardware.....			174.56
Sets slot sheaves for sliding doors.....	3	1.40	4.20	Plated bath cocks.....	2	1.00	2.00	Tinuing—Materials and labor.....			47.36
Flush bolts for front doors.....	6	.50	3.00	" basin.....	6	1.00	6.00	Slating.....			237.95
Barrel bolts, 6-in.....	4	.10	.40	butler's pantry cocks.....	2	2.00	4.00	Plumbing.....			357.36
" 4-in.....	18	.08	1.44	Sets brass strainer, plug and chain.....	3	.50	1.50	Painting.....			315.77
Sash fasteners.....	28	.20	5.60	Sets plated strainer, plug and chain and stay.....	4	.75	3.00	Carpenter's labor.....			1,215.00
" weights..... lbs.	672	.01 1/2	8.06	Sink in kitchen, galv. iron.....	1		2.50	Cost of House.....			\$5,537.62
" cord..... lbs.	15	.30	4.50	Sink in butler's pantry, galv. iron.....	1		2.50	Add cost of Working Plans, Specifications, &c., 1 per cent.....			\$55.37
" pulleys.....	112	.02 1/2	2.80	Kitchen boiler and standard, couplings, etc., complete, galv. iron, 40 gall.....	1		14.00	Add extras (if any).....			
Cupboard catches.....	12	.06	.72	Marbled overflow basin.....	3	1.50	4.50				
Clothes hooks.....	72	.02	1.44	Marble slab, back and sides..... sq. ft.	31	.80	24.80				
Base knobs.....	24	.08	1.92	Bath tub, 16 oz. copper.....	1		14.00				
Pair hinges for outside blinds.....	28	.10	2.80	Water closet, porcelain, with cistern, etc.....	1		25.00				
Sets fastenings for outside blinds.....	14	.03	.42	Lead safes..... lbs.	111	.06	6.66				
Inside blind hardware, 11 fastenings, sets complete.....	11	.50	5.50	Gas pipe, varying sizes.....	400	.04 1/2	18.00				
Pot hooks.....	12	.02	.24	Drops and fittings..... lbs.	25	.13	3.25				
Bell pull and gong.....	1		3.00	Labor, plumbers, gas fitters and helpers.....			100.00				
Total for Hardware.....			\$174.56	Total for Plumber's Materials & Labor.....			\$357.36				
*TINNING.											
Gutter and valley linings..... lin. ft.	203	.10	\$20.30								
Flashings.....	50	.15	7.50								
Carried forward.....			\$27.80								

ABOUT HEATING AND VENTILATING

IN the August number of this publication Mr. Wingate contributed many valuable hints on these subjects, describing particularly the proper management of stoves. However long a magazine article may be, there will be many things left unwritten, as these subjects would require a volume to present them fully. As health and comfort depend on proper heating and ventilating, we feel that they cannot be discussed too often.

Proper ventilation goes with heating necessarily. The air in the rooms must be kept in circulation and renewed constantly. There is no better ventilator than an open fireplace, with a fire. This will carry away the colder air lying near the floor, and keep the purer and warmer upper air circulating. Even though there is no fire in the fireplace there will be enough draught up the chimney to be of great aid in ventilating and keeping an equable temperature.

If there be no fireplace in the room there should be a register in the wall near the floor, connected with a flue in the chimney or with a tin pipe going up to the top of the house and through the roof. A register near the ceiling is desirable also, in order that the room may be cooled, when too warm, without creating draughts. The room will be much cooler in summer if such escape is provided for the hot air. The opening of windows or doors, in cold weather, to cool a room is a fruitful source of colds.

The ventilation of closets is something which is rarely done, even in costly and well built dwellings. Yet it can be done at trifling expense by means of an ordinary tin heater pipe carried to the roof or to some ventilating flue, and having its aperture near the ceiling of the closet. Closets are generally hot, stuffy and ill-smelling. A tin pipe of six inches diameter costs about twelve cents per foot; the trouble of placing it does not amount to anything worth speaking of. Pantries, or closets where eatables are stored, and the bath room particularly, should be provided with such ventilators.

Heaters or furnaces placed in the cellar are now generally used for heating the house in cold weather, fireplaces alone being insufficient. These can be commended and in fact present the best solution of the heating problem, if they are of proper construction and are set and managed carefully. The cheap heaters are made principally of cast iron; this is objectionable because when heated to a high degree cast iron will allow carbonic oxide to pass through it. This deadly gas, passing from the fire chamber into the air chamber vitiate the air supplying the rooms with heat. The heater should have a steel radiator, through which no gases will pass. It should have a supply of fresh air from outside of the house, conveyed through a tight wood box carried along the cellar ceiling.

Any system of heating which does not supply constantly fresh warm air, is objectionable. Particular care should be taken to have the cellar warm and well ventilated. To this end it is well to have a flue in one of the chimneys, opening near the cellar floor, for ventilating the cellar. This will help also to keep the cellar air dry as the air carried away by the flue will be replaced by fresh air, drawn in from outside. There should be a number of large windows, particularly on the South or warmest side.

An excellent automatic appliance is manufactured to regulate the temperature in a house and keep it at one point.

THE KITCHEN AND SERVANTS' HALL

The space allowed for the kitchen should be ample, but it should be divided up into a Mixing Pantry and a Cook Room. In the former, away from the heat, all the food should be prepared for cooking; in the latter the actual cooking should be done. The reason is evident, it confines the heat to one small room, which need not be hotter because it is smaller than the usual kitchen. Another room of fair size should join the kitchen—a Servants' Hall, where the servants can dine, sit and receive their company. This room may contain the ironing table and even, perhaps, the laundry tubs, but its particular purpose should be to provide for the comfort of the servants.

When the walls of the rooms are to be papered, or tinted in flat color, it is better not to put on the common hard or plaster Paris, finish. The second or brown coat, if brought to an even surface will give an excellent ground for either tinting or paper.

If the intention is to tint the walls there should be a little cement in the mortar to make it set harder, so that it will not be easily injured by anything that may be brought in contact with it.

The omission of the white coat effects a saving of from five to ten cents per square yard.

The recent great advancement in electric science seems to indicate that at a not far distant date electricity will largely supersede gas and oil for illuminating purposes. For this reason it is wise, when building a house for residence, to put in wires which may be used for electric lighting at a future time. The expense of putting them in when building is trifling. They should follow the lines of the gas pipes.

FENCES

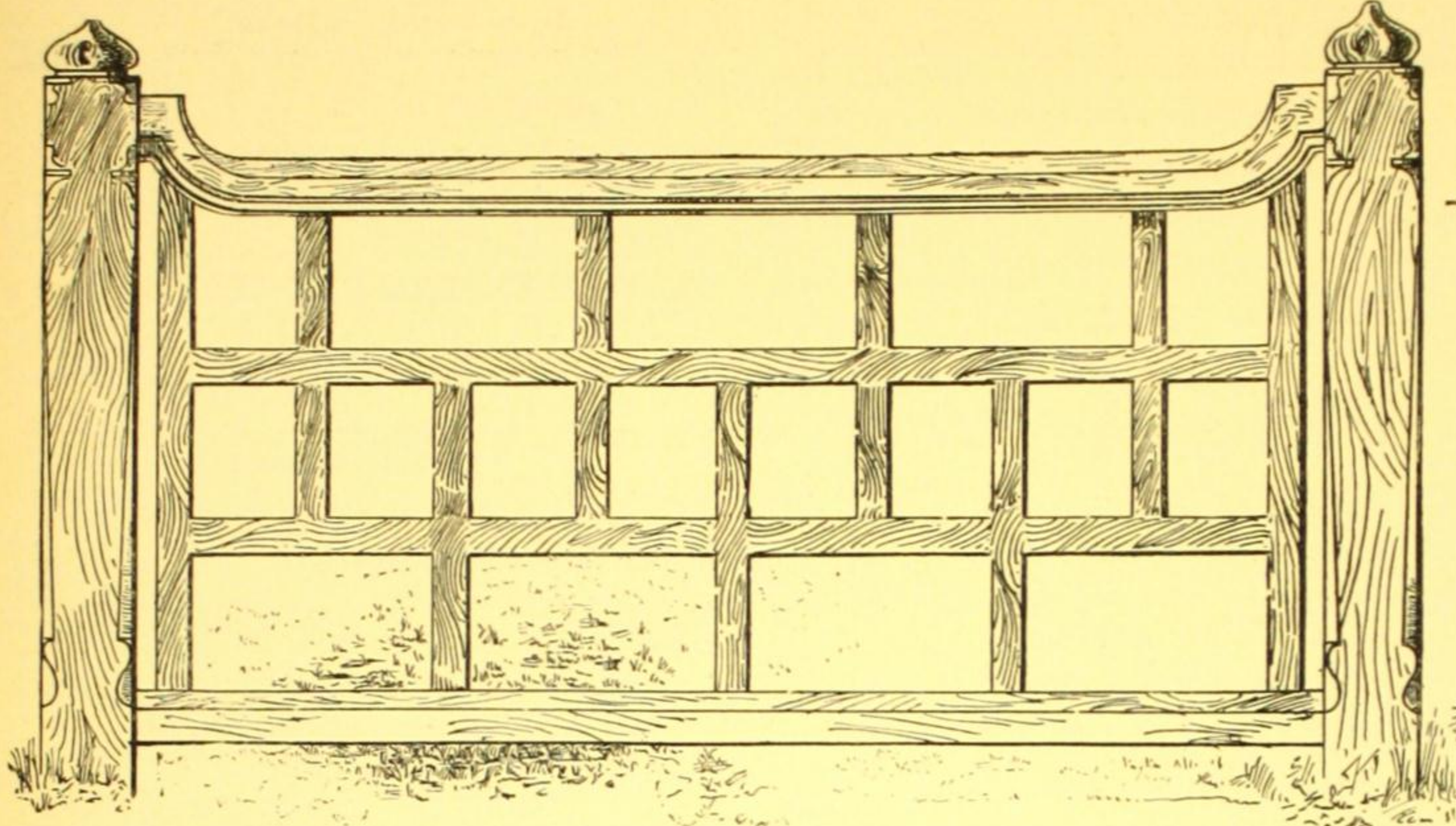
SECOND SERIES

The posts are estimated for chestnut, and run three feet in the ground. The estimate in every case includes the posts and the cost of setting, but not the painting. The designs are shown to 3-4 inch scale.

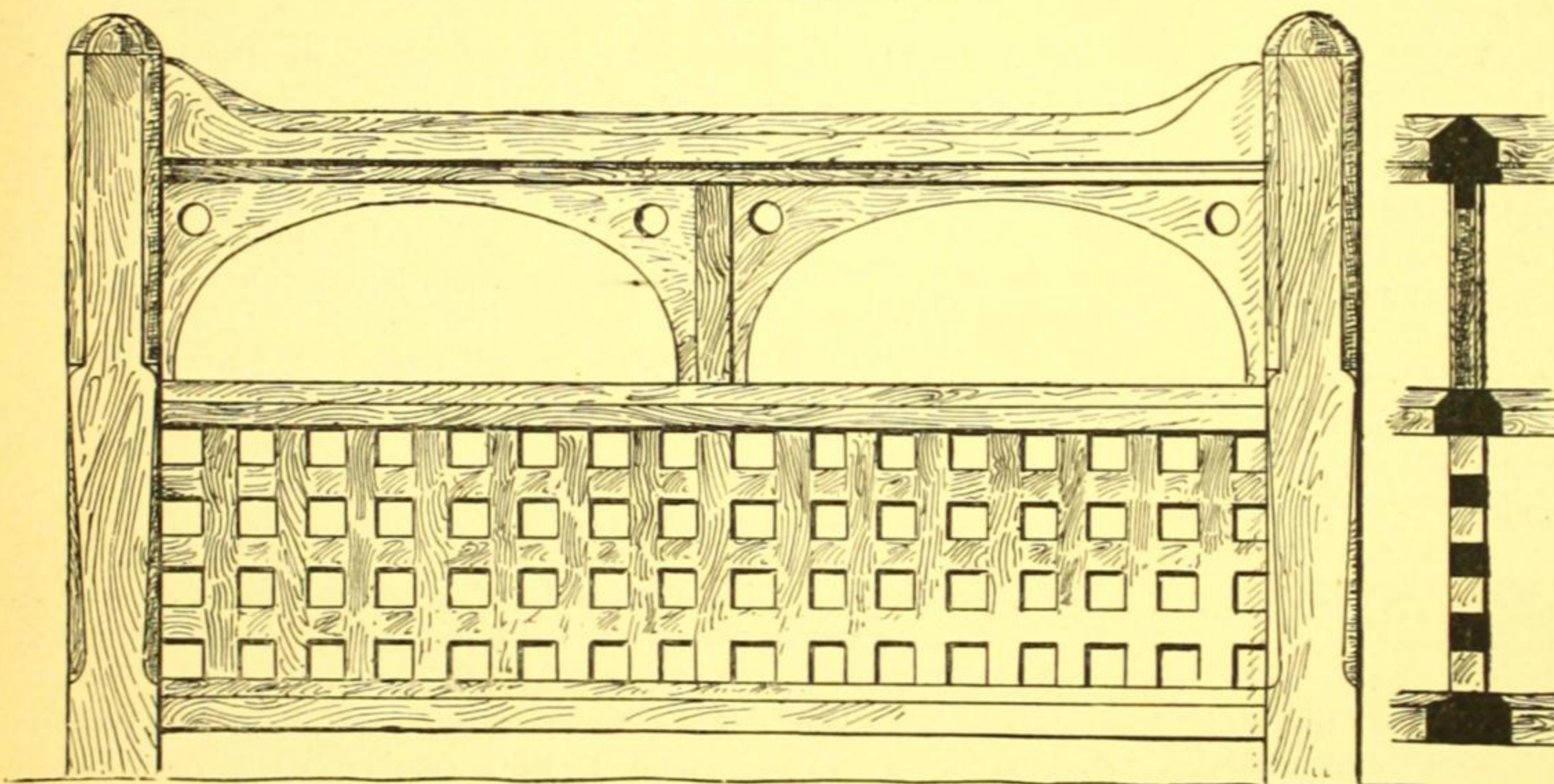
Design D, per lin. ft., 75c., or per section of 7 ft., \$5.25.

Design E, per lin. ft., \$1.00, or per section of 6½ ft., \$6.25.

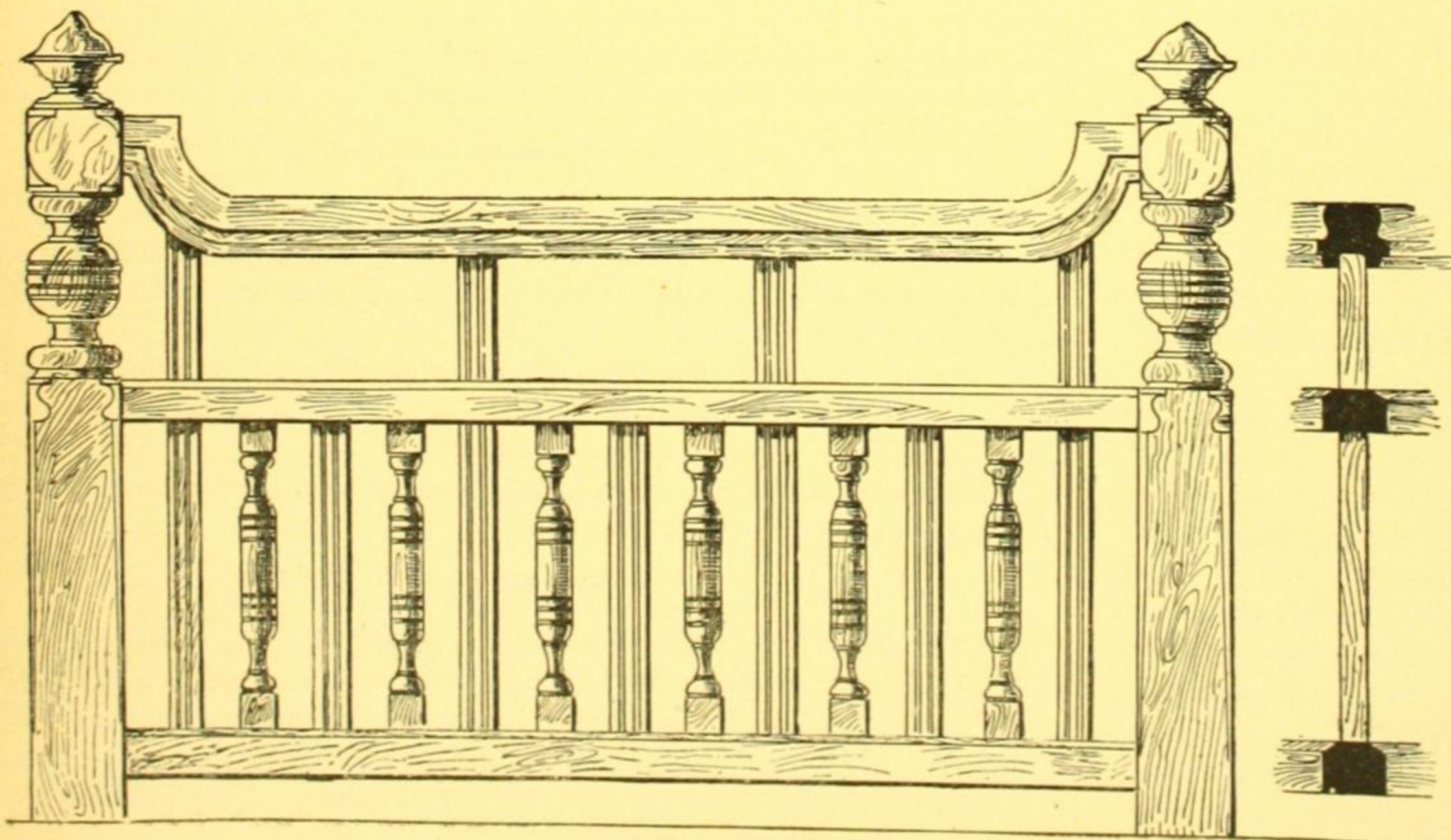
Design F, per lin. ft., \$1.25, or per section of 6½ ft., \$7.80.



FENCE DESIGN, D



FENCE DESIGN, E



FENCE DESIGN, F

DESCRIPTION OF DESIGN NUMBER 501

SEE VIEWS AND PLANS ON PAGES 50 AND 51

SIZE OF STRUCTURE: Front, 30 ft., including circular end of veranda. Side, including veranda, 50 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft.; Second Story, 8 ft., 6 ins.; Attic, 8 ft.

MATERIALS: Foundation, brick walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$3,100, complete, except heater and range. See "Extras" on page 48 for other items that the owner may wish to include in a contract.

SPECIAL FEATURES: Cellar under the whole house except under the kitchen, with cemented bottom.

The parlor is small, but the parlor and hall are practically one large room, as they are connected by a large opening.

The dining-room, extending the full width of the house, gets a cross current of air, having windows on both sides. The fireplace in the corner does not take any valuable space out of the room, yet it is near the windows and out of the draughts of doorways.

A slide in the wall connects the dining-room with the kitchen through the closet.

The dining-room has a large, light closet under the stairs.

The vestibule protects the house from cold draughts in winter. The hall closet is a convenience that should always be provided, if possible.

The staircase is hard wood. Its design is shown in one of the interior views.

The entire first floor is laid of narrow yellow pine, to have wax finish. Rugs, not carpets, are intended for floor coverings.

The amount allowed for the two mantels on the first floor is \$80.

The bathroom is large and is heated from the furnace. The front and rear bedrooms have stationary wash basins and running water.

The front bedroom with its large alcove, projecting windows, seat and bay window is an unusually attractive and commodious apartment.

If three bedrooms are preferred on first floor a doorway from the hall into the alcove will give a room 8 ft., 6 ins., x 12 ft., 6 ins.

A hall and a large bedroom are finished in the attic.

YELLOW PINE FOR INTERIORS

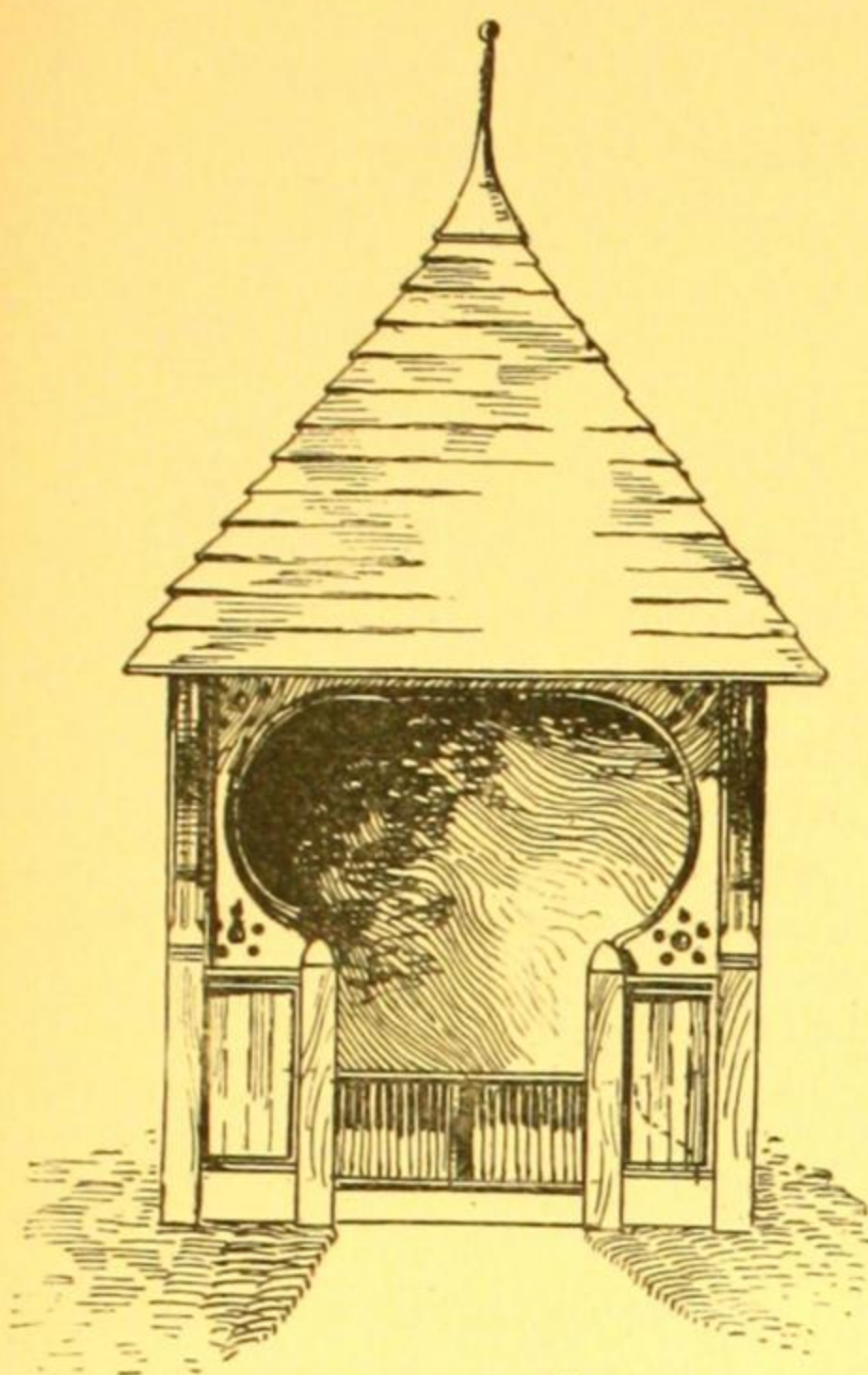
Yellow pine is a wood which can be used in the interior of a house with excellent effect. It costs, in the North, no more than clear white pine, and in the South, where it is native, it is much cheaper. For interior trim and doors it must be selected as to color and grain, the very coarse grained to be avoided. It must be thoroughly dried. A little brown stain rubbed in will give a richer color. When well finished and rubbed down it is as effective as any wood. Doors made of this wood will stand well. White pine will not take a stain well, and is too light to finish natural color except for bedrooms, kitchens and closets.

CHILDREN'S PLAY HOUSE

TO our children the possession of a play house affords as much delight as the ownership of a fine mansion gives to the parents. We build the fine mansion, indeed, for them, yet they have but little feeling of ownership in it. The play house they will consider theirs—guaranteed, in fee simple, and by every other right that the minds of youth can imagine.

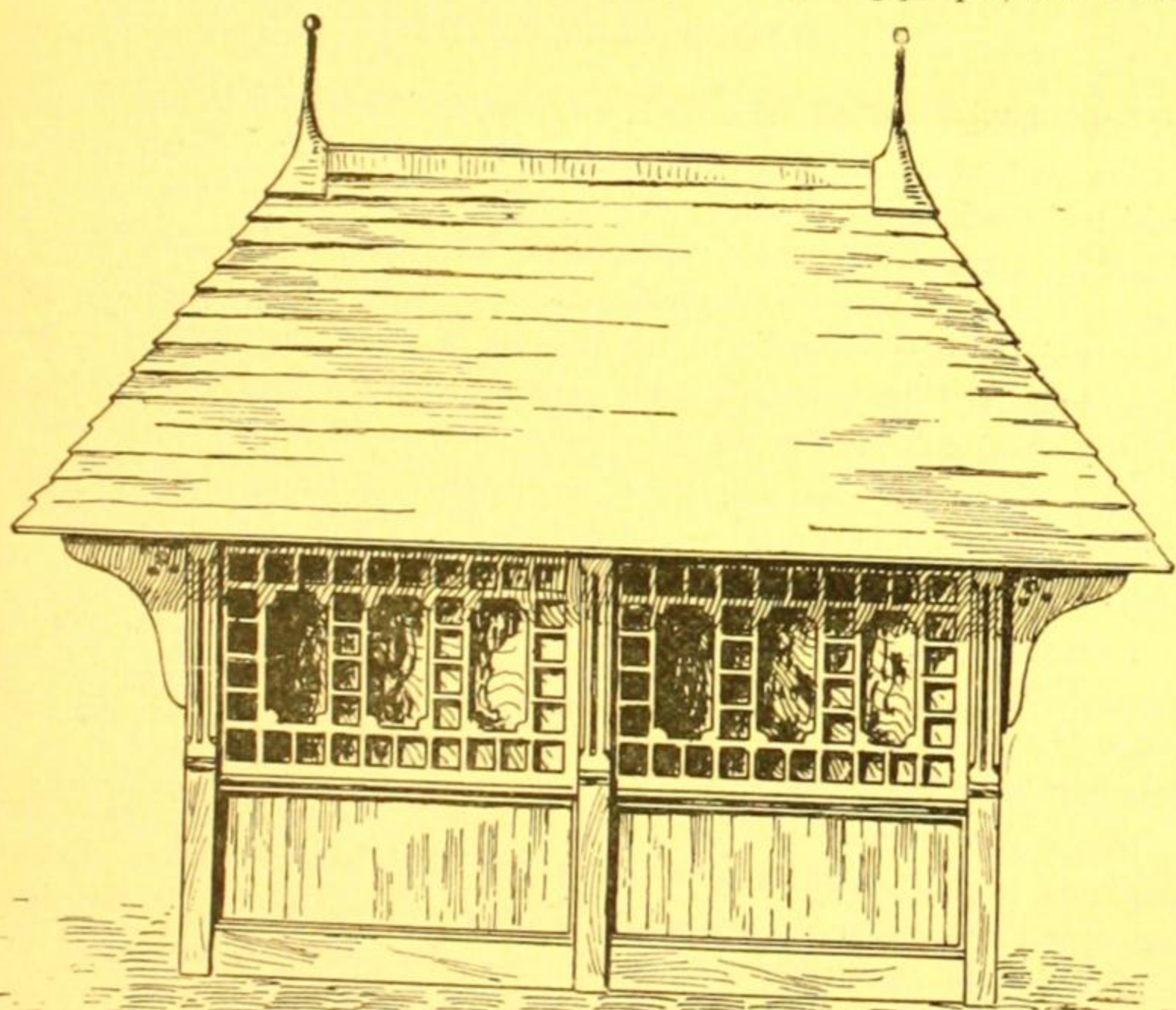
We give elevations and a plan, shown to quarter scale, of a simple design for a play house. The cost to build, of spruce dressed, is \$90. Painting, \$10. Built of hemlock, all rough, except plates and posts, \$75.

This house appears very well placed against some other structure, which a limited playground may sometimes require. In this case leave off the brackets and projecting roof from one

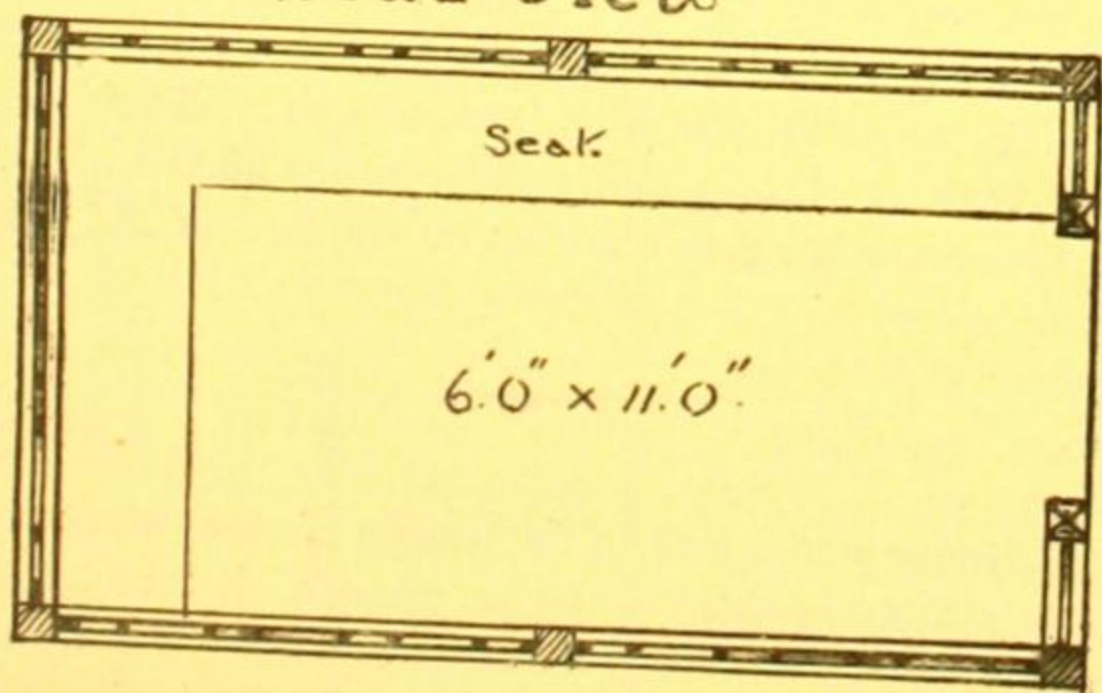


Front View

end. A play house is practically useful in relieving the residence of a good many traps which are valuable and amusing to the young people, but which



Side View



Plan

are not ornamental and cause no end of trouble to a nice housekeeper.

This play house design answers very well for a summer house. Used for this purpose it should have entrances at both ends and seats on each of the long sides. The entrances should be higher. For the playhouse the entrance is but 5 ft., 6 ins. high.

HOW WE SHOULD PLACE OUR HOUSES

IT was Karl Vogt, the eminent scientist of Geneva, Switzerland, who, by experiment, established the fact that, leaving the north side of a building out of the question, the south side is found during the summer months to be always the coolest, the east side following next in degree of temperature, while the west side he found to be the warmest. The direct effect of the solar rays upon the eastern and western walls of a house he found to be greatly stronger than upon the southern walls, this difference being accounted for by the different angles of incidence of the solar rays falling upon the walls. On the east and west sides, the said angle reaches its maximum size of ninety degrees, while the south walls are struck at an acute angle, hence the effect is much slighter. Vogt for the first time called attention to the problem of computing scientifically how our dwelling houses should be placed to insure for them a sufficient quantity of solar heat and light. Although the idea would not seem to be of much practical value, when applied to our customary city dwellings, surrounded as they are, by other buildings, it must be conceded, that in its application to detached dwellings, it is deserving of careful consideration at the hands of the professional architect.

As long as nineteen hundred years ago, Vitruvius, the Roman architect, laid stress on the principle that, in planning cities the streets must not be laid parallel with the direction of the prevailing atmospherical currents. In Germany, the prevailing currents are north-east and south-west; hence her towns if laid out on the rectangular plan, should have streets running from east to west and from north to south. This plan has actually been followed in a number of cases, for instance, the cities of Mannheim, Darmstadt and others. Supposing a house so placed, it is evident that the prevailing north-east winds must strike the sides of the house at angles of incidence averaging forty-five degrees. Other winds striking the walls squarely or nearly so, are usually of short duration, blowing only for a few hours at one time.

It will be observed that, if we locate our houses on the principle advocated by Vitruvius, we are, at the same time, fulfilling the requirements demanded by Professor Vogt. During the summer months, the sun rising in the north-east and setting in the north-west, the east and west walls of a house will be heated to a greater, and the south wall to a lesser degree, since the rays of the sun then being at its great declination, fall more obliquely upon the latter than they do upon the former. On the other hand, during the winter months, the sun rising in the south-east and setting in the south-west, it is the south wall which is exposed to rays thrown upon it almost at right angles by the sun which then is at its minimum declination, whilst both east and west walls receive oblique rays only. Hence, if your house is so planned that one side greatly exceeds in length the other, place its long side on a line running from east to west to insure for the same greater warmth in winter and less heat in summer, whilst the short side can better afford to be the cooler side in winter and the hotter one in summer, just because it is the shorter side.

It may be objected that, as there will be a long side combining the advantages of its southward position in hot and cold weather, so will there be a correspondingly long northern side receiving no sun during any time of the year, besides offering an extended surface to cold north-easterly winds. To this we answer, that it is impracticable to devise a plan that will combine all the advantages sought. By placing a rectangular house with its long side running from south to north, a more uniform distribution of the heating effect of the solar rays, and the different sides, may perhaps be obtained in winter, but—and here we have to touch upon another important factor governing the designing architect—the long side of the building, so placed would then receive a much smaller amount of light than it would get by facing south.

It is, therefore, the desire to obtain the greatest possible amount of sunlight which causes men to place the long sides of their houses so as to face the south, and thus to instinctively obey the law discovered by the scientist. In one class of buildings, the noblest one—churches, this rule has from olden times been recognized and strictly adhered to. Since man began to erect houses to God, up to the churches of the present day, it has been the favorite plan to build these edifices running from east to west.—*Translation from the Deutsche Bauzeitung in the American Architect.*

SHOPPELL'S MODERN HOUSES

At
ILLUSTRATED
ARCHITECTURAL
MONTHLY

No. 8 NEW YORK OCTOBER, 1887

SHOPPELL'S MODERN HOUSES is published monthly by the proprietors, The Co-operative Building Plan Association, Architects, at No 63 Broadway, New York. It is edited by R. W. Shoppell and Stanley S. Covert.

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BACK NUMBERS

This monthly publication is the continuation of the quarterly of the same name. The following back numbers of the quarterly, viz.: Nos. 1, 2, 3, 4 and 5 each consists of 72 pages and each contains over 50 designs for residences, besides much miscellaneous matter. Price of each, \$1.

Nos. 6 and 7 were the first issues of the Monthly. Price 10 cents each.

"EXTRAS"

In the building of a house, if the contract between the owner and the builder is loosely drawn, or worse still, if a great many things are left to an oral understanding, there is sure to be a vexatious disagreement in the settlement of "extras." Two men will remember and will construe things in different lights, and both may be conscientious. The best plan is to have no extras; the only way this can be done is to use the Working Plans and Detail Drawings (in which everything is accurately drawn and figured), and the Specifications (in which everything required is minutely described), as the basis of the contract. If anything unusual (an "extra") is required it may be added to the specification or written in the contract.

The "estimate of materials and labor" which should accompany every set of Working Plans, Details and Specifications, gives all items, except those that may or may not (according to circumstances) be required. Below will be found a list of possible extras to be used as a guide in making up a supplemental bill, which should be described in the contract and added to the cost of the house. The first item is wholly in the interest and for the protection of the owner, and need not of course be described in the contract.

Working Plans, Detail Drawings, and Specifications, including Color Sheet, Estimate of Materials and Labor and Blank Contracts, supplied by the Co-operative Building Plan Association, Architects, 63 Broadway, New York, for one per cent. of the estimated cost of structure.

Cess-pools and drains.

Privy and vault for same.

Cistern and pipes to connect same with leaders.

Water and gas connections with main.

Flagging for walks, etc.

Grading, Fences, Range, Furnace, Grates, Tank.

It is generally advisable to have the contract for the house include all these items, so that one man will be responsible for the whole, and that responsibility for delay may not be laid to another contractor. It is rarely that a saving can be effected by dividing the contract between several men, while the trouble to the owner is much increased thereby.

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STOCK MATERIALS

IN all buildings, to a greater or less extent, and especially in residences of low and moderate cost, stock materials must be used. These materials consist of machine made siding, doors, sashes, blinds, mouldings, mantels—in fact most everything except the timbers. It is cheaper, and the best of it may be said to be better made than materials produced by hand work. But there is this serious objection to the free use of stock materials: the house when built will have a ready-made appearance; it will be destitute of the character and individuality that hand labor imposes on whatever it makes.

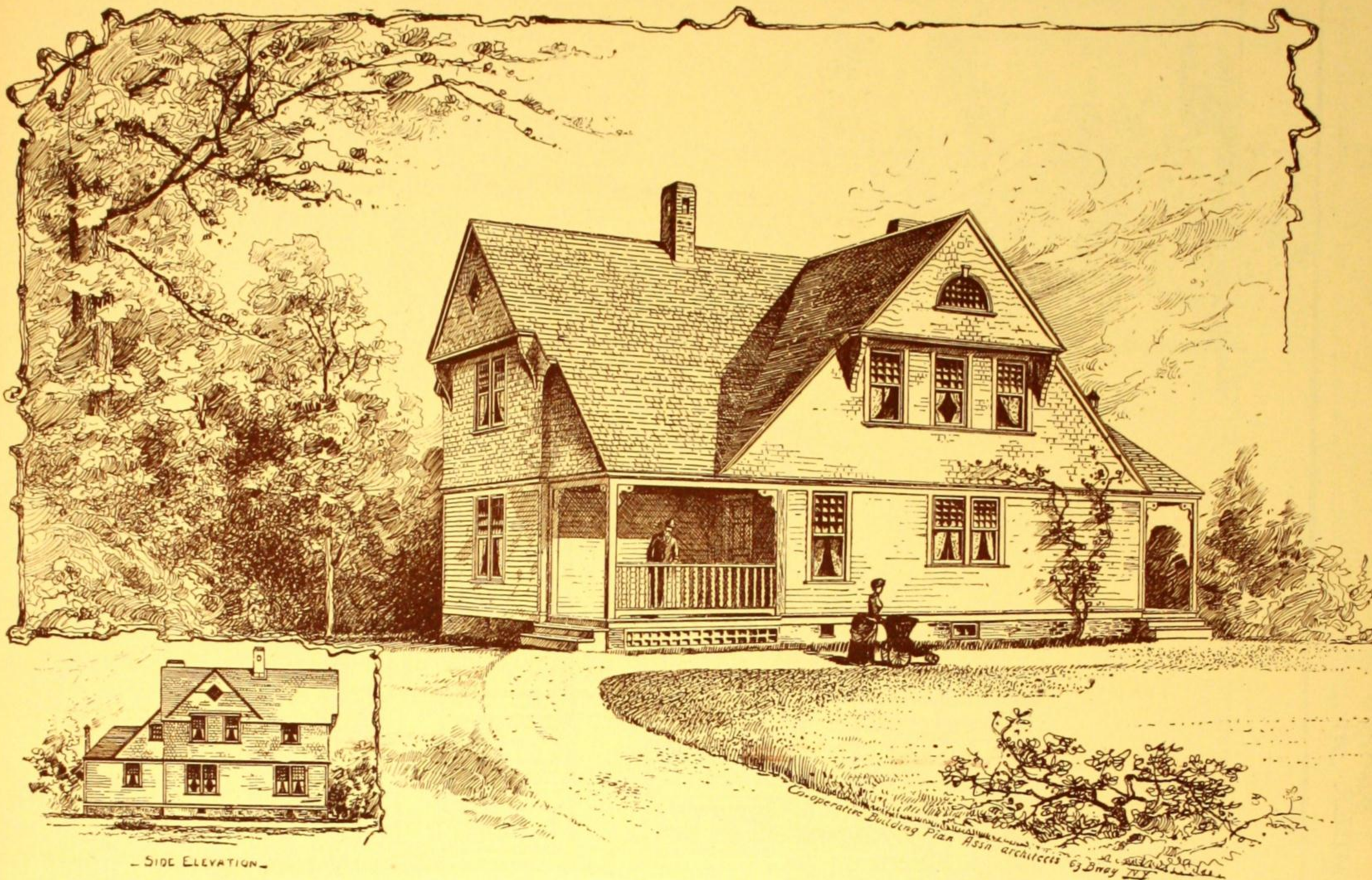
Good architects overcome this difficulty by combining the ready-made materials with some hand labor and with special details which take the ban of commonplace or uniformity from the design.

To the many reasons why architects should be employed, which have been repeatedly adduced in this publication, in the interest of all architects, this reason must be added. It becomes more prominent with the ever increasing supply of stock materials.

Urging the importance of employing architects, whether for large or small buildings, may appear to be unnecessary to a wide circle of readers. It should be remembered that a publication like this conveys the first knowledge of this subject to many of its readers, those who have just awakened to an interest in these things. They do not know, as the more experienced readers know, that the employment of architects for buildings is as essential as the employment of counsel in legal matters, if not more essential.

While it is not impossible for the builder to build a house of moderate size without the assistance of the architect, it is almost sure to be commonplace in appearance. The builder's education leads him to mechanical exactness and smoothness. With good stock materials he can work out his very ideal of a house. But to most other eyes than his it will be stiff and devoid of grace.

If a Roll of Honor were made of the names of men who have contributed more than others to make this country as great as it is in substantial wealth, it should be a list of the men who have built houses. While benefiting themselves they benefited all members of the communities in which they lived. Their enterprise furnished employment, invited immigration and reduced taxation by creating new wealth that shared the burden.



DESIGN No. 500. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 500

SIZE OF STRUCTURE: Front, 27 ft. Side, 48 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.

MATERIALS: Foundation, stone walls; First Story, clapboarded; Second Story, shingled; Roof, shingled.

COST: \$2,300, complete, except range. See "Extras" on page 48 for other items not included in the estimate.

SPECIAL FEATURES: Cellar under the kitchen only. Stone walls, 18 inches thick, under the whole of the house, carried $3\frac{1}{2}$ ft. below the grade.

No open fireplaces, the intention being to use stoves. A fireplace and mantel in the parlor would add to the attractiveness of that room and would cost but little.

The wash room back of kitchen, containing stationary tubs, is a great convenience. Hot and cold water are carried to the tubs there.

An earth closet is built, entered from the wash room.

The attic furnishes large storage space. It is accessible by a scuttle and ladder.

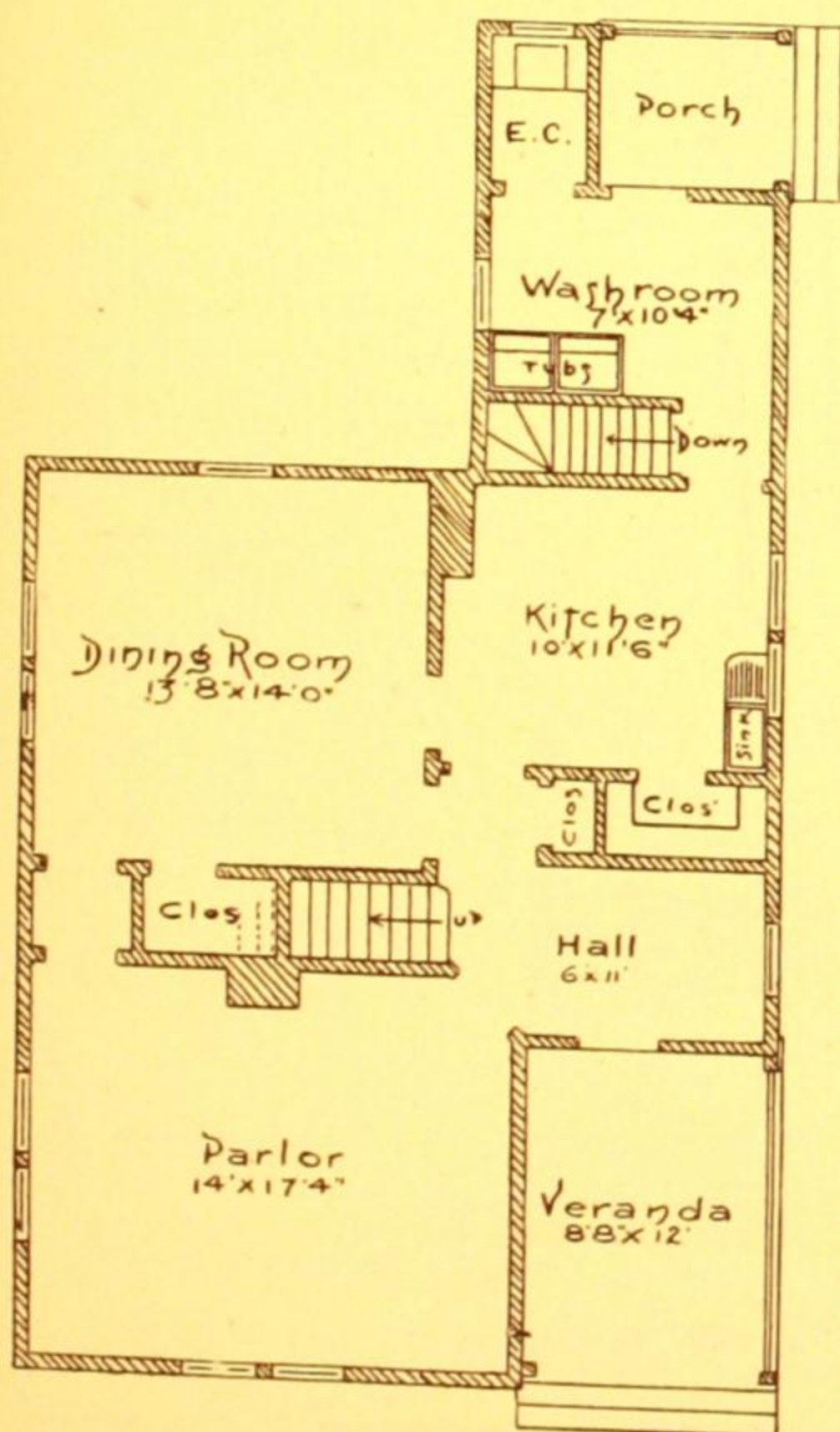
This house is fine enough for any neighborhood and yet is not expensive to build. It is recommended as a good design with which to commence improvements on a large tract. Its neighbors may be large or small houses with equal appropriateness.

A large expanse of roof covering a country or suburban house suggests coolness and comfort during the hot season and ample protection from the storms that prevail in winter.

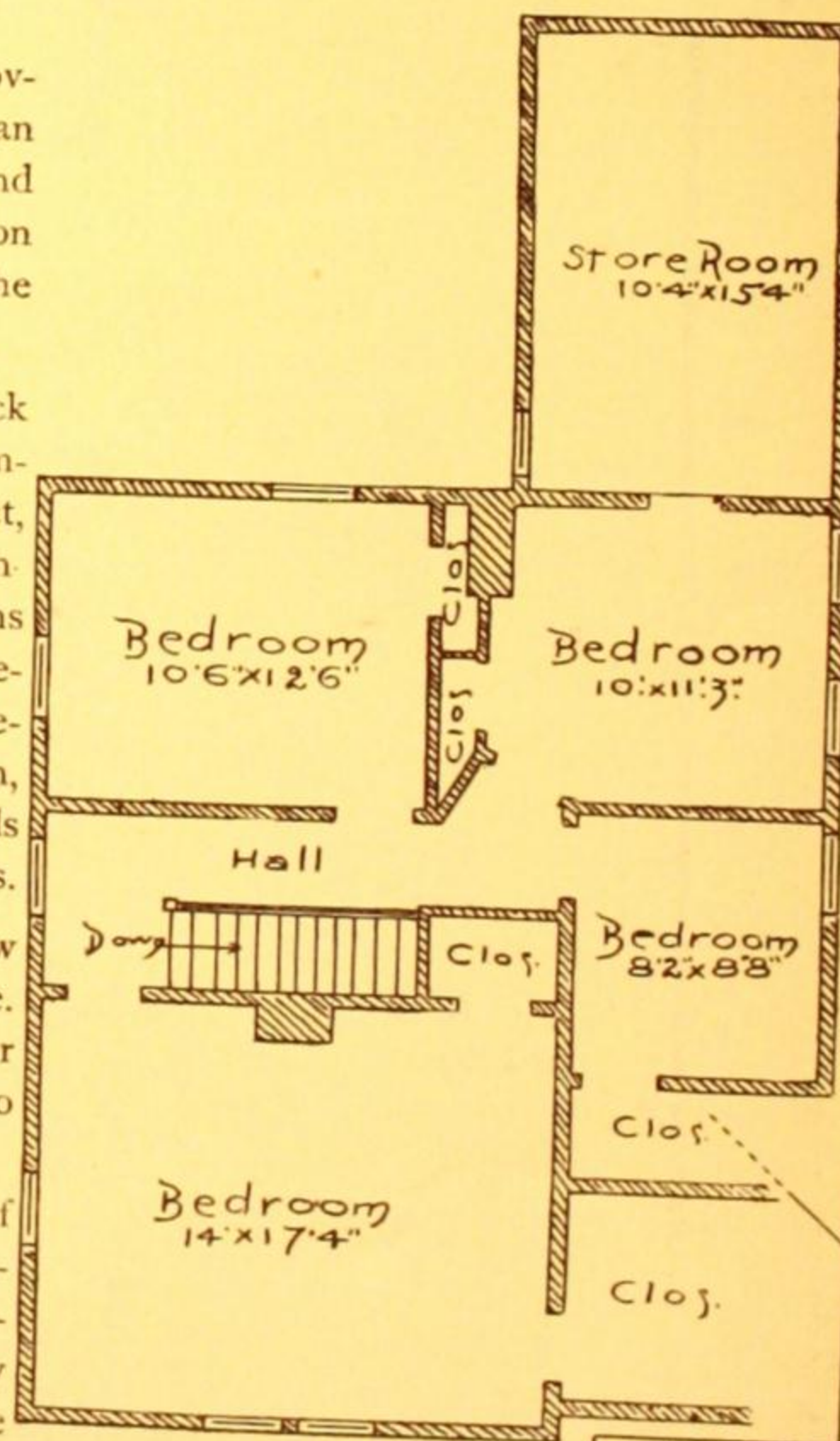
The E. C. (Earth Closet) back of the washroom is a great improvement, in every respect, over privies and should be generally adopted. Working Plans and Specifications for this design as well as for all other designs given in this publication, give full instructions and details for constructing Earth Closets.

Science and experience show that this is the proper appliance. Nature suggests it. However dense the population there is no offense nor danger.

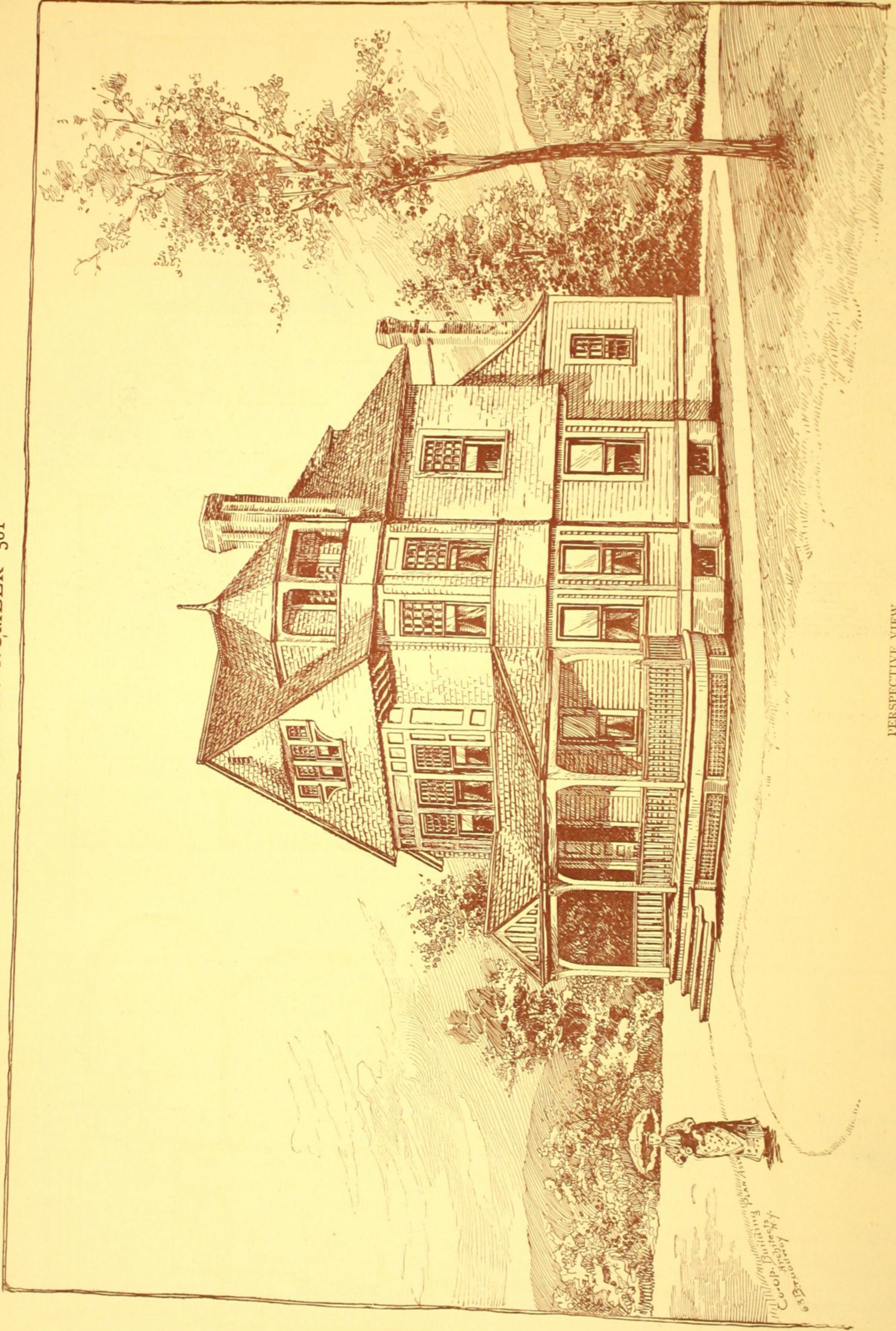
The general adoption of Earth Closets would almost exterminate such diseases as typhoid fever, which are caused by the pollution of the soil and the water.



FIRST FLOOR, NO. 500

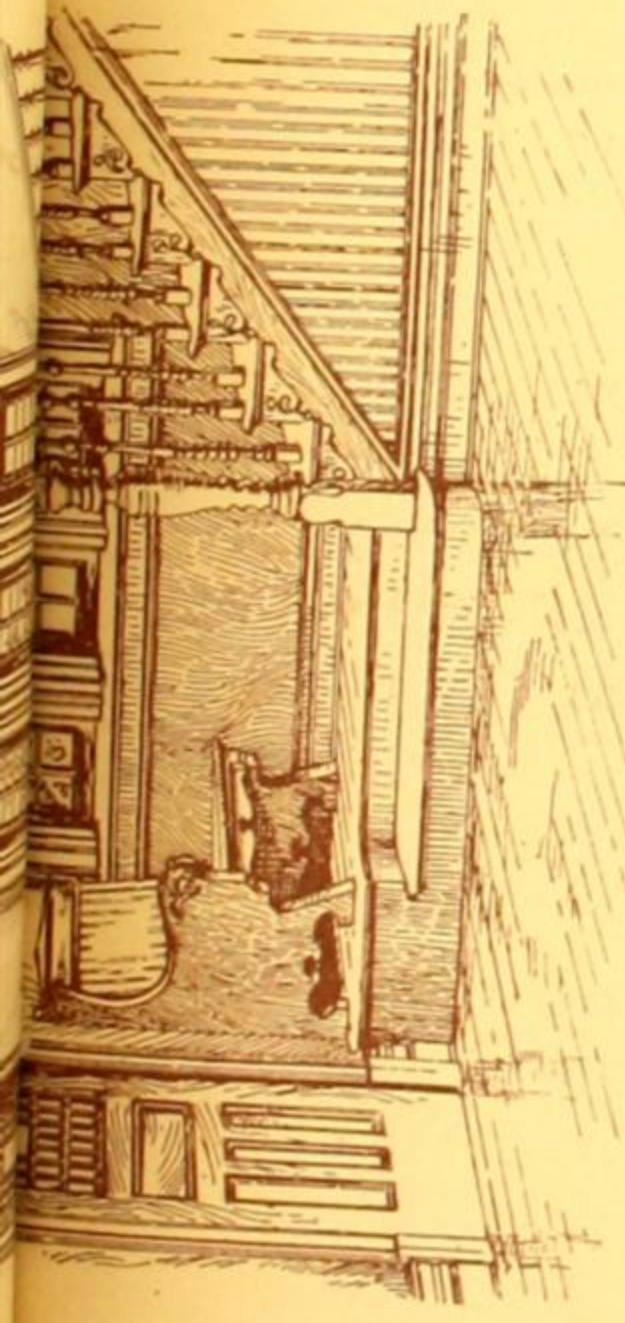


SECOND FLOOR, NO. 500

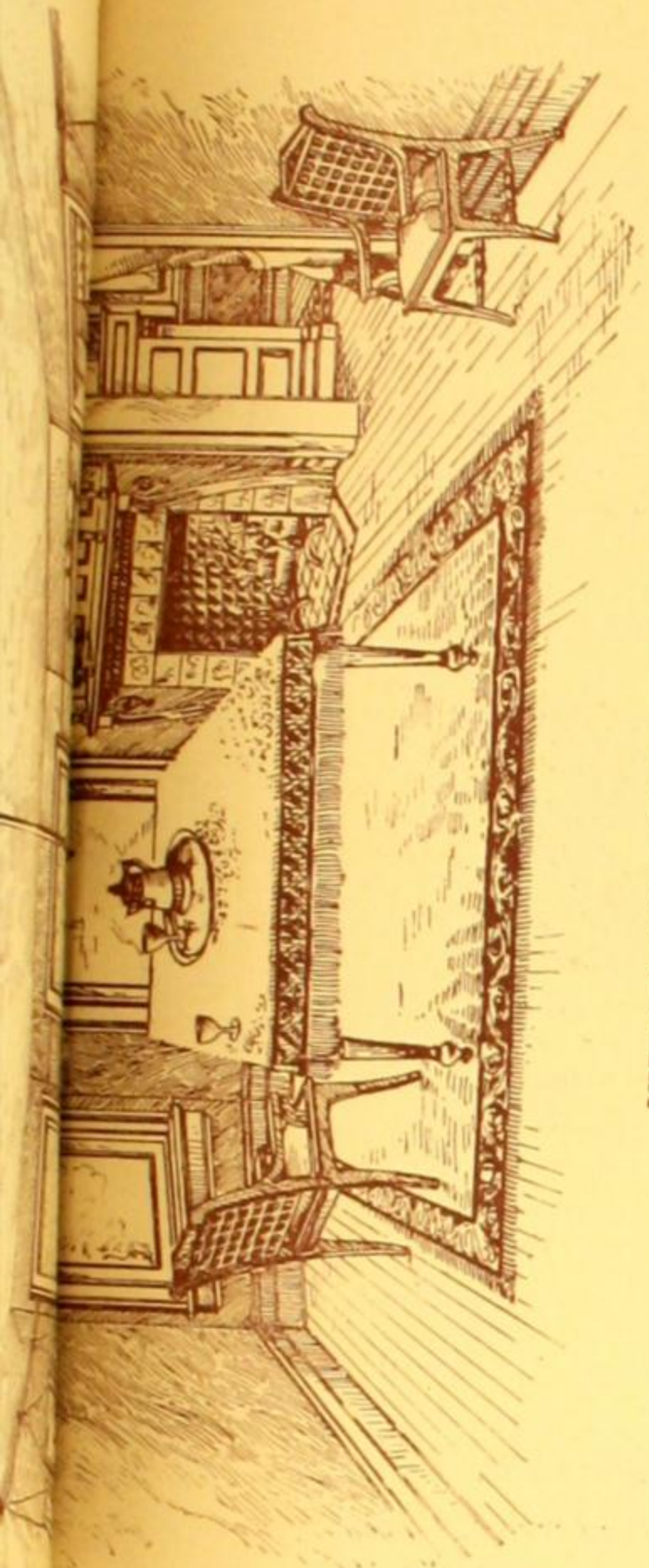


PERSPECTIVE VIEW

Wm. B. S. Co.
Architects
New York



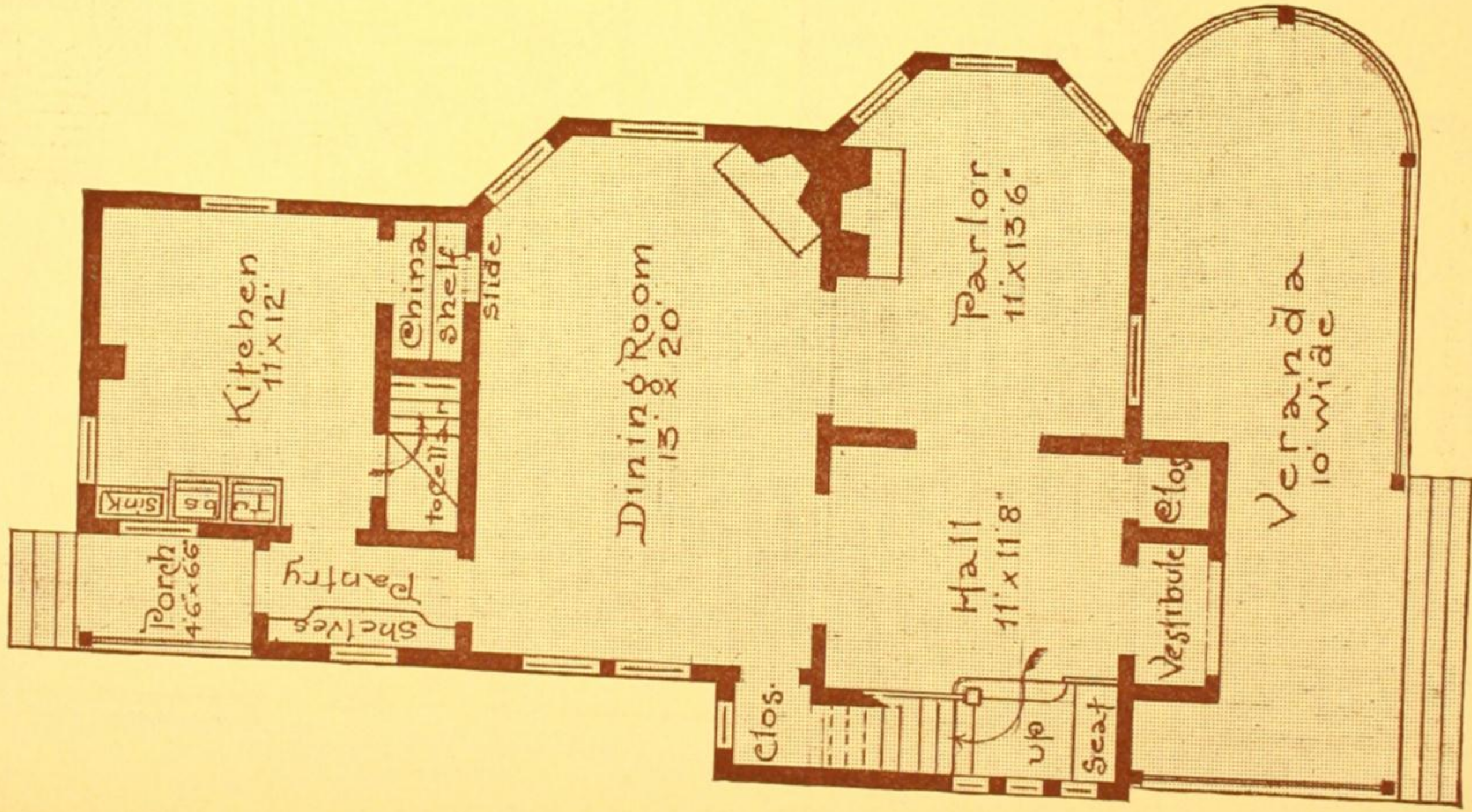
VIEW IN THE HALL, SHOWING STAIRWAY



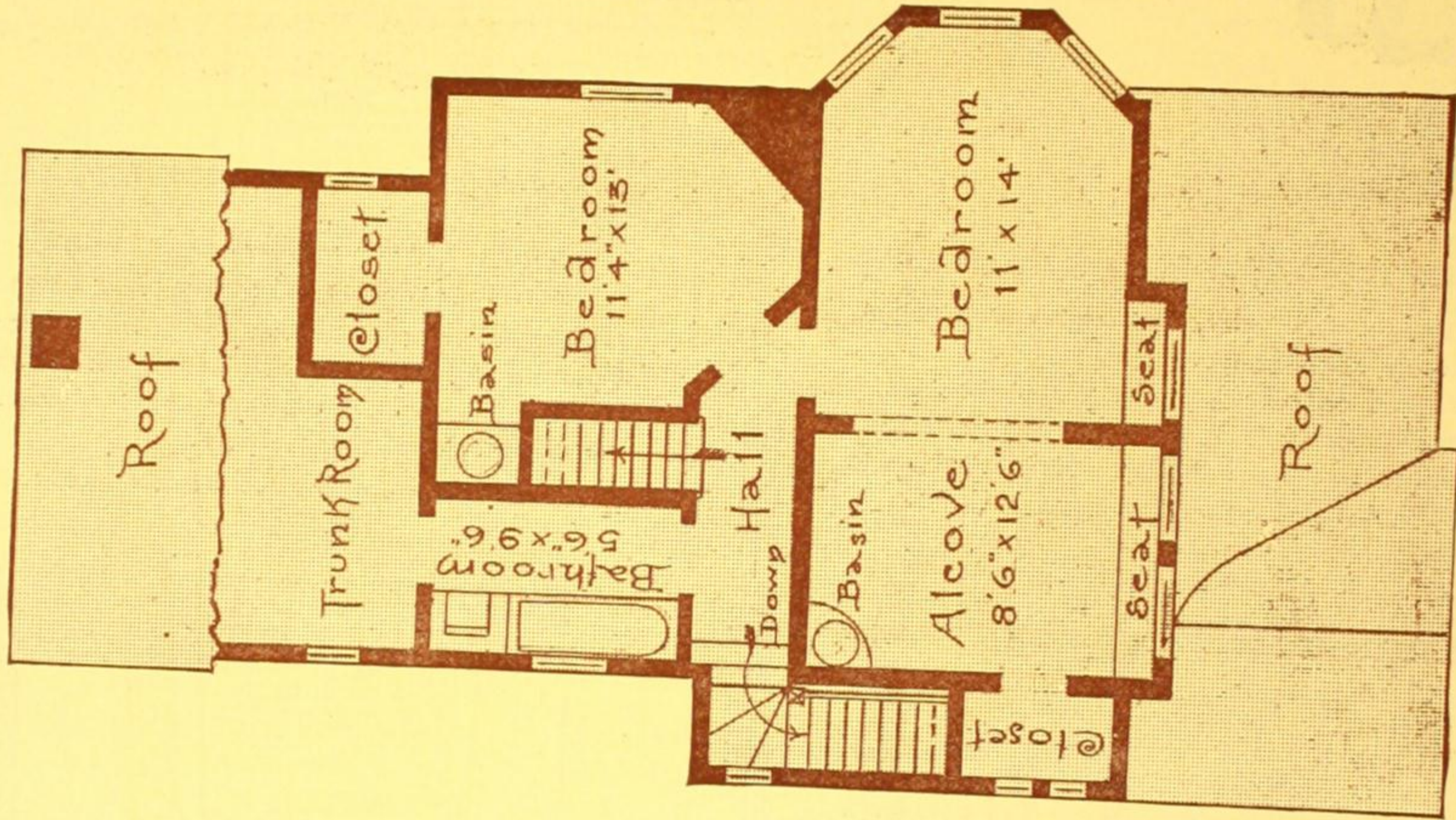
VIEW IN THE DINING ROOM

For description and cost of this design see page 46

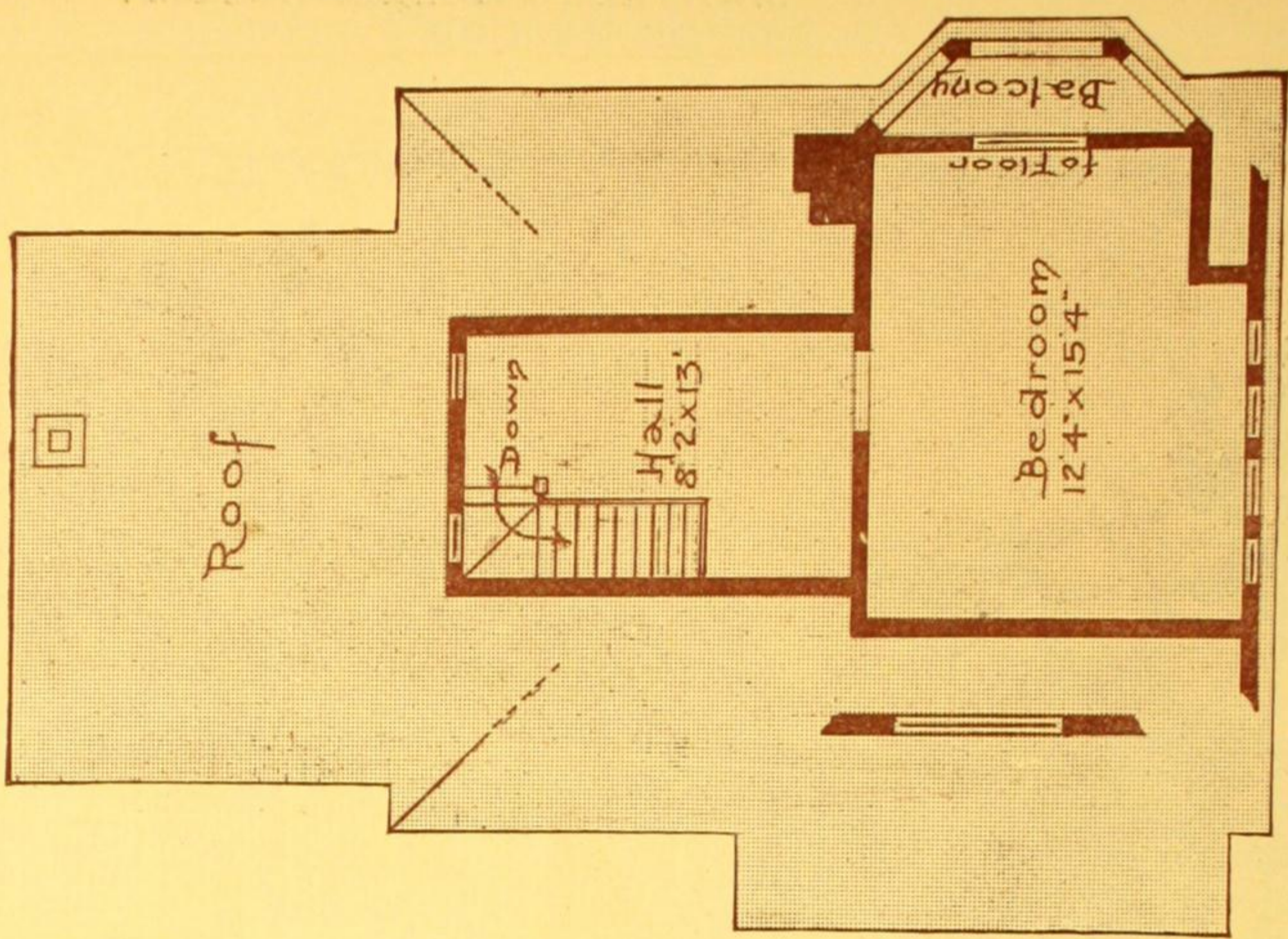
Scale of Plans: 8 ft. to the inch



FIRST FLOOR PLAN

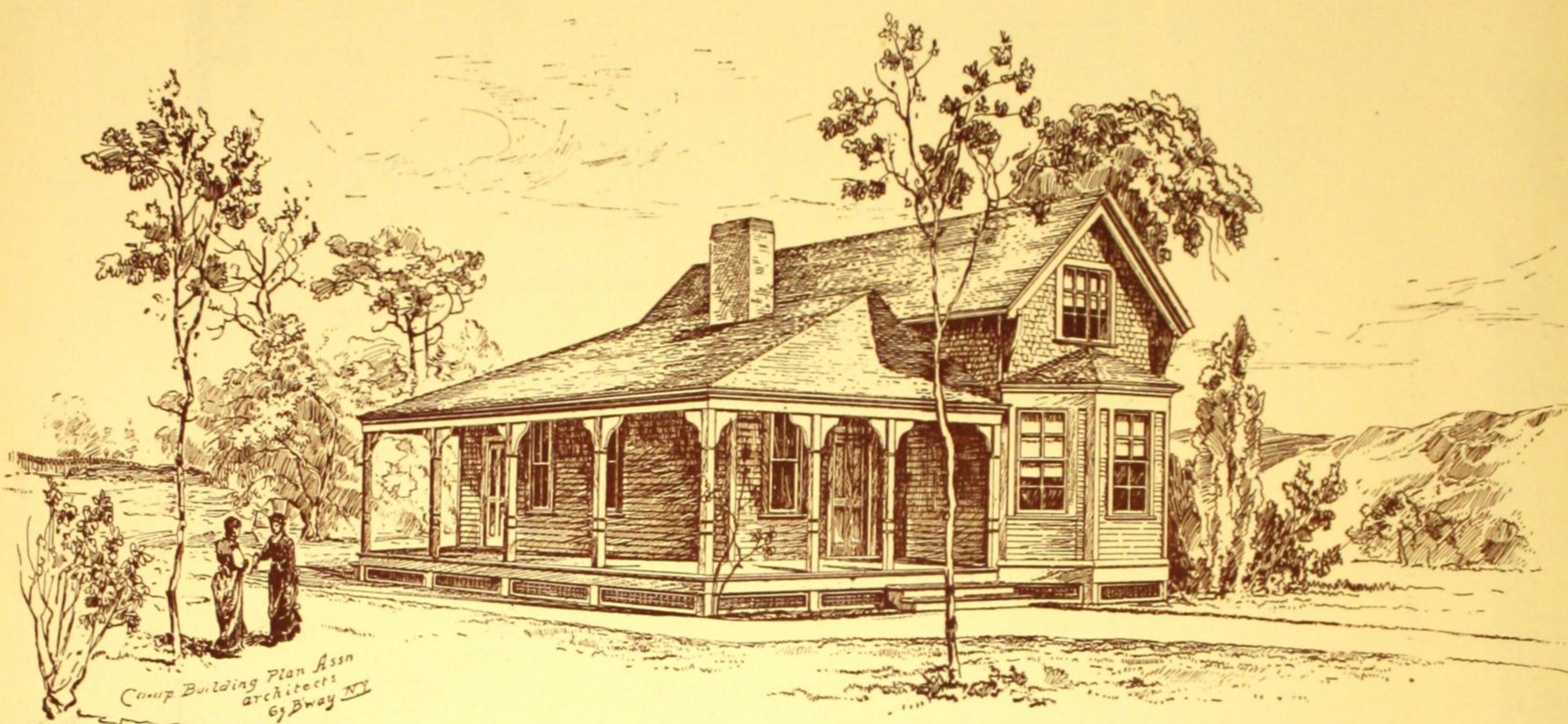


SECOND FLOOR PLAN



THIRD FLOOR PLAN

"SHOPPELL'S MODERN HOUSES" IS PUBLISHED MONTHLY AT 10 CENTS A NUMBER. Each number consists of 24 pages and contains at least 10 designs for Houses (mostly of moderate cost), with designs for Barns and Outbuildings and much miscellaneous matter of great value to all readers. Entire contents original.



DESIGN No. 502. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 502

SIZE OF STRUCTURE: Front, 32 ft., including veranda; Side, 38 ft.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 9 ft.; height on side walls, Second Story, 3 ft., in center, 8 ft., 6 ins.

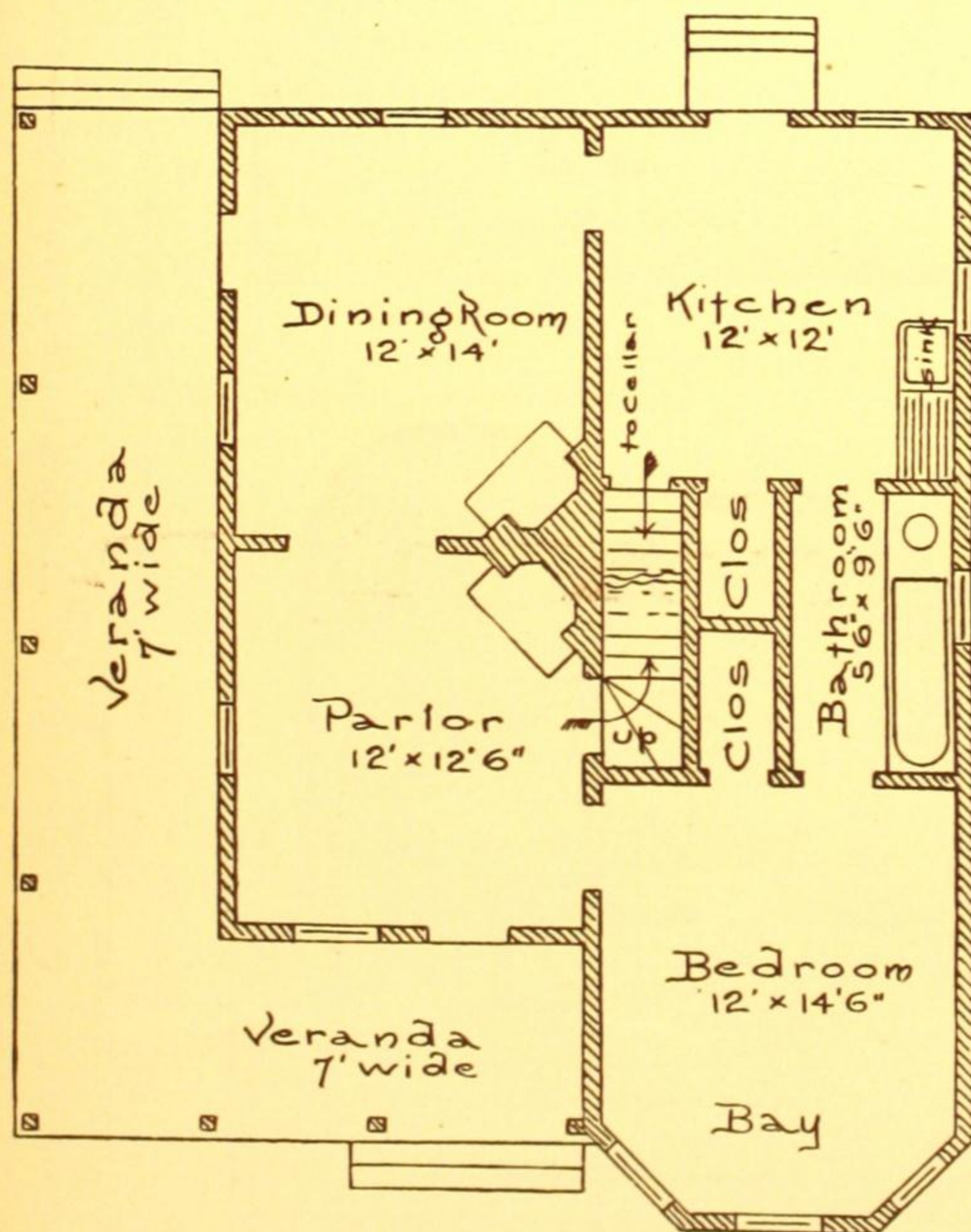
MATERIALS: Foundations, wood posts; walls covered with paper and novelty siding; Gable, shingled; Roofs, shingled.

COST: \$1,250, complete. See "Extras" on page 48.

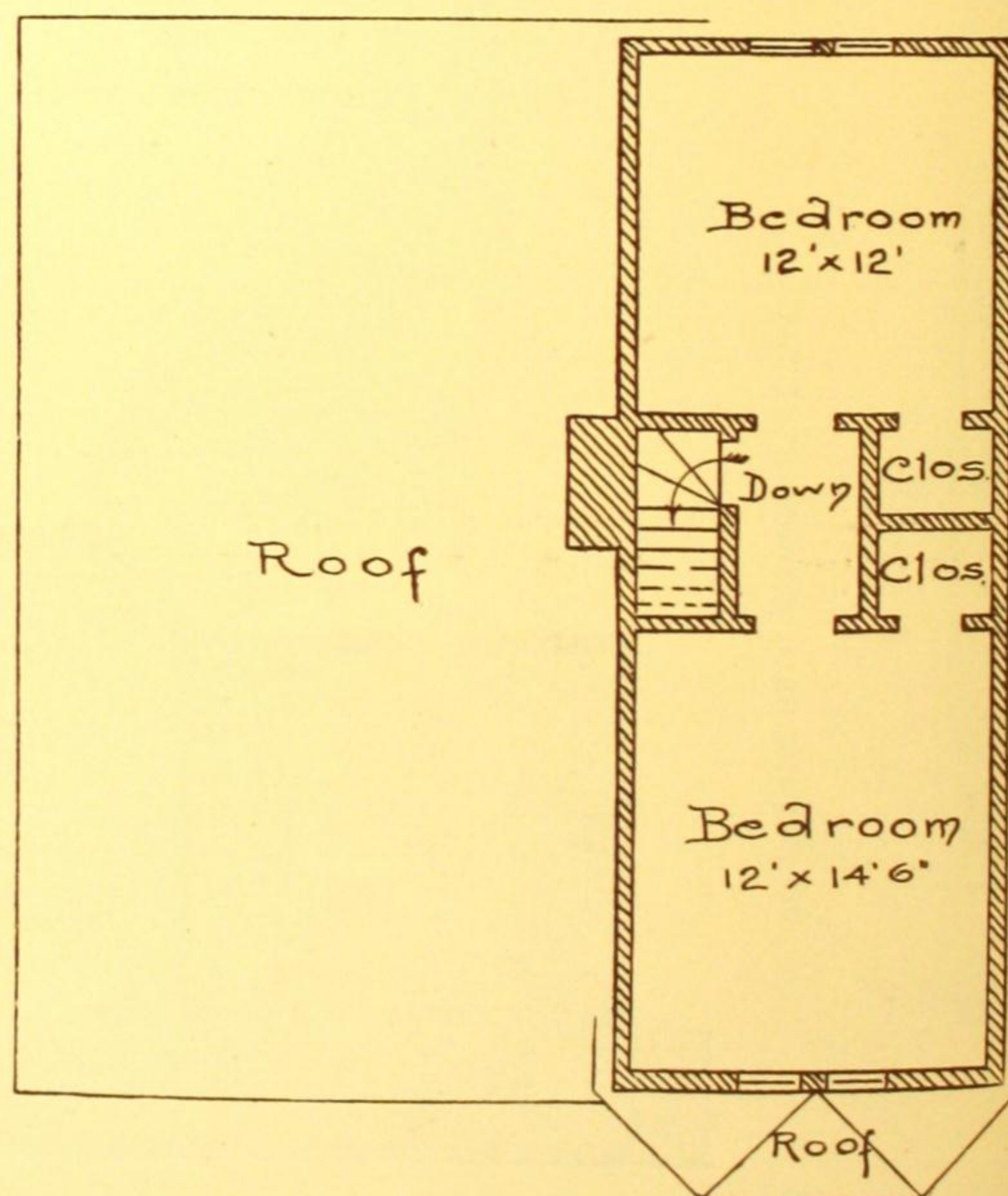
SPECIAL FEATURES: There is a cellar 12x12 ft. with plank walls.

Bath, wash basin and sink are provided but no hot water service. Small pumps are placed at the sink and in the bathroom, connecting with the cistern or the well. If running water is accessible it is better to lay pipes to these fixtures and use faucets.

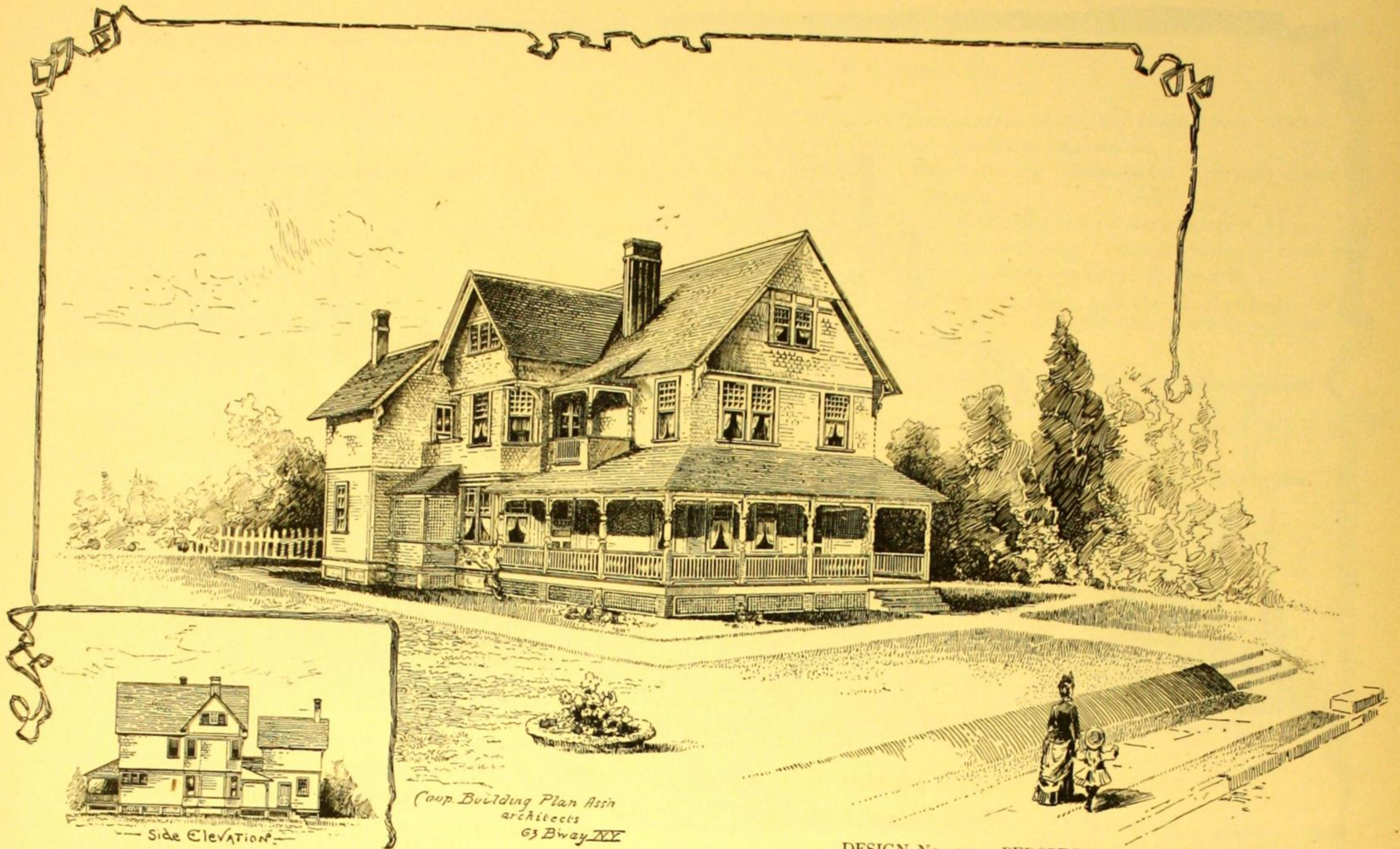
Open fireplaces, with mantels to cost \$10 each. Brick hearths.



FIRST FLOOR. NO. 502



SECOND FLOOR. NO. 502



DESIGN No. 503. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 503

SIZE OF STRUCTURE: Front, including veranda, 34 ft. Side, including kitchen extension, 66 ft.

SIZE OF ROOMS: See floor plans.

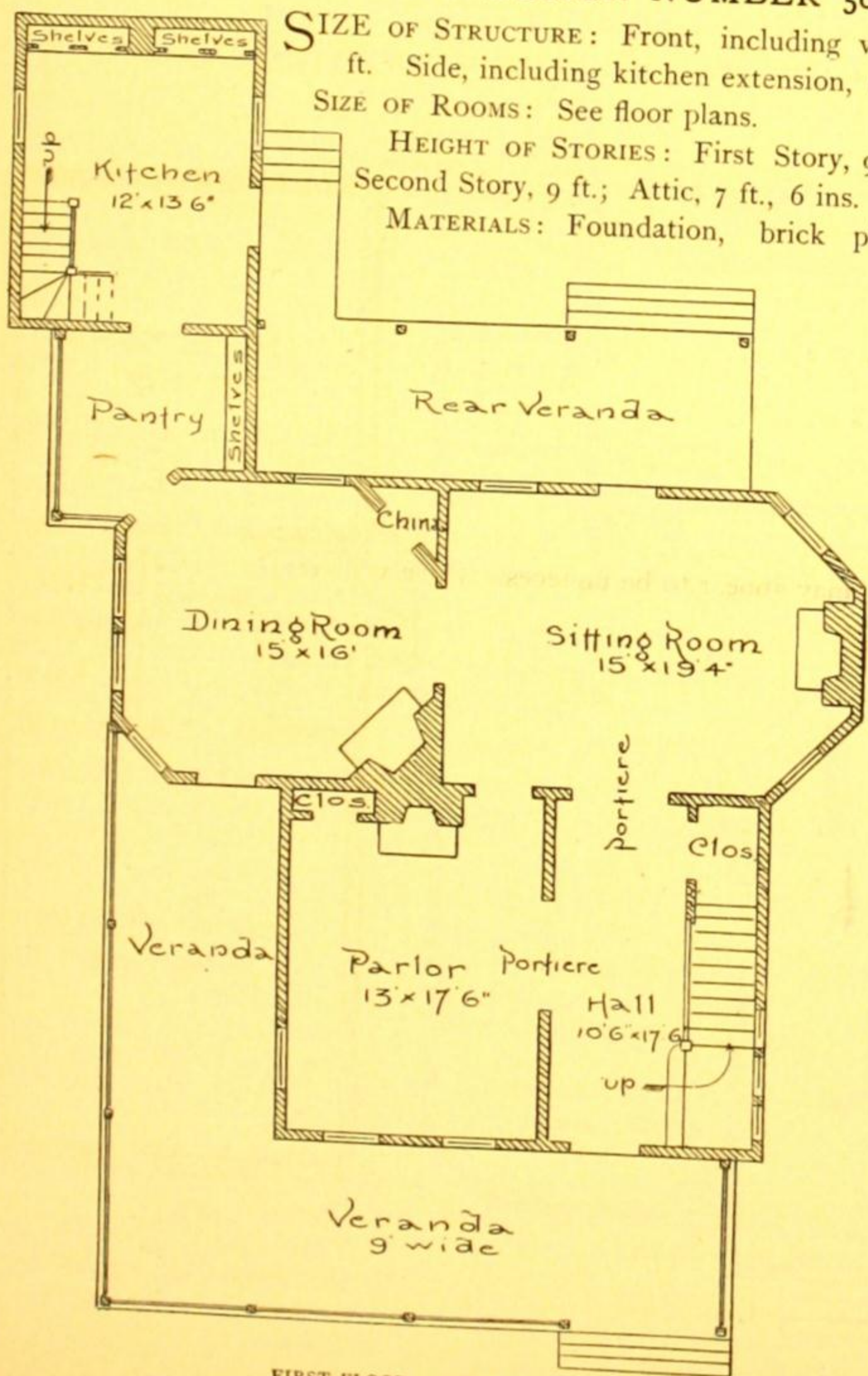
HEIGHT OF STORIES: First Story, 9 ft., 6 ins.; Second Story, 9 ft.; Attic, 7 ft., 6 ins.

MATERIALS: Foundation, brick piers; First

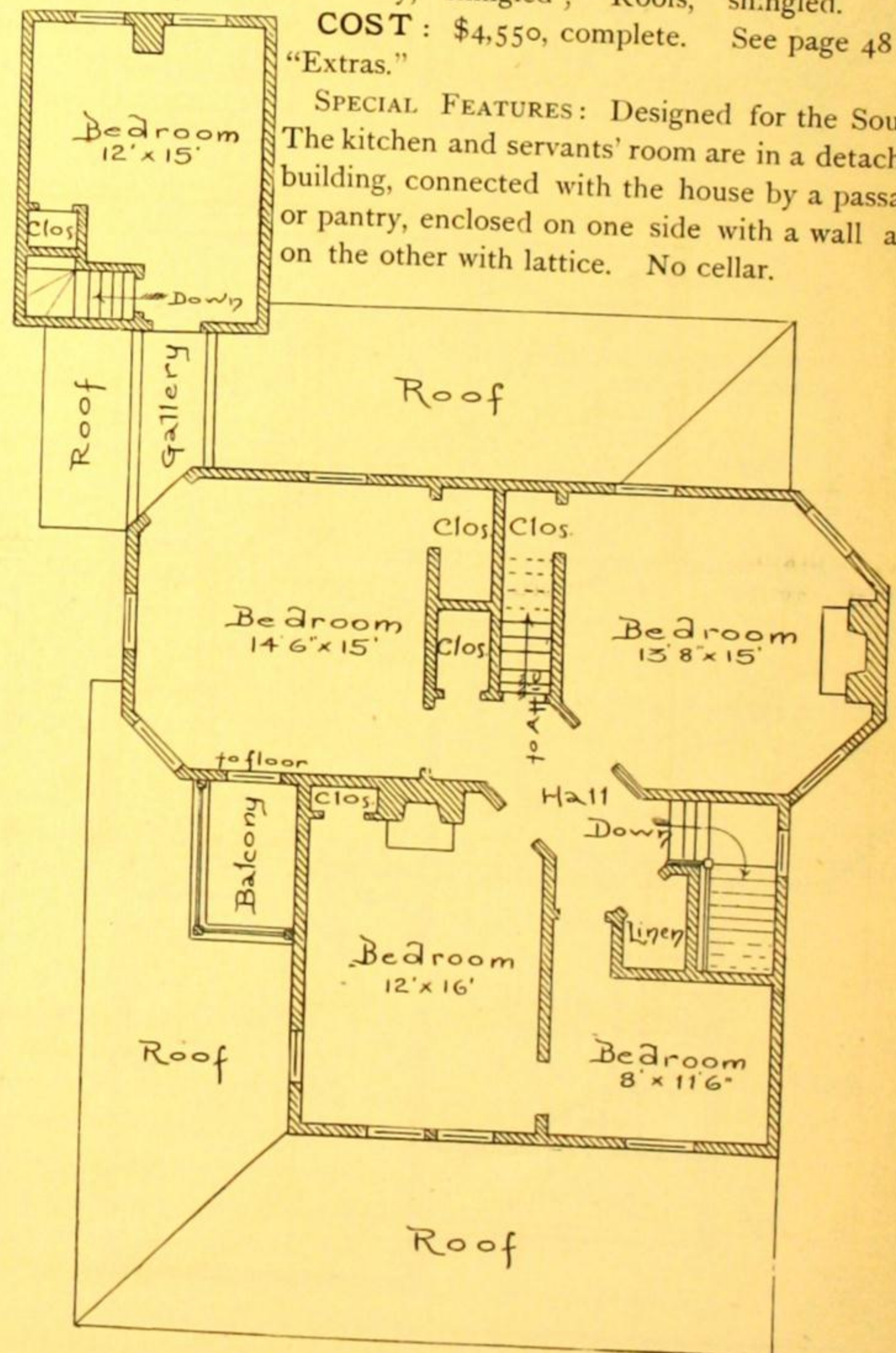
Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$4,550, complete. See page 48 for "Extras."

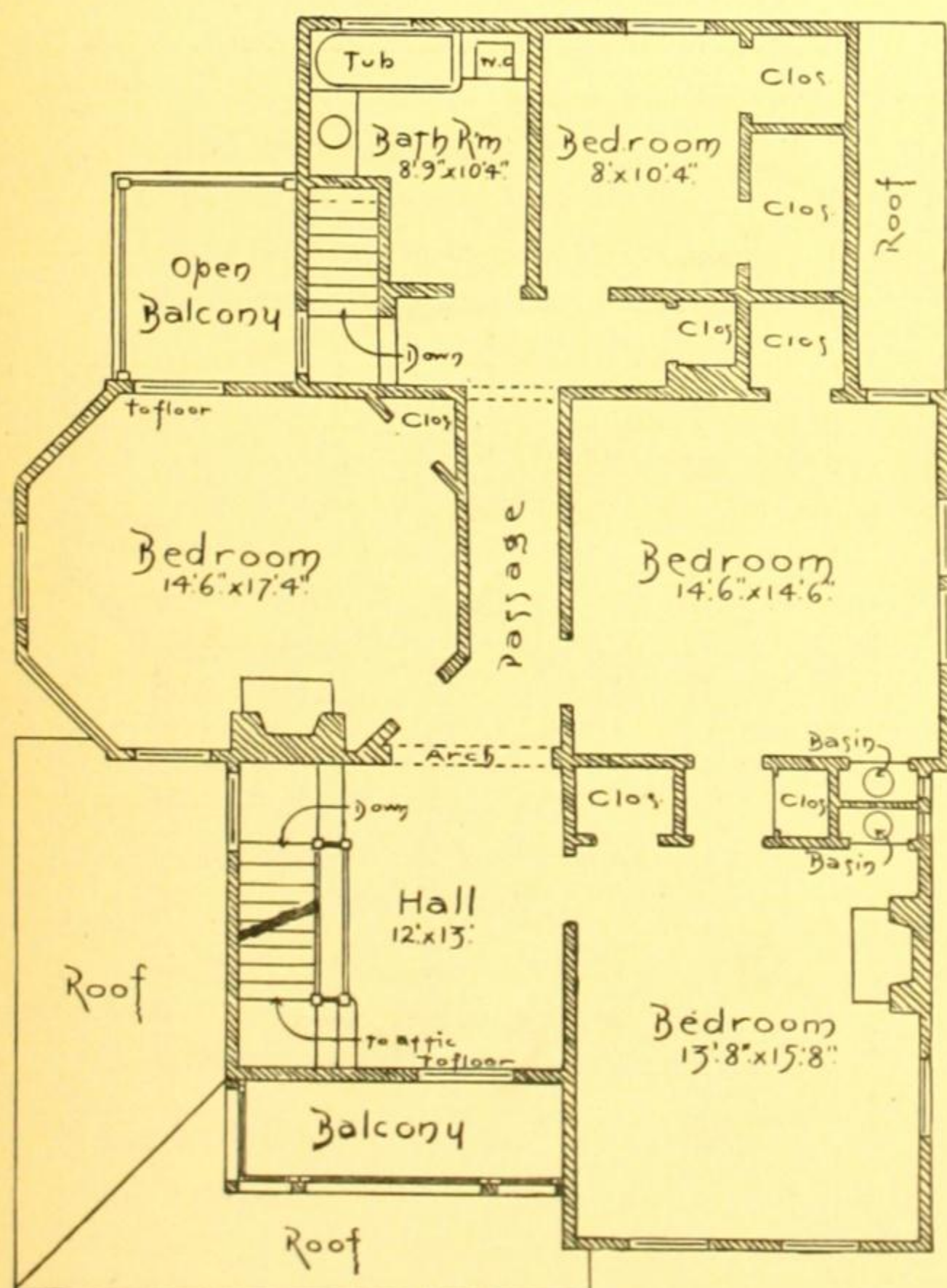
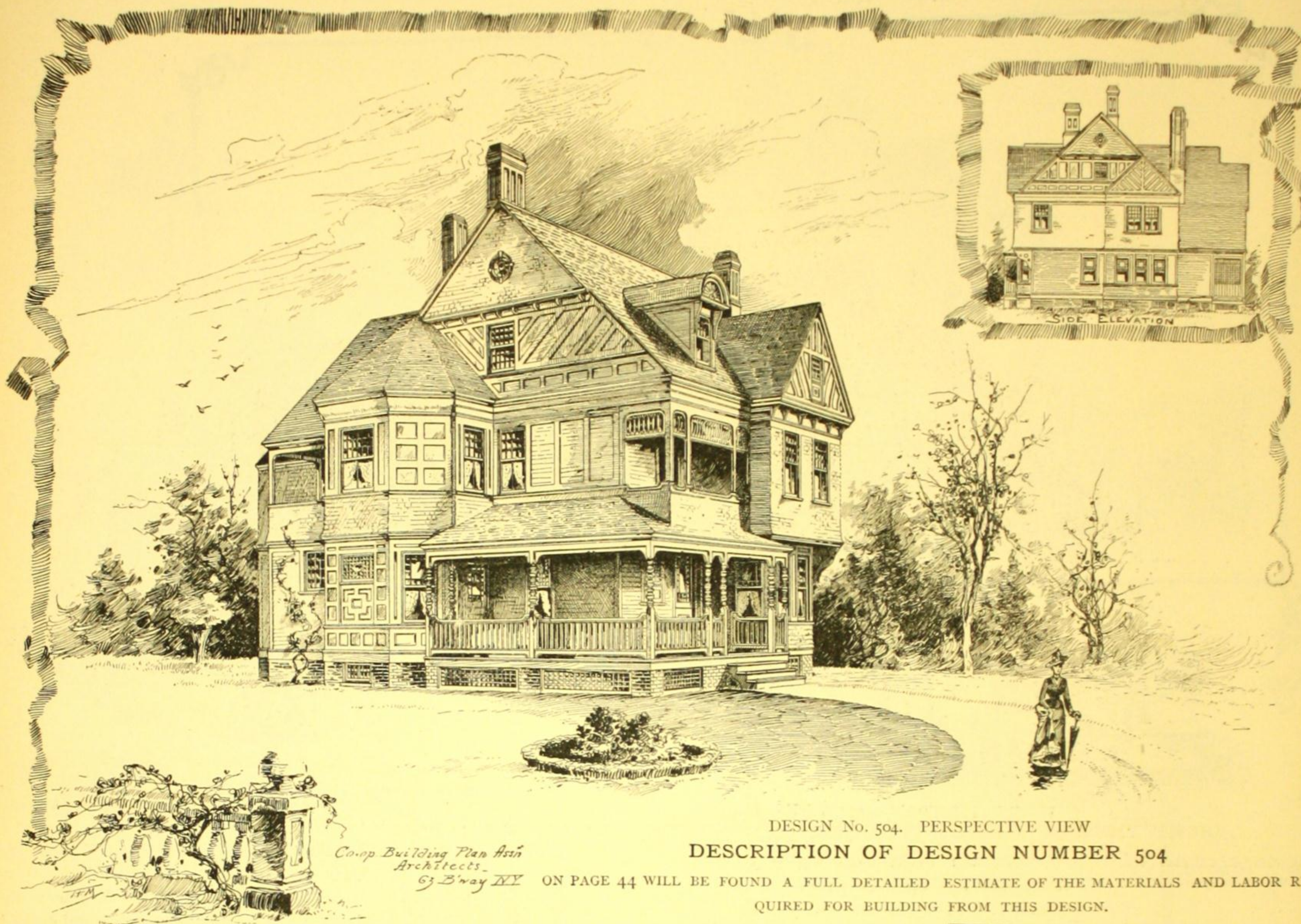
SPECIAL FEATURES: Designed for the South. The kitchen and servants' room are in a detached building, connected with the house by a passage or pantry, enclosed on one side with a wall and on the other with lattice. No cellar.



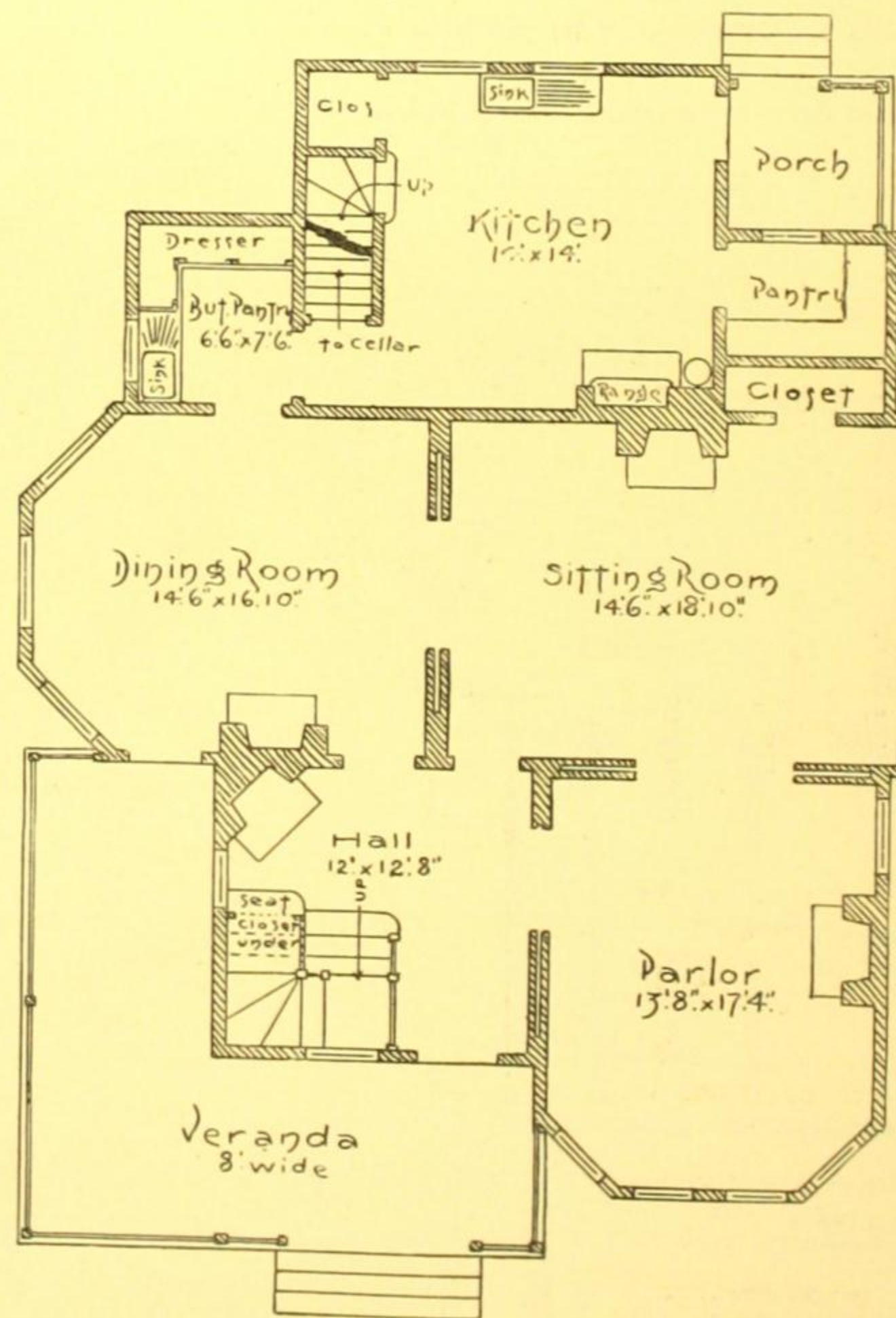
FIRST FLOOR. NO. 503



SECOND FLOOR. NO. 503



FIRST FLOOR. NO. 504



SECOND FLOOR. NO. 504

SIZE OF STRUCTURE: Front, including veranda, 36 ft. Side, 48 ft.

SIZE OF ROOMS: See floor plans, on page 50.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 ins.; Second Story, 9 ft.; Attic, 8 ft.

MATERIALS: Foundation, stone and brick; First Story, clapboarded; Second Story, shingled; Roof, slate.

COST: \$5,537.62, complete, except heater and range. See "Extras" on page 48 for other items that the owner may wish to include in a contract.

SPECIAL FEATURES: Cellar under the whole house, with cemented bottom. Laundry under the kitchen.

The fireplace, seat and window under the stairs are attractive features of the hall.

Sliding doors connect the principal rooms.

Open fireplaces throughout. The first story rooms have inside blinds; elsewhere outside blinds.

Mantels to the value of \$165 are provided; tile hearths to the value of \$48.

Two of the large bedrooms in the second story have stationary wash basins and running water.

DESCRIPTION OF DESIGN NUMBER 505

THE EXTERIOR APPEARANCE IS THE SAME AS THAT OF DESIGN NUMBER 504

SIZE OF STRUCTURE: Front, including veranda, 41 ft. Side, 57 ft., 6 ins.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 ins.; First Story, 10 ft.; Second Story, 9 ft.; Attic, 8 ft.

MATERIALS: Foundation, stone and brick walls; First Story, brick; Second Story, shingles and wood paneling; Roof, slate.

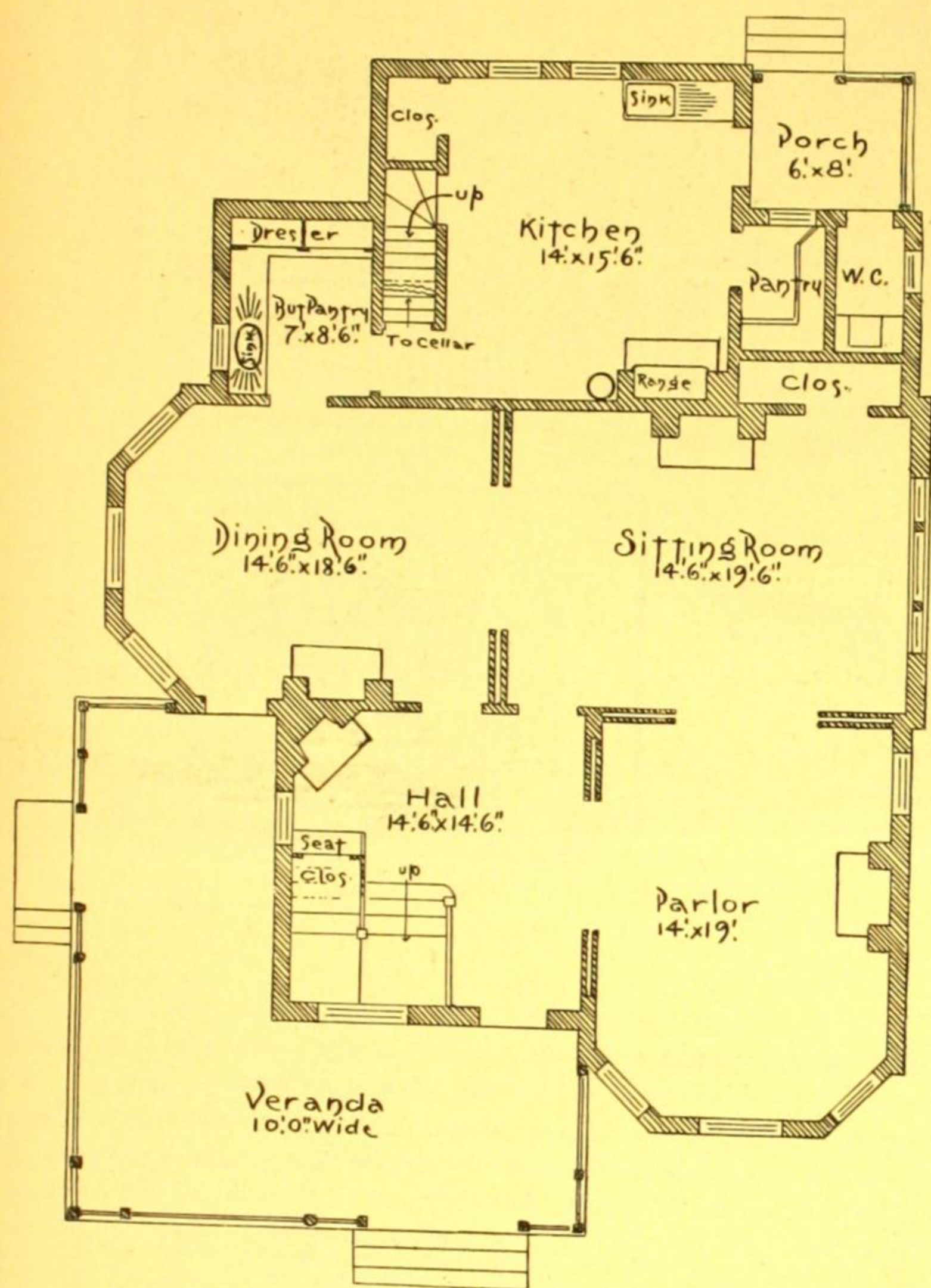
COST: \$8,000, complete, except heater and range. See "Extras" on page 48, for other items not included in estimate.

SPECIAL FEATURES: Cellar under the whole house. Laundry under the rear part, with enamelled iron tubs.

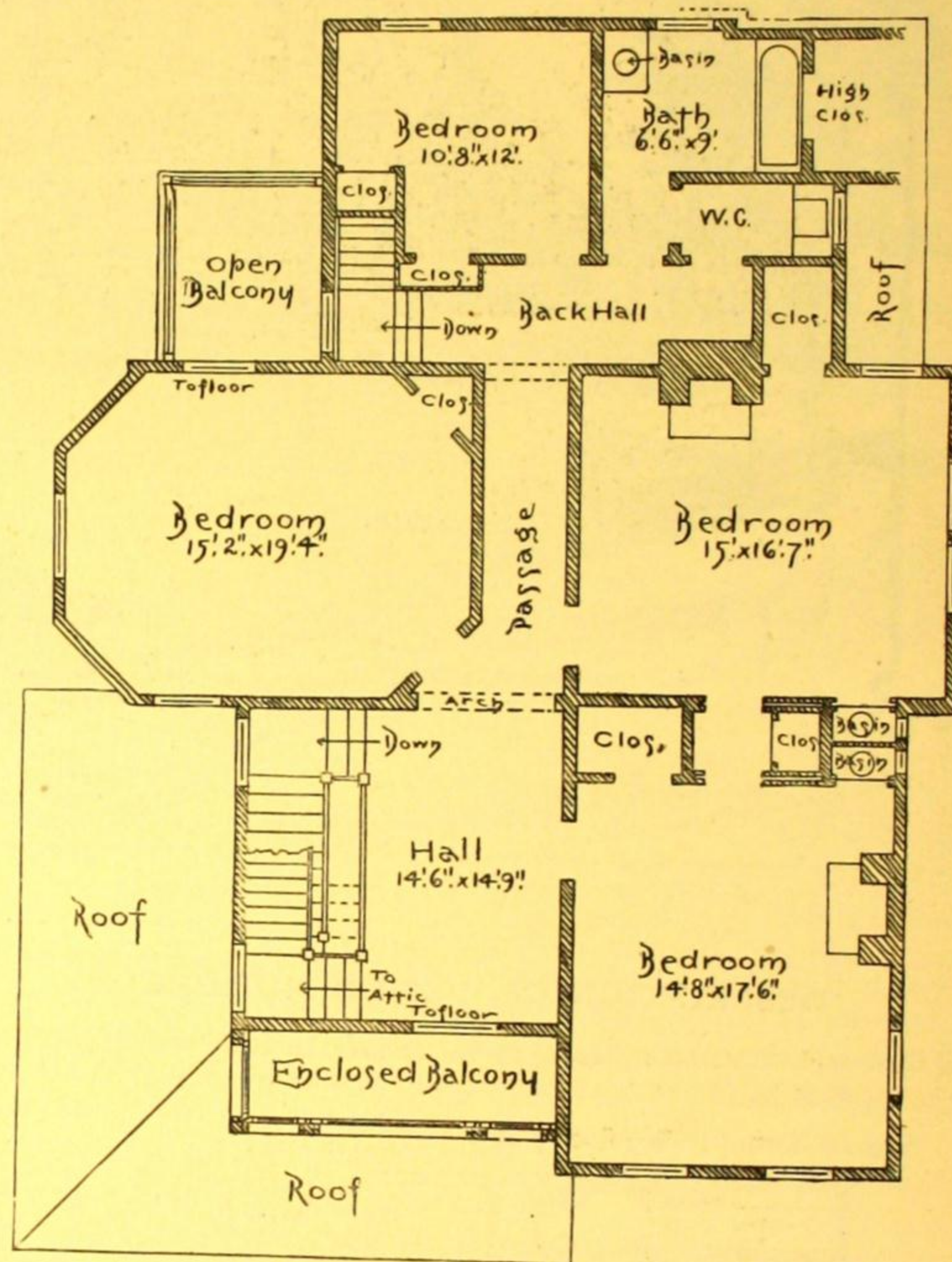
The amount allowed for mantels, tiling and fireplace linings is \$394.

Stationary wash basins in two bedrooms. Open fireplaces in three bedrooms. Four bedrooms and storeroom are finished in the attic.

NOTE.—In the drawing of the second floor, given below, the fireplace of the large bedroom was omitted by mistake. It should appear directly over the fireplace shown in the dining-room.



FIRST FLOOR. NO. 505



SECOND FLOOR. NO. 505

ARCHITECTURAL AIDS

THE following may be regarded as a full and complete list of architectural aids for the building of a house. The last four items are not usually furnished by architects, but we consider them necessary. Besides these aids the client is entitled to consultation at all times before commencing, during the progress and at the completion of the work:

WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.

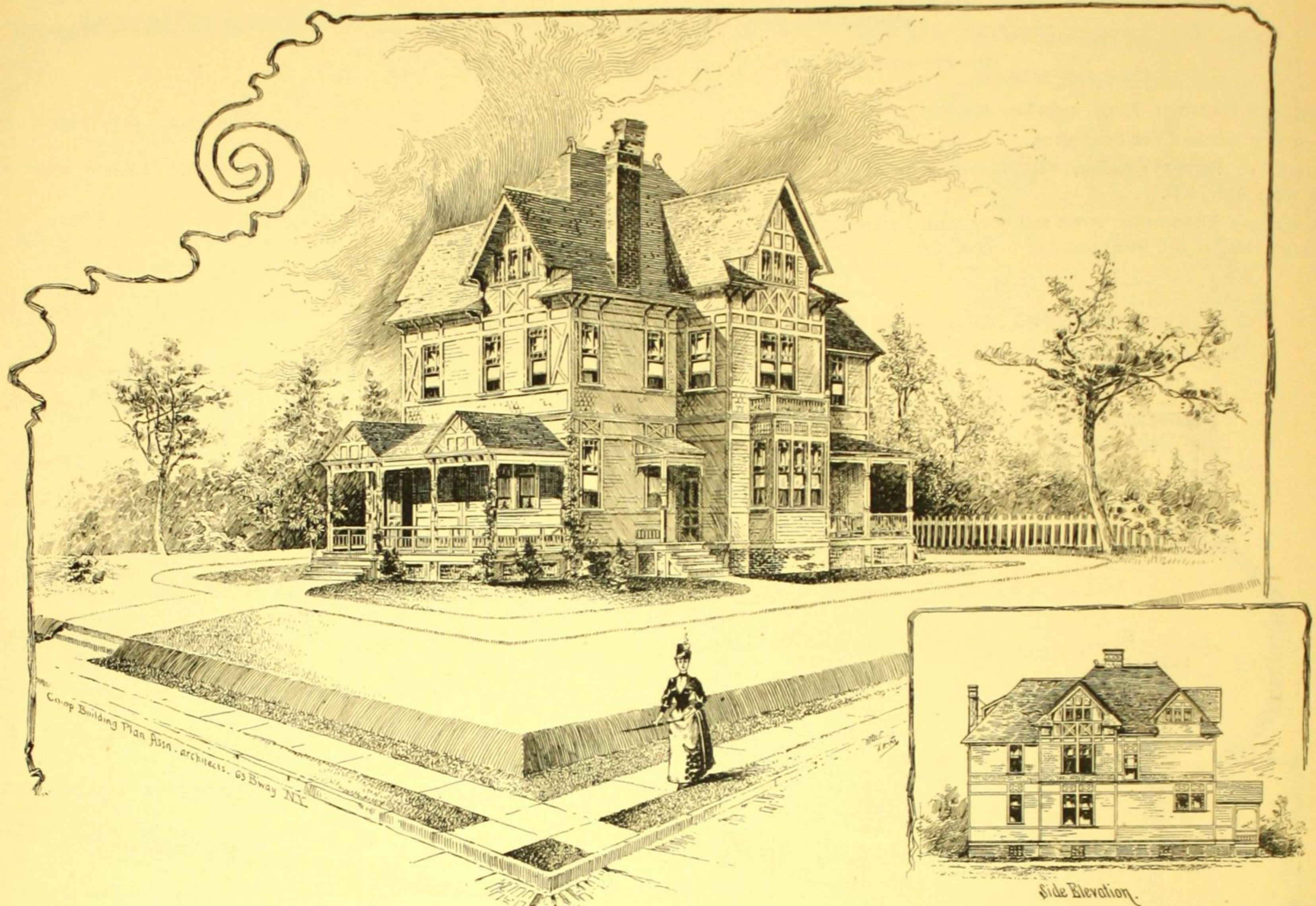
SUPPLEMENT SHEET, containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

BLANK CONTRACTS, ready for use.

Those who have once employed Working Plans, Specifications, etc., in building, need not be told how useful, indeed how indispensable they are.

How they enable the owner to invite competition among the builders; how they simplify everything and make him the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; *how they actually save money*, it being a well known fact that their use saves at least ten per cent. of the cost of construction.

L. B. Blydenburg, Esq., of Palmyra, N. J., writes to the Co-operative Building Plan Association, of New York, to say: "While sitting in my cozy library looking at the storm, I am reminded of what appears to me a duty, *viz.* to make my acknowledgements to you for some of the comforts I am enjoying. Have had a five months' trial of the house built from your Working Plans and Specifications, and am more and more pleased with the arrangement every day, and, what is unusual, have not discovered anything that could be changed for the better; the appearance and shape outside also is all that I could wish. It is the handsomest house in this place—so acknowledged—and many have come quite a distance to see it."

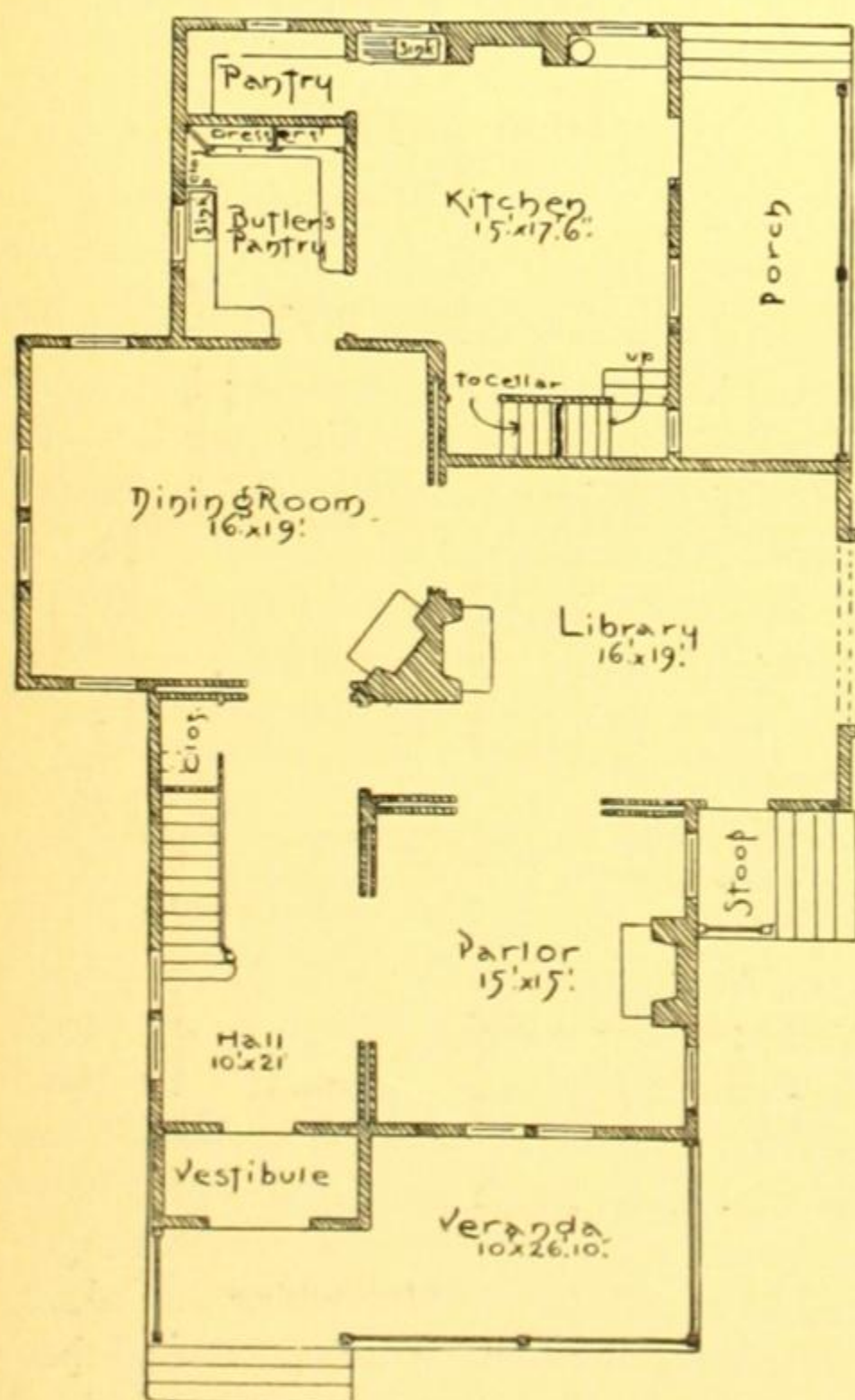


DESIGN No. 506. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 506

SIZE OF STRUCTURE: Front, 26 ft., 10 ins.; extreme width, 43 ft. Side, 54 ft., 6 ins.

SIZE OF ROOMS: See floor plans.



FIRST FLOOR. NO. 506

HEIGHT OF STORIES: Cellar, 7 ft., 6 ins.; First Story, 11 ft.; Second Story, 10 ft.; Attic, 8 ft., 6 ins.

MATERIALS: Foundations, stone; First and Second stories, clapboards; Roof, shingles.

COST: \$6,200, complete, except heater and range. See "Extras" on page 48, for other items not included in the estimate.

SPECIAL FEATURES: Cellar under the whole house, with cemented bottom and outside entrance from the rear.

The rooms of first story are connected by sliding doors.

Open fire-places in parlor, library, dining-room and two bedrooms. Mantels to the value of \$120 are provided.

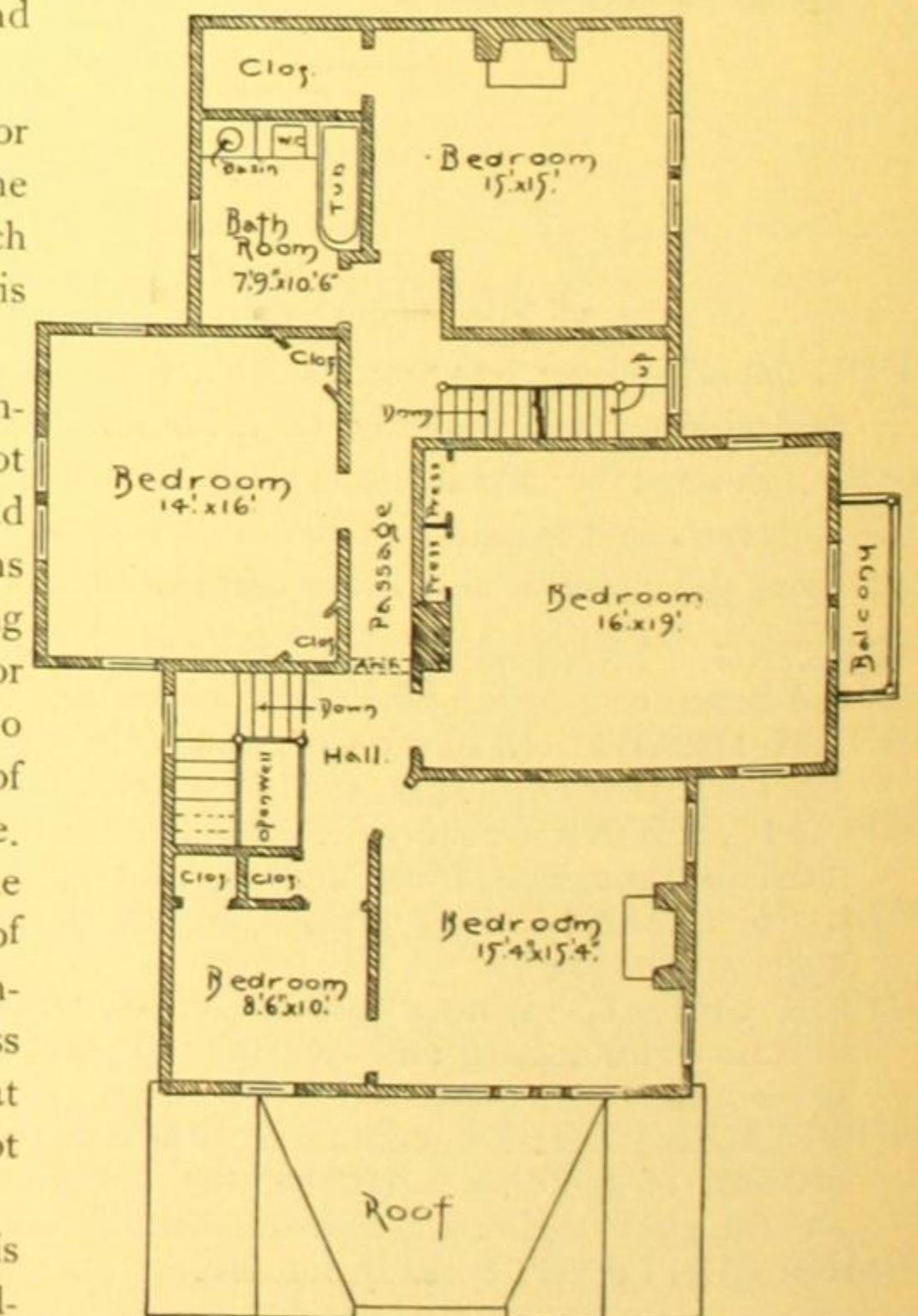
Large butler's pantry and store closets. Large coat closet under front stairs. Five good bedrooms and a trunk room in the attic.

Properly painted, as described in the specifications, the appearance of this design is greatly enhanced. The paneling on the exterior affords opportunity for a pleasing variety of colors; but they must be combined with skill or the result will be gaudy and offensive to good taste.

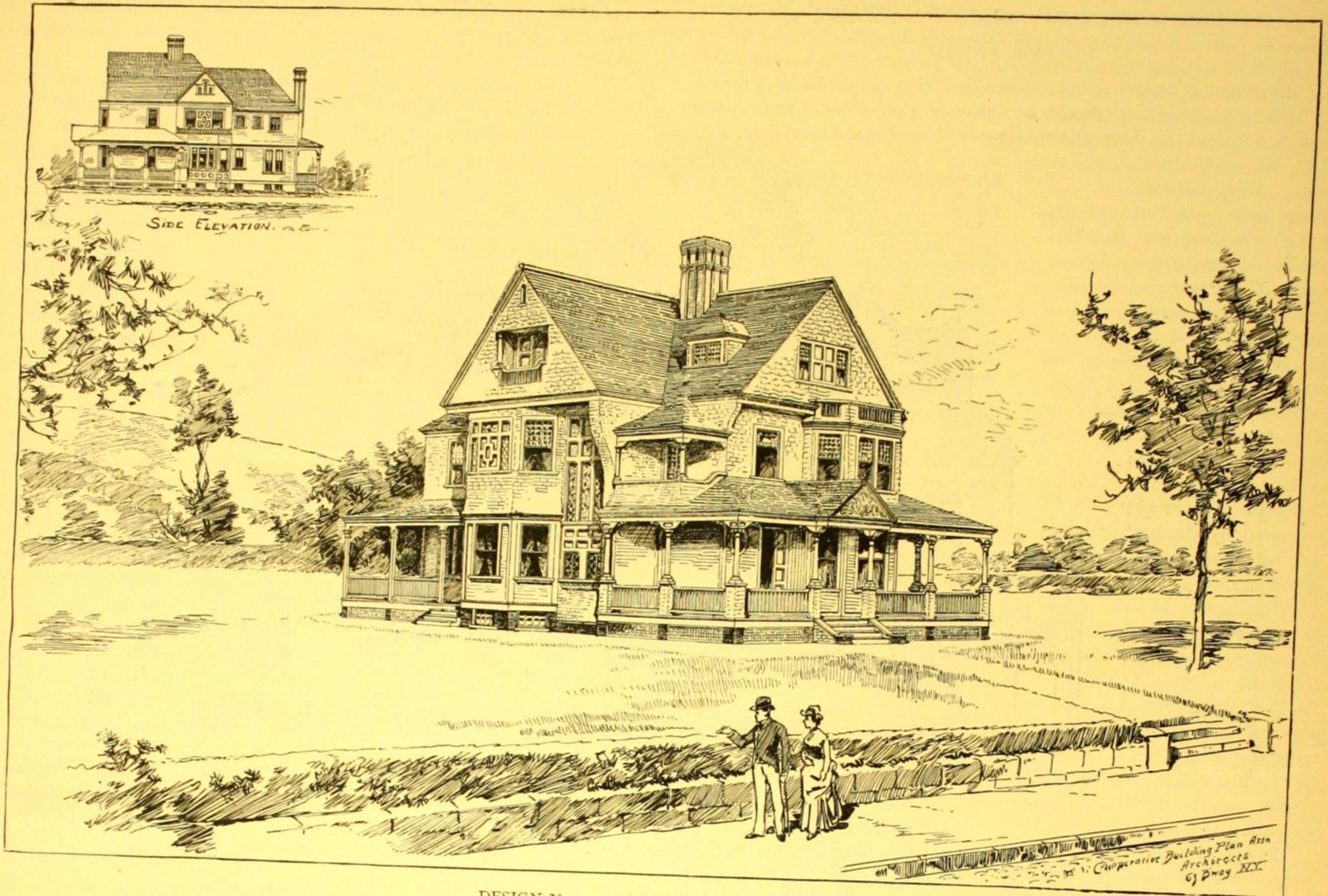
A good house for a doctor of medicine, by using the library for an office, to which a separate side entrance is provided.

A passage from the kitchen to the front hall is not provided, because it would necessarily make the rooms smaller and destroy the long views from one end or from one side of the floor to the other, which is one of the charms of this house. As there is a servant in the dining-room during part of the day and as it is no intrusion for a servant to pass through the dining-room at any time, the passage is not really required.

All of the rooms in this house, except the hall bedroom, are large.



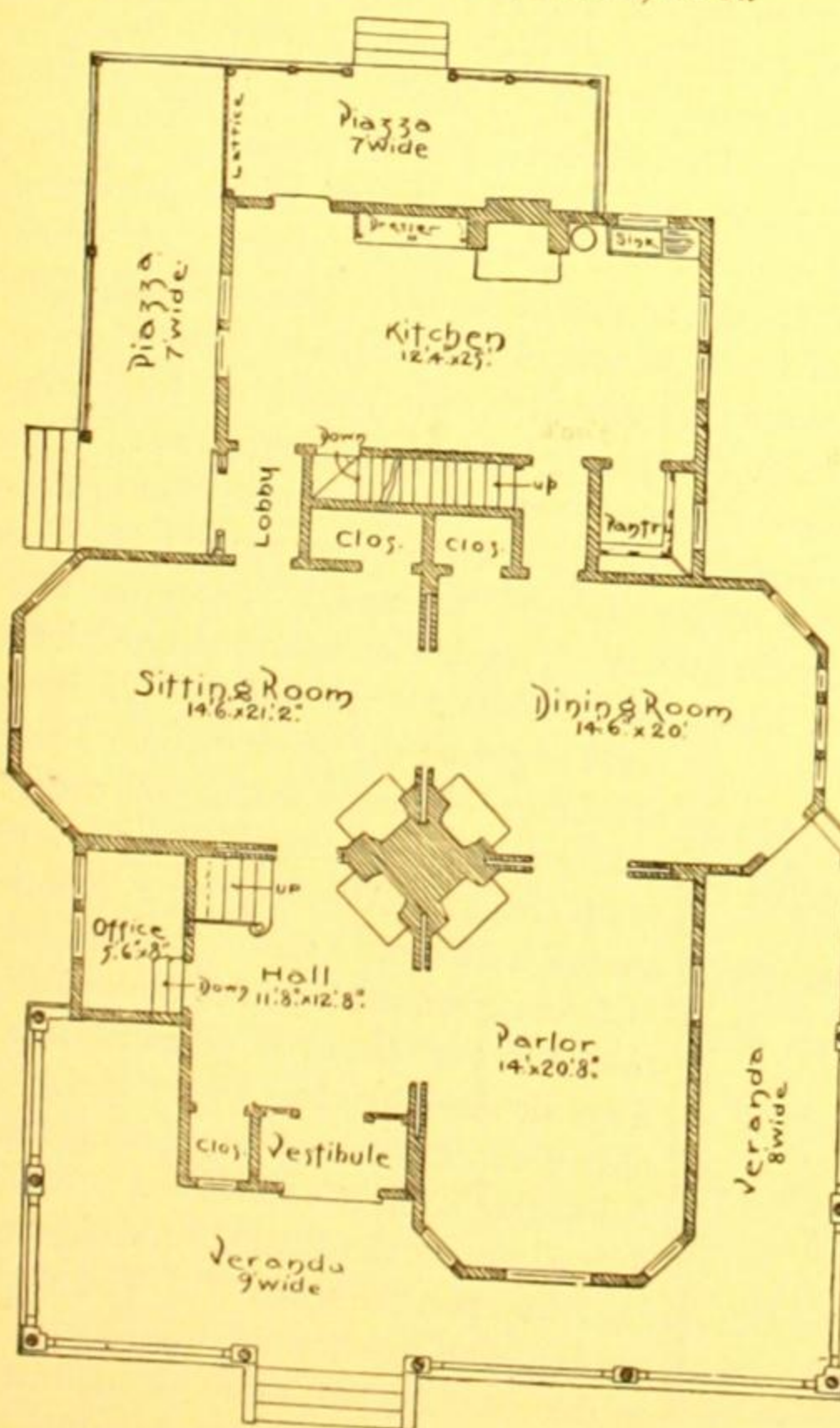
SECOND FLOOR. NO. 506



DESIGN No. 507. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 507

SIZE OF STRUCTURE: Front, including veranda, 44 ft., 6 ins. Side, including front and rear veranda, 68 ft.



SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft., 6 ins.; First Story, 10 ft.; Second Story, 9 ft., 6 ins.; Attic, 8 ft.

MATERIALS: Foundation, stone walls; First Story, clapboarded; Second Story, shingled; Roofs, shingled.

COST: \$6,800, complete, except heater and range. See "Extras" on page 48, for other items not included in estimate.

SPECIAL FEATURES: Cellar under the whole of the house, with cemented bottom.

The rooms are large, and on first story are connected by double sliding doors.

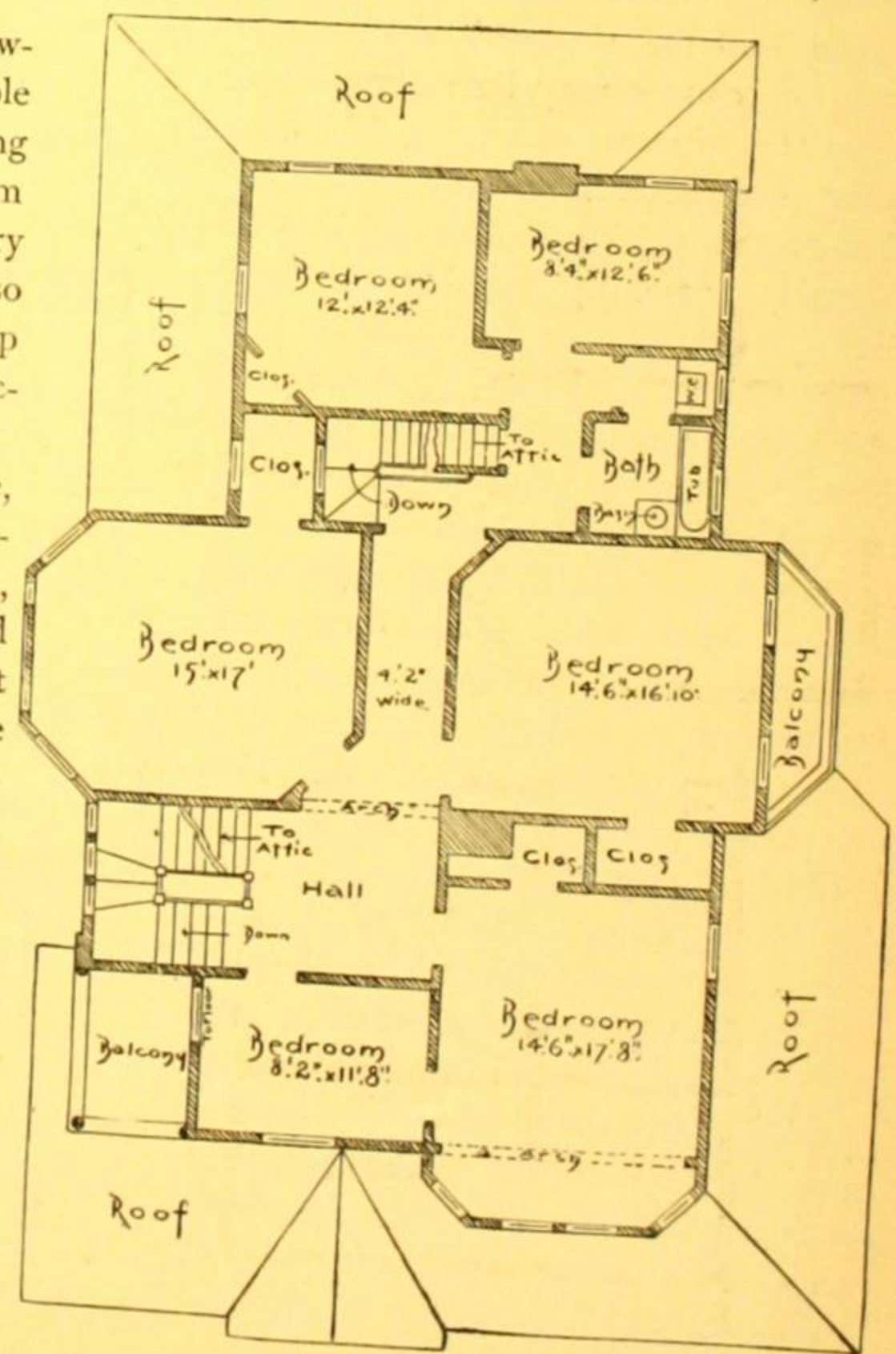
Hall and two rooms are finished in the attic.

The "Office" under the stairway is well lighted and

is large enough for a desk and a chair. It is a handy place where bills may be looked over and filed and where correspondence may be attended to. The man who has "retired" and is trying to content himself away from business will often find this little den the most comfortable place, for him, about the house.

A grate fire in the lower hall is a comfortable thing to see, suggesting the hospitality of a "warm reception" on the very threshold. It will also send considerable heat up the stairway to the second floor.

The cost of this house, as well as of all other designs in this publication, is so carefully estimated that owners need not doubt its accuracy. The prices allowed for material and labor are shown by the specimen estimate, to be found on another page. Allowing for the differences between the prices given and those which prevail in the owner's locality, a very close estimate for any locality may be arrived at. No estimates are made by "guess work."



DESCRIPTION OF DESIGN NUMBER 508

A SCHOOL BUILDING

IN the planning, designing and construction of a school building the controlling considerations should be safety in case of fire or panic, perfect sanitary arrangement, thorough ventilation and heating and good light.

If not wholly fire-proof, the stairways should be fireproof, they should have short runs and should not be too wide. Wide stairways, having long runs are almost sure to cause falling and jamming in case of a panic.

The ventilation of all parts of the building is effected by means of the vent flues shown on the plan. A draught is created by the heat the vent flues receive from the smoke pipes. The heating may be by hot air or steam. A portion of the cellar or basement is designed for the heating apparatus and for coal; the remainder may be used for gymnasium, or for a playroom in stormy weather.

The light of a school-room should not only be unobstructed, but it should fall so that it will not cast shadows. A glance at the floor plan will explain this. As the pupils sit facing towards the front the light falls from the windows on their left directly upon their desks, without a shadow being cast by their right hands when writing.

The building shown is so arranged that the classes may be assembled or dismissed without interfering with each other, and at a moment's notice the class rooms may be transformed into an assembly room, by opening the large sliding doors between the rooms.

The clothes closets or wardrobes which are of ample size, have passages through them, so that pupils can file through and hang up their clothes when assembling and file through and get their clothes when dismissed. These wardrobes are open at the top, the enclosing partition on the hall side not being carried to the top of the hall ceiling. This provides thorough ventilation for the wardrobes, any bad odors arising from the clothing being carried into the hall. Wire netting should piece out the partition at the top, to prevent some of the merry youngsters from throwing the hats of other merry youngsters over the partition into the hall. By this arrangement the wardrobe can be under the direct care of the teacher.

This design is susceptible of enlargement or reduction. If the front portion,

having three or four rooms on each floor, fill present requirements, the addition of a section of one or more rooms on each floor at any future time may easily be accomplished.

The attic over the front portion may be used for a laboratory, for lecture rooms or for janitor's quarters. It is generally preferable to have the janitor and his assistants live in a separate building. The roof may be flat, which

would be less imposing but much cheaper.

The building is designed with a view to separating, according to primary and grammar grades or by sexes. Each grade or sex, as the case may be, to occupy separate floors.

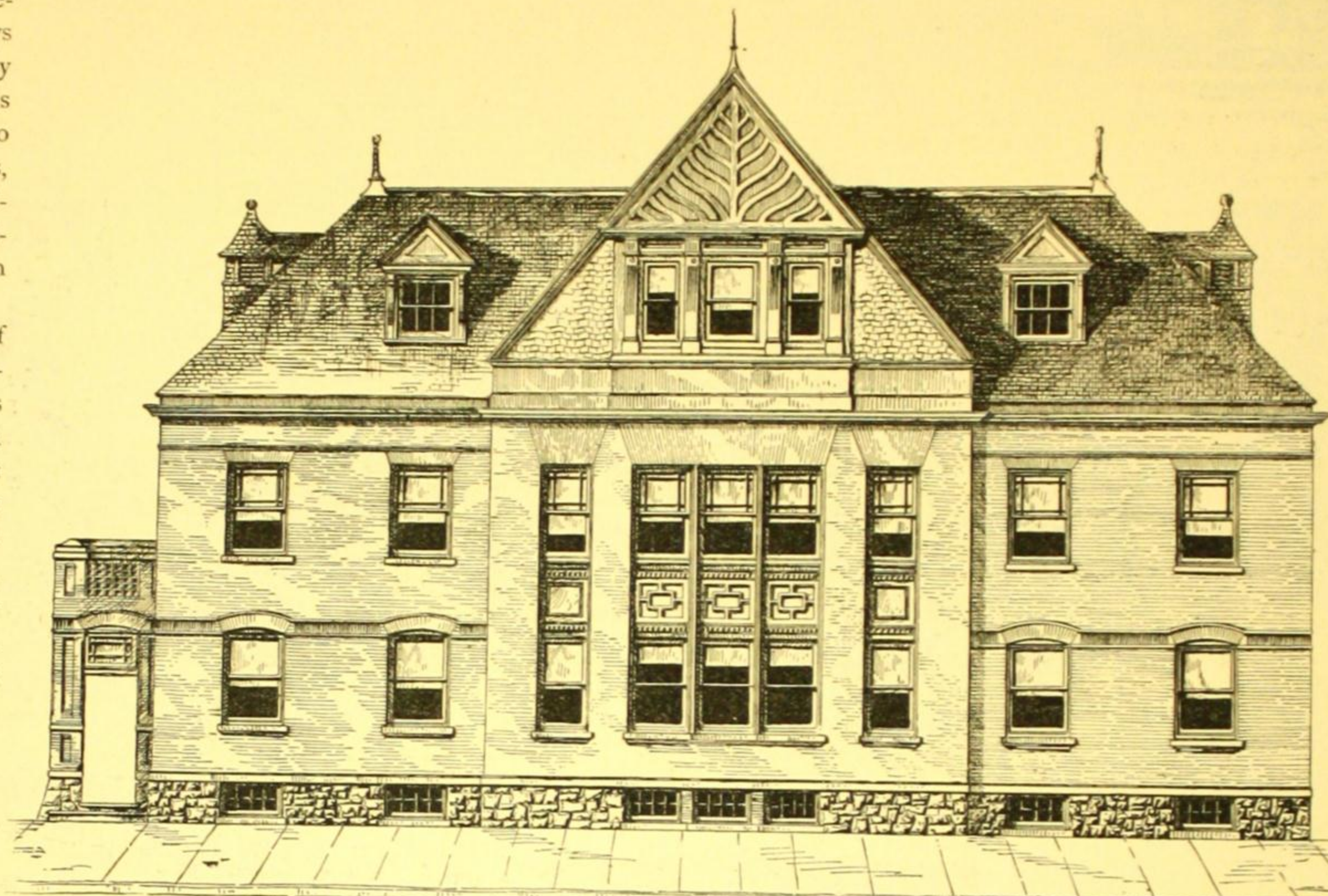
The front is designed to be built of red stretcher brick laid in red mortar. The sides and back to be of common hard brick laid in white mortar. Blackboards are placed in the panels of the sliding doors as well as upon the space of the side walls.

THE COST of the building, without school furniture and heating apparatus, is roughly estimated at \$28,000 to \$30,000.

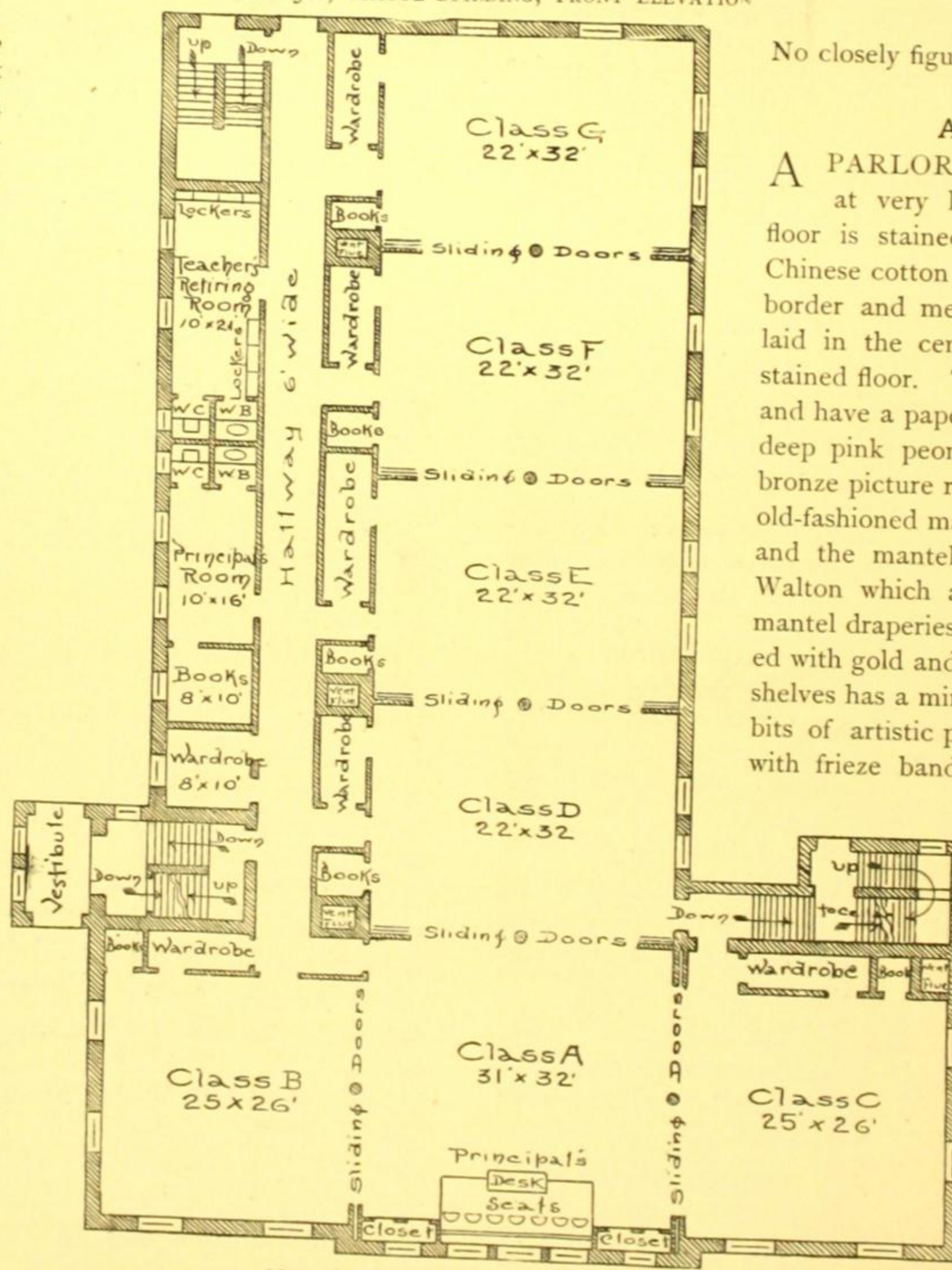
No closely figured estimate has been made.

A COUNTRY PARLOR

A PARLOR in a country house has been made pretty at very little expense by the inmates thereof. The floor is stained an olive green and polished. A large Chinese cotton rug, of white ground, with an arabesque border and medallion of pink and pale olive green, is laid in the centre, showing a border a yard wide, of the stained floor. The walls are tinted a shrimp pink color, and have a paper frieze of pink ground, with a pattern of deep pink peonies with olive green foliage. A green bronze picture rail separates the frieze from the wall. The old-fashioned marble mantel and hearth are painted green and the mantel is decorated with panels of Lincrusta-Walton which are painted a green bronze color. The mantel draperies are of cream-colored cheese cloth, painted with gold and bronze disks. An over mantel of railed shelves has a mirror background, and is decorated with bits of artistic pottery. Simple curtains of cheese cloth, with frieze band, painted similarly to the mantel drapery, hang from the windows, and there are inner or sash curtains, of cheese cloth, with a trimming of cream white tassel fringe. A pretty cane sofa is stained a dark olive green, and has back and seat cushions of golden olive plush, tied with two shades of green ribbons. Two or three bamboo chairs, painted olive green, have cushions of pink plush. A hanging cabinet and several prettily framed water color sketches and engravings are upon the walls. * * The decorations and furniture of this room are of the simplest, yet a look of quiet refinement reigns over all.—*Art Age*.



NO. 508, SCHOOL BUILDING, FRONT ELEVATION



SCHOOL BUILDING, FIRST FLOOR, NO. 508

DESCRIPTION OF DESIGN NUMBER 509

A SMALL BANK BUILDING

SIZE OF STRUCTURE: Front, 25 ft. Side, 48 ft.

HEIGHT OF STORIES: Cellar, 8 ft.; First Story, 12 ft.; Second Story, 10 ft., 6 ins.

MATERIALS: Foundations, stone walls; walls above foundation, brick; Roof, tin.

COST: \$4,900, complete. See "Extras" on page 48.

SPECIAL FEATURES: Designed for a bank and office building, but can be used for store or altogether for offices by a different arrangement of the partitions on ground floor, and the omission of the vault. Cellar under the front part, extending as far back as the partition wall of the directors' room.

The vault has a double brick wall with an air space between, with a heavy stone foundation.

The banking rooms are finished with hardwood; the offices with pine. The estimate of cost includes the fitting up of the banking room with partitions and counters.

The fireplace in the directors' room has a mantel of the value of \$50.

The middle offices on the second floor are lighted by sashes from the front and rear rooms. There is a skylight over the hall.

The floors are of hard Southern pine, which makes a very durable and handsome floor.

All windows in the front are glazed with plate glass.

The front wall is faced with the best press brick. The upper work of the main cornice, and the balustrade above it is of galvanized iron.

Many a small but rapidly growing town in the western or southern part of this country feels the need of just such buildings as this. The walls are thick enough to carry another story, which would increase the revenue derived from the building very considerably.

An excellent way to finish the interior of a building of this kind is to ceil the walls and ceilings with narrow matched and beaded yellow pine. A small wood moulding in the angle formed by the wall and the ceiling will cover any rough joints and make the effect of a cornice. In most localities this finish will cost a little more than plastering but the effect is better. The wood should be well oiled. After it has stood for some little time it will have a depth of color that is very pleasing.

We do not advocate this finish for dwellings, as it is not as warm as plastering, and offers a hiding place for vermin; it conveys

sounds, also, from one room to another more than plastered walls. But for a summer cottage, where warmth is not a requisite, it makes an excellent finish and is quite in keeping with the character and purposes of the building.

In some sections poplar is plentiful and very inexpensive. This wood makes a good finish for walls as above described, and should be stained to make it a little darker than its natural color. Ash, oak, maple and birch can be used for the same purpose.

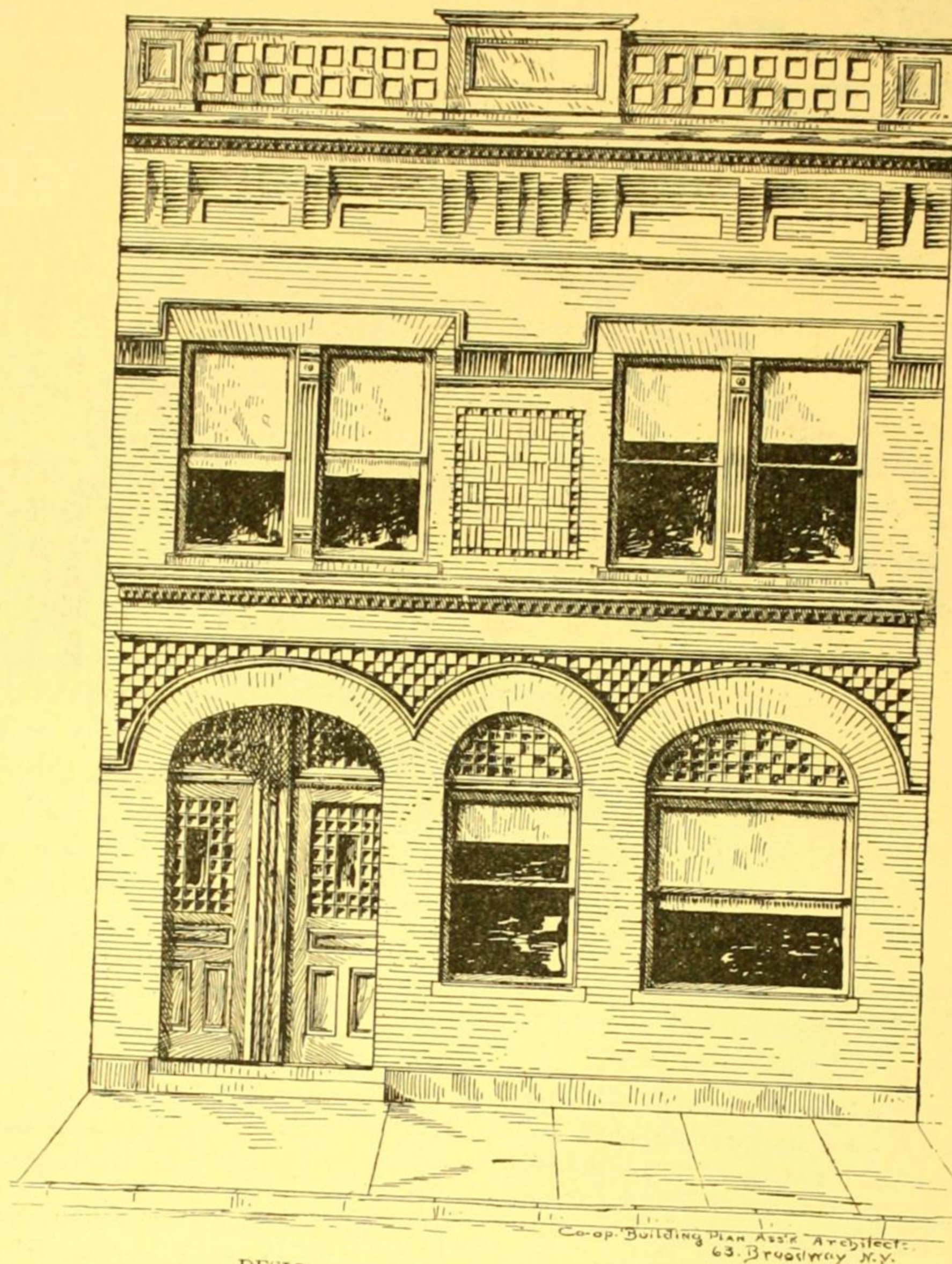
It is quite permissible, and the effect is very pretty, to plaster the side walls of the rooms, and cover the ceiling with any of the woods mentioned, hiding the junction at the angle with a wood moulding. The strips can be laid diagonally so as to make square or lozenge shaped figures. These ceilings do away with the danger of falling plaster.

MODERN CARPENTRY

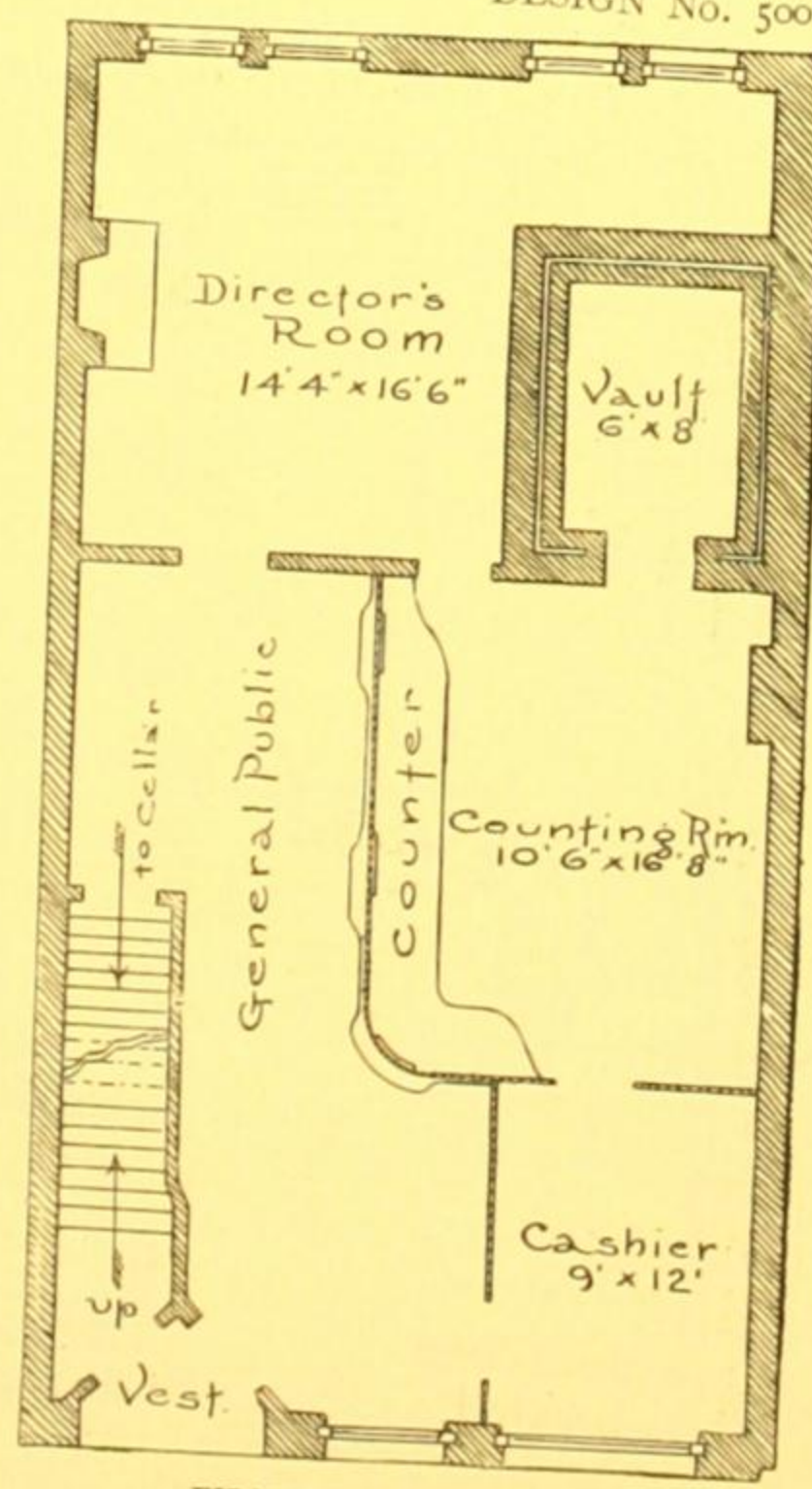
A HUNDRED years ago all the woodwork of a house was got out by hand labor. The timbers were hewn with axe and adze from trees felled on the spot where the house was to stand, or in the neighboring forest. The boards covering the exterior walls were split in short lengths, the full width of the log, and smoothed with the broad axe or adze, or else the walls were covered by long split shingles. The flooring was laboriously sawed by hand from the logs and nailed down with nails made by the village blacksmith. All mouldings were "stuck" by hand, that is, the plane or iron of the desired shape was worked by hand. In short the whole of the woodwork was cut and put together by one man or one set of men.

The method now is very different. The timber is felled a thousand miles away, perhaps, and is sawed to the desired dimensions by a gang saw which cuts up a large log into inch boards in a few minutes—work that required two men a week or more by the old method of hand sawing. All planing and moulding is done with machines, which for accuracy of work and rapidity are truly wonderful. Sashes, doors and blinds are made by the mill. The sandpapering, even, is done on a large wheel revolved by steam or other power. Very little remains for the modern carpenter to do but the putting together of the various parts which the mill has made.

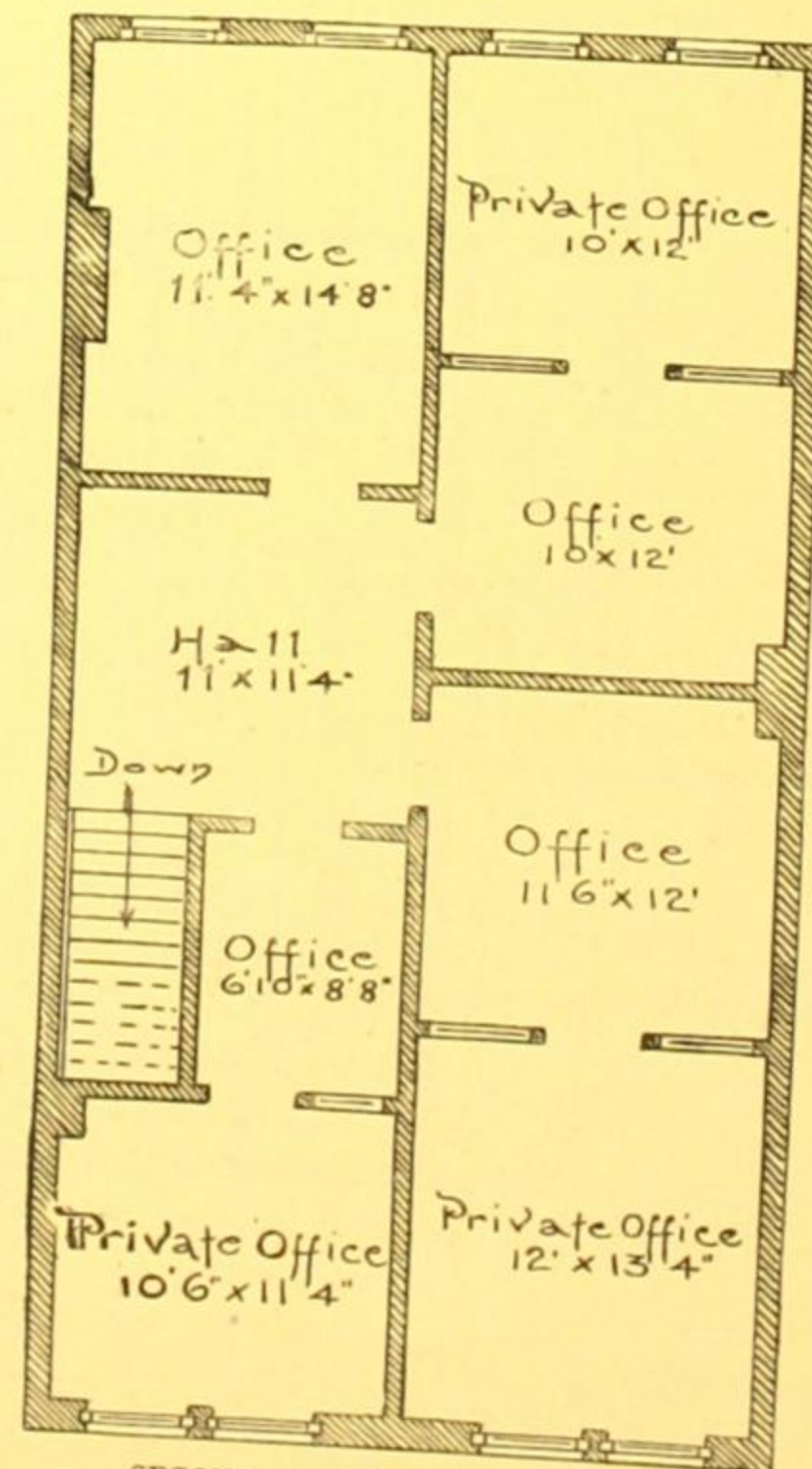
The result has been the building of thousands of houses and this wholesale making of homes may justify the means. But there are serious drawbacks, one of which is that first-class joiners are scarce, the result of their getting so little experience with the finer work.



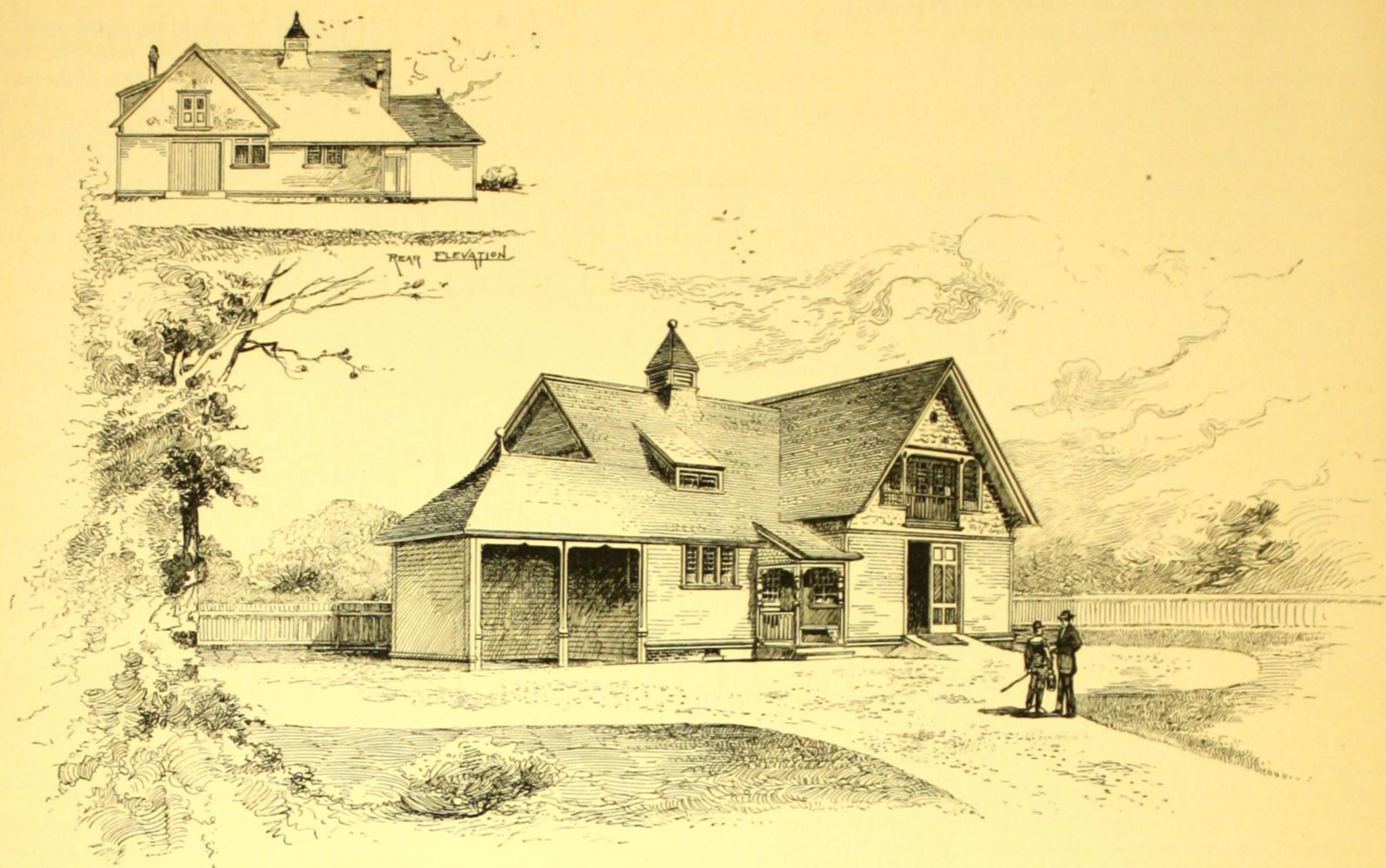
DESIGN No. 509. FRONT ELEVATION



FIRST FLOOR. NO. 509



SECOND FLOOR. NO. 509



DESIGN NO. 510. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 510

A CARRIAGE HOUSE AND STABLE

SIZE OF STRUCTURE: Front, 48 ft., 8 in. Side, 37 ft., 2 in.

GENERAL MEASUREMENTS: Girt of walls for foundations (on centre line), 164 ft.; First Story (outside), 170 ft.; Second Story, 170 ft.; Shed, 50 ft., 6 in.; Manure pit, 23 ft., 10 in.; Partitions, First Story, 45 ft.; Second Story, 37 ft. Height of First Story, 10 ft. Surface measure of First floor (to outside of walls), 1,670 sq. ft.; Shed, 225 sq. ft.; Second floor (to outside of walls), including balcony, 1,670 sq. ft.; Porch, 36 sq. ft.; Roofs, 4,100 sq. ft.

MATERIALS: Foundation, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

COST: \$2,609.94, complete.

REMARKS: Washing stand is cemented.

Open loft with one room partitioned off.

While a gentleman's barn should not be as fine as his house, there ought to be some unity of design and size. A large house and a very small barn do not appear well on the same place.

If the same architect designs both house and barn there will be sufficient unity of design, if not too much; the barn should not closely copy the gables and principal exterior features of the house.

A good barn suggests that the owner is kind to his beasts, which is more or less

of a certificate of the possession of many other admirable qualities of head and heart.

As nearly as possible the barn should be located on the lee side of the plot so that prevailing winds will not carry stable odors to the house, nor brands of fire in case the barn should burn.

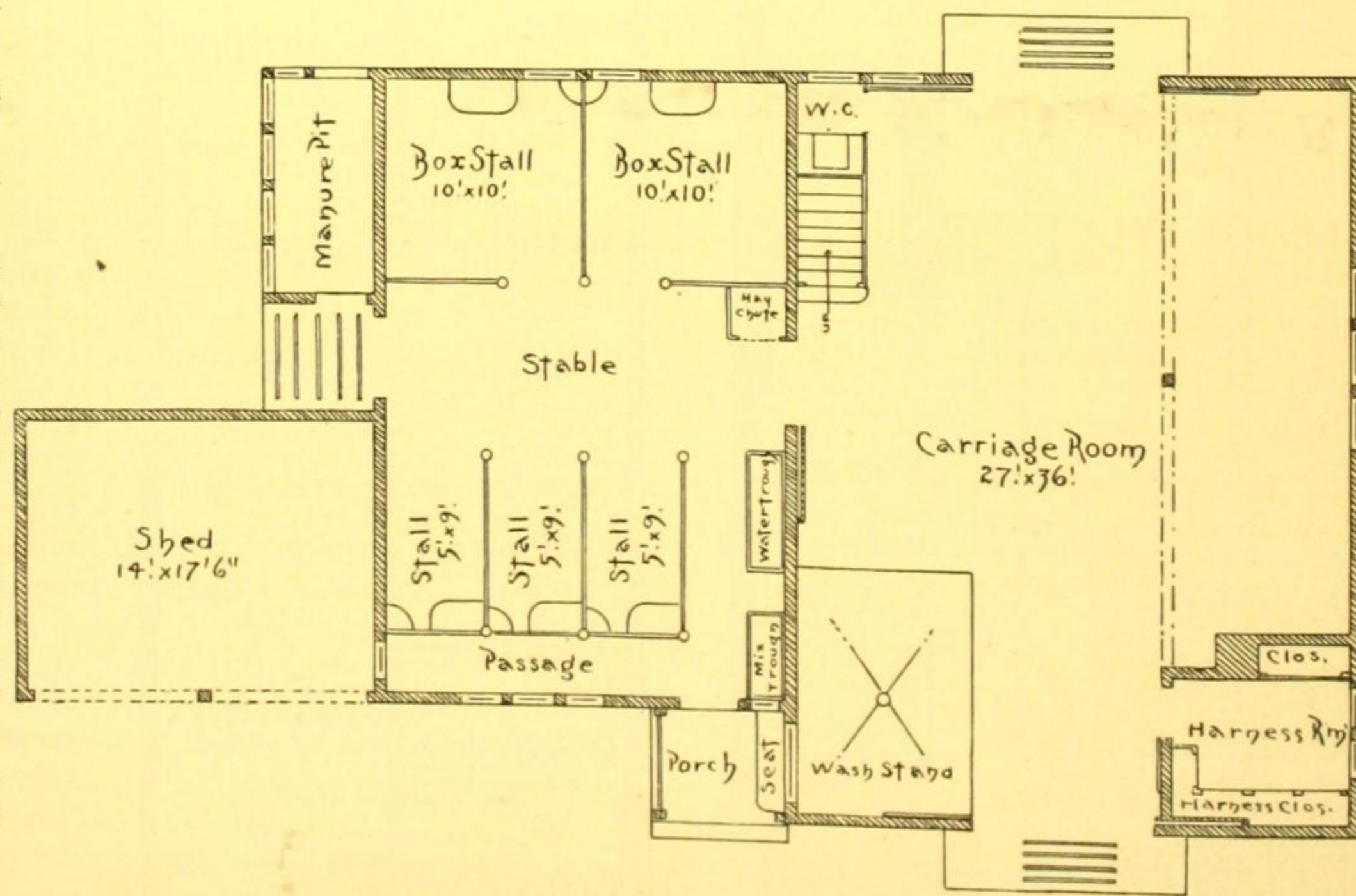
AUTUMN PLANTING

The advantages of planting deciduous trees and shrubs during the autumn are sufficient to merit careful consideration.

Transplanting makes inevitable the cutting or disruption of a large portion of the roots. These cannot throw out new fibres and grow again unless the

broken roots become calloused.

This process requires some time, and if it is not completed before the spring drouth comes there is great danger that the plant will either die or have a struggle for life during the heats of the first summer. If planted late in the fall the broken roots will have abundant time during the winter to become calloused and will thus be ready to throw out fibres in spring and to withstand its dry weather. If planted early in the autumn—in October—the broken roots will not only have time to form a callus, but may throw out small fibres which will permanently establish the tree or shrub and make it safe against the cold of the following winter or the heat and drouth of the ensuing spring and summer. —S. B. Parsons in the New York Tribune.



GROUND PLAN. NO. 510

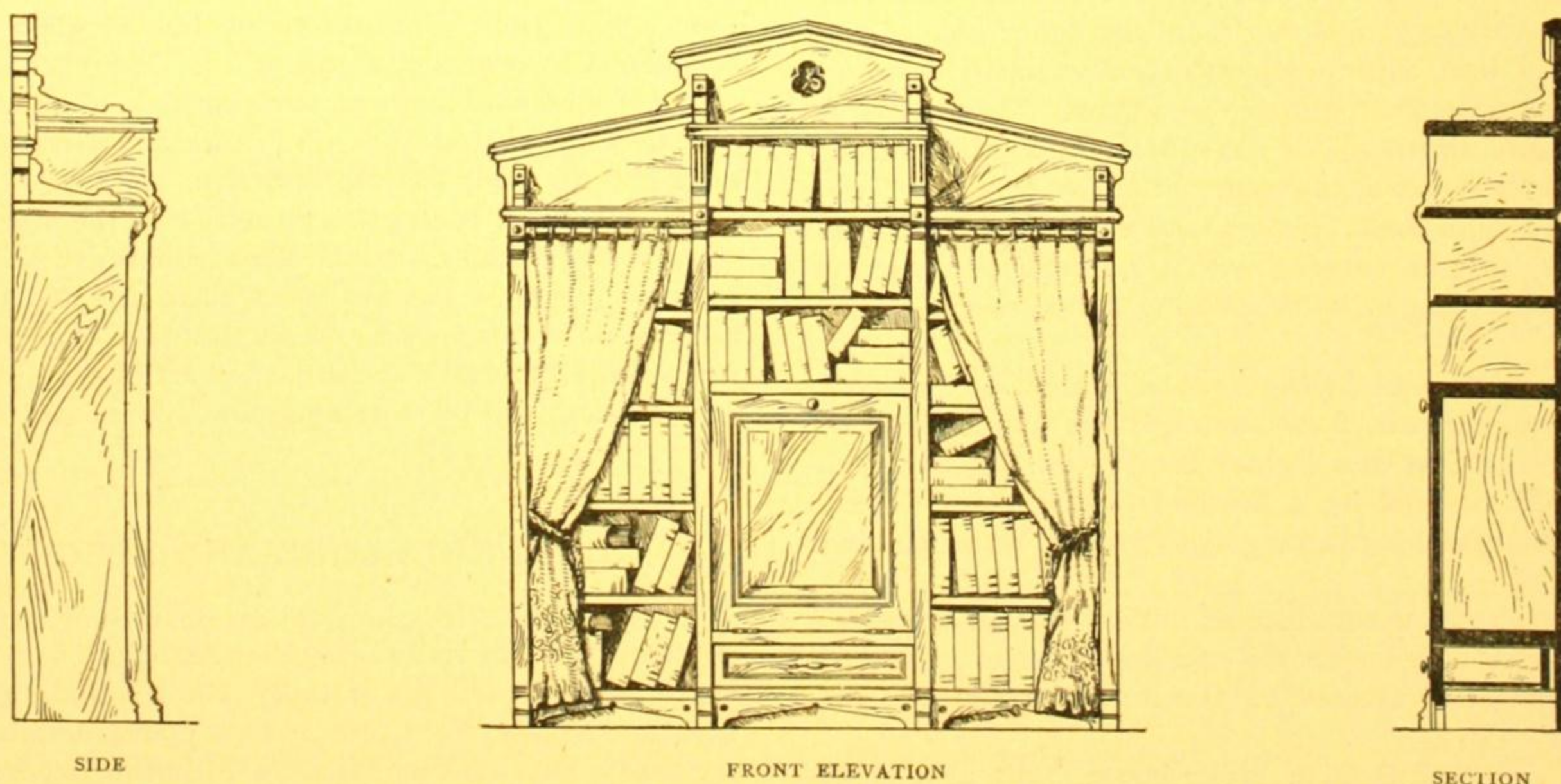
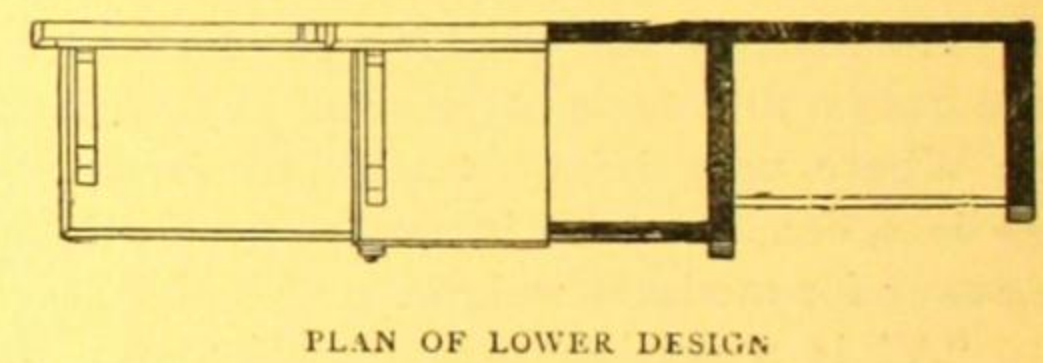
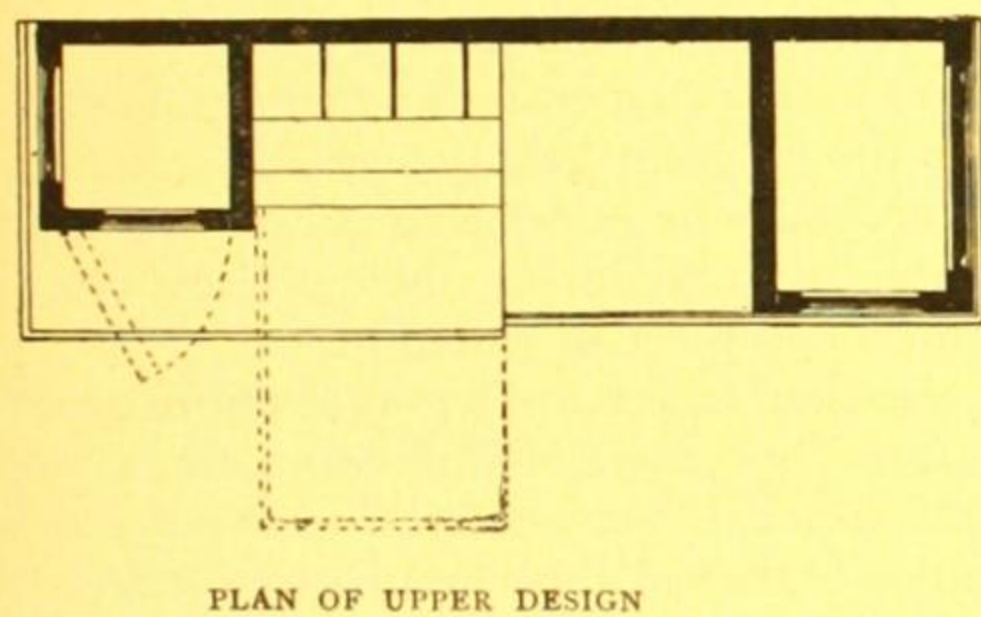
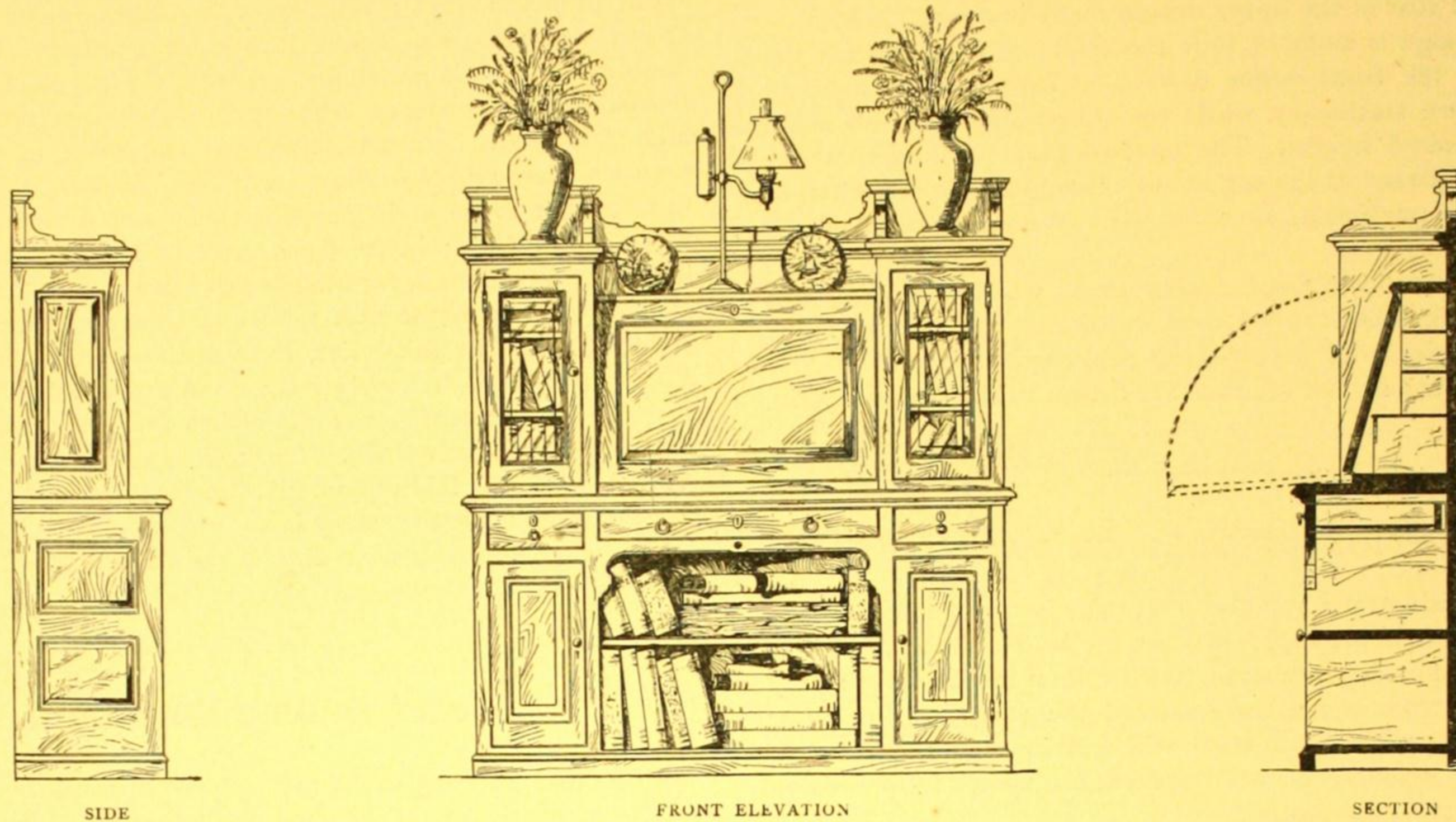
SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL MONTHLY

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NEW YORK, NOVEMBER, 1887

WHOLE No. 9.



PLANS, ELEVATIONS AND SECTIONAL VIEWS OF TWO BOOK-CASES

SEE DESCRIPTIONS ON PAGE 62

DESCRIPTION OF BOOK-CASES

THE upper design shown on page 61 is a combination of book-case and desk. The paneled door, forming the desk, is hinged at the lower edge so as to swing down for use and close up and lock when not in use. Strong hinges should be used, as the considerable leverage is apt to pull the screws out or break the hinges. The doors at either side below are solid paneled; those above are filled with beveled edge plate glass. The latter, however, may be made solid, if so desired. Three drawers are provided.

The estimated cost of the upper design made in cherry, is \$75.

The lower design is made of four pieces of 1½-in. plank for the uprights, having the front edges worked as shown. The top and bottom shelves are stationary, while the others are made so as to adjust to any desired height. The paneled front is hinged at the bottom to drop outward at the top about 18 inches. This pocket or closet is used for portfolios, sketches, etc. We estimate it should cost about \$35.

Both designs should be treated with patent wood filler and then with hard oil finish, rubbed down to a dull gloss. If a glossy finish is desired apply a finishing coat without rubbing down.

The plans, elevations and sections are drawn to the scale of ½ in. to the foot.

DESCRIPTION OF MILL OR FACTORY

THE building illustrated on the next page is constructed on the slow combustion principle—that is, the heavy timbers, such as girders, posts and flooring, are made heavier than the factor of safety requires, so that after a fire has charred the wood on the outer surface to a considerable depth there still remains sufficient strength to support heavy machinery and to prevent the flames from passing rapidly from one story to another.

The foundation to the under side of the first tier of girders should be of good building stone. Above the water table, which should be of cut stone, the wall should be built of hard burned stock brick.

The scale of the plan is 1-16 of an inch to the foot; the details are drawn to a scale of ⅜ of an inch to the foot.

Where very heavy machinery is to be used the size of posts, girders, etc., must be increased proportionally. As shown, they will answer for medium weight.

"A" is a section through the outer walls, showing the girders bearing upon and anchored to the wall. "B" is a cross section of building, showing piers and posts in elevation. The brick piers are built upon footings of stone of large size, and capped with 5-inch blue-stone. The posts in the first story are 10x10 in., and rest directly on the blue-stone caps, and run up to the under side of the cross girder, where an iron cap or separator (see details) rests on each post. The girder passes through the separator. These separators compensate for any shrinkage of the girders, and thus prevent any settling of the upper floors at the centre of the building.

The roof may rest upon cross girders with centre posts, in same manner as the floors, and be covered with tin, gravel or standard roofing; or roof trusses may be used, forming a double pitch, and covered with slate.

Instead of the old method of laying central girders and placing beams on these to support the floors, the girders are laid cross-wise, and for the floor beams and lighter flooring are substituted a very thick under floor, covered by a finished lighter floor. These floors may be made so tight by caulking as to prevent water passing through.

No interior stairways are used. Access to the different stories is by means of strong iron stairs, with railings and brackets, fastened to walls like fire escapes, and located on the inner court away from the street.

Steam power is supplied from a boiler-house built at a short distance from and in the angle of the main building.

The building may be made any desired length, but care should be taken to put in cross walls to stiffen the building and to resist any vibratory motion, also to prevent the spread of fire. Doors in the fire walls should be made of heavy plank.

The roof of the tower should be slated. In a tower like that shown by the drawing a large tank should be placed.

The estimated cost of the section of the building at the intersection of the wings (including the tower, 40x40 feet, three stories high) is about \$8,500. Each of the ten-foot sections, from centre to centre of posts, three stories high, would cost about \$800.

These estimates are based upon the following dimensions; Footings for outer walls, 36 inches wide, of concrete; foundation walls, 24 inches thick; first story walls, 20 inches thick; second story walls, 16 inches thick; third story, 12 inches thick; piers, 20 inches square, with footings, 42x42 inches, of granite; vault walls to be double, i. e., a 12-inch and an 8-inch wall, with 3-inch space between; foundation the same as other walls; vault covered with a 12-inch arch; the walls between store-room and office, as well as the wall between these and the mill-room to be 12 inches thick; the fire walls in basement to be 20 inches thick, and in first and second stories to be 16 inches thick; in third story, 12 inches thick, and to extend 18 inches above the roof, forming parapet walls.

The girders in the first tier to be 10x12 inches; in second tier, 10x14 inches; in third tier, 8x14 inches; roof tier, 8x12 inches. First story posts, 10x10 inches; second and third story posts, 8x8 inches. The under floors are 4 inches thick, with loose tongue and finished floor, 1 inch thick. The roof sheathing, two thicknesses of ⅞-inch stuff, one laid diagonally, the other straight. The basement is 7 feet high; the first story is 10 feet; the second and third stories are 9 feet, measuring from floor to under side of girders. The first floor is 4 feet above the sidewalk.

ART IN WROUGHT IRON

WROUGHT iron has come into favor recently for ornamental purposes in the interior of the house. Like stone, iron is a rude and hard material; but, in skillful and artistic hands, it takes forms of soft and delicate beauty.

It is used in the fire-place as a swinging crane, and as fire-dogs or andirons. Some of the latter are of great beauty and elaborateness of design. Fire screens also are made by interlacing or welding into small basket or lattice pattern, thin and delicate bars of iron, alternate squares being filled with a small piece of tinted glass.

Beautiful gas brackets and chandeliers are wrought out of iron. One of the most beautiful forms for these is a basket or cup made with light strips of iron, into which is set a colored or white glass "globe," so called, with straight or curved sides and either square or round in shape. A hall light is a large iron basket, in shape the lower half of a globe, and some sixteen or eighteen inches diameter at the top; a half globe of tinted or opalescent glass fits into this, and is suspended by ornamental iron-work. The effect is beautiful. Many forms of mediæval lanterns, showing rich, glass jewels, are made.

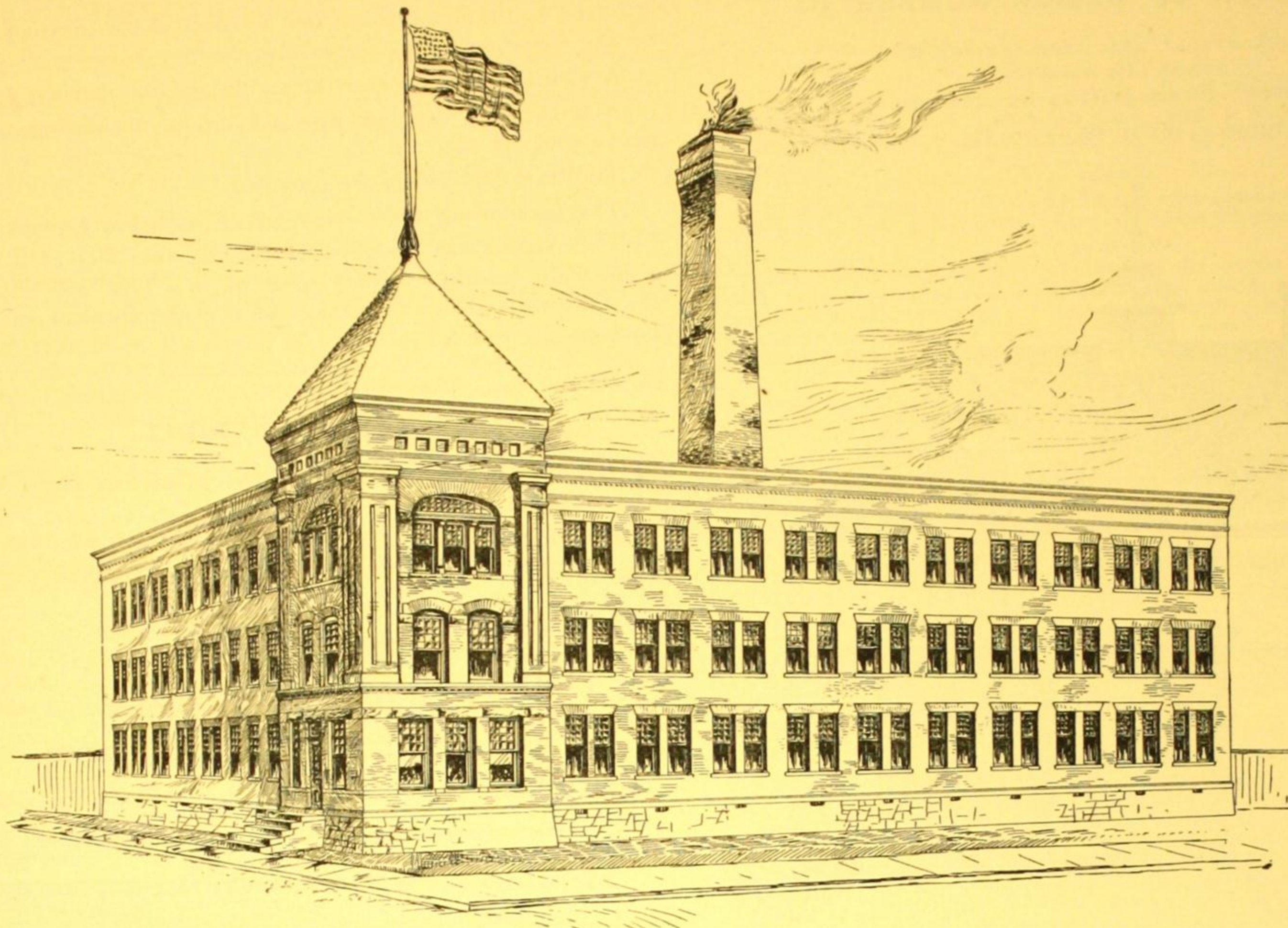
The antique iron-work of France and Germany furnish the best examples for study and reproduction.

In gateways, railings, crestings, etc., the worker in iron has an opportunity to show his art. Cast-iron, for these purposes, has ruled for many years on account of its cheapness and the lack of taste for the artistic in our people. With the development of an artistic feeling among the people the neglected art of working in iron has taken new life, and will be more and more appreciated.

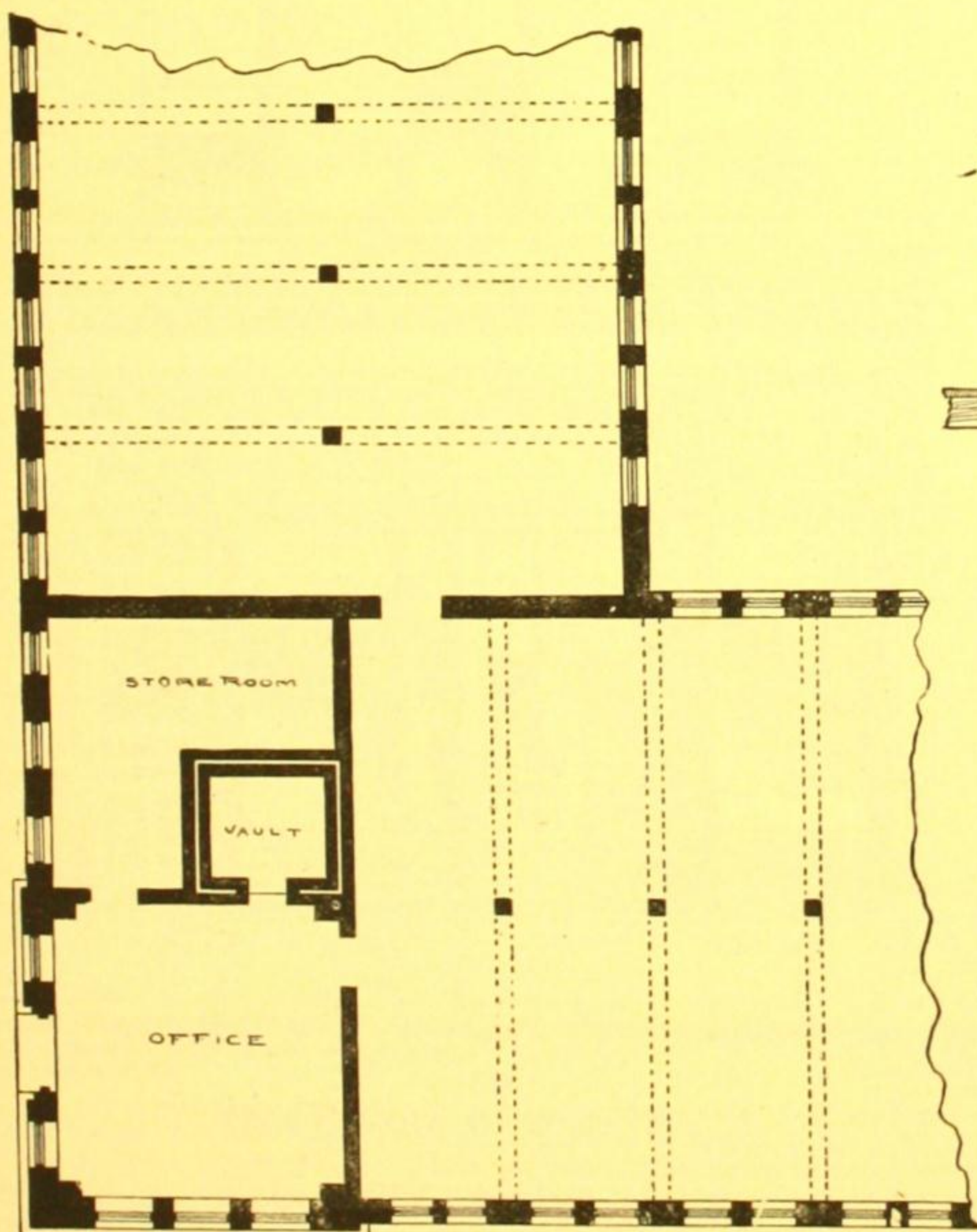
BUILDING PLANS AND SPECIFICATIONS

IN connection with the publication of SHOPPELL'S MODERN HOUSES, the Co-operative Building Plan Association furnish plans and specifications for buildings of every kind, including Stores, Dwellings, Carriage-houses, Barns, etc. Full plans, details and specifications for the various buildings illustrated in this paper can be supplied.

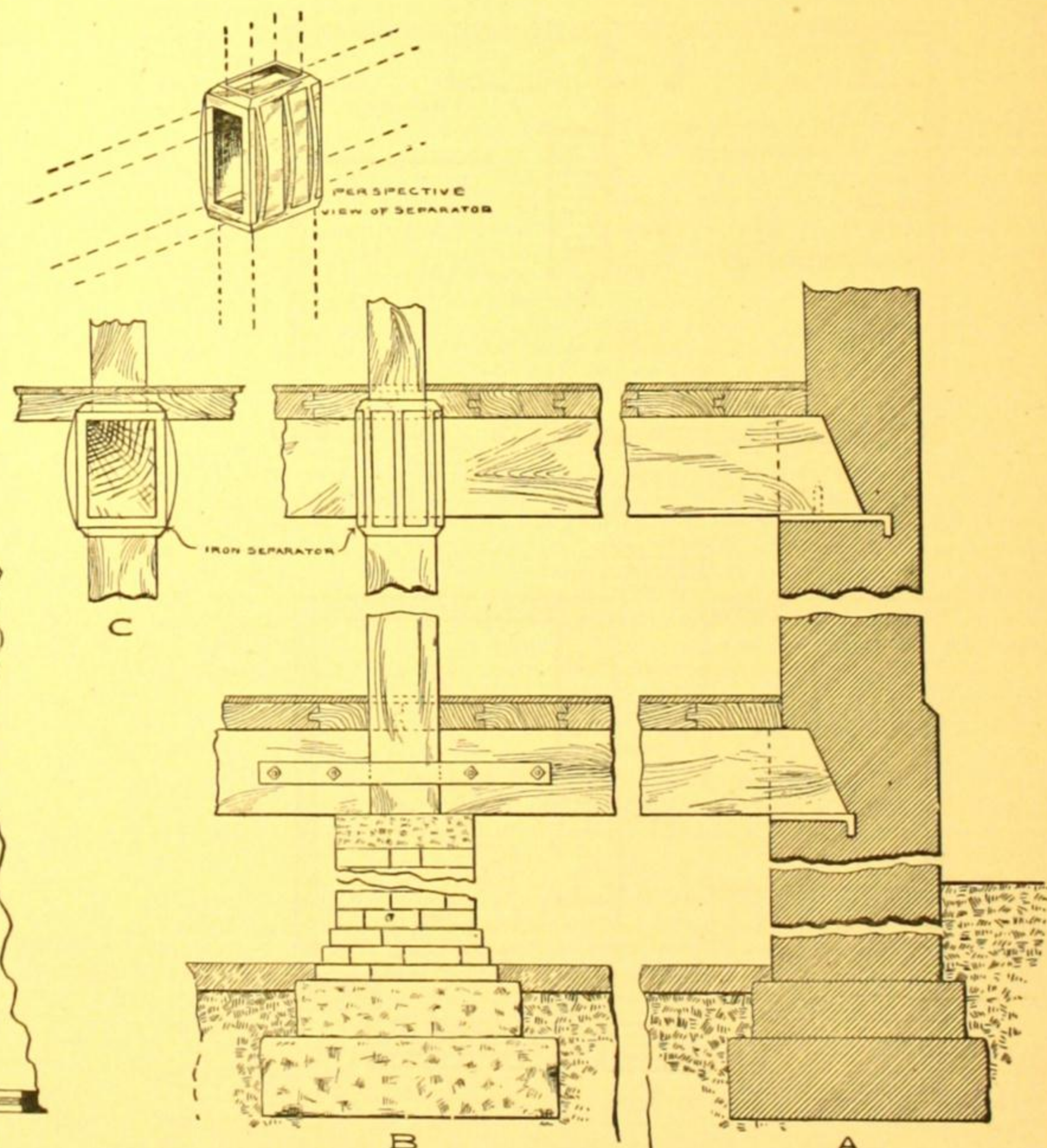
Those who contemplate building are invited to communicate with the undersigned. Our work extends to all parts of the country. Estimates, plans, and drawings promptly prepared. Terms moderate. Address THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects 63 Broadway, New York.



PERSPECTIVE VIEW



PLAN



DETAILS

PERSPECTIVE VIEW, PLAN AND DETAILS FOR A MILL OR FACTORY

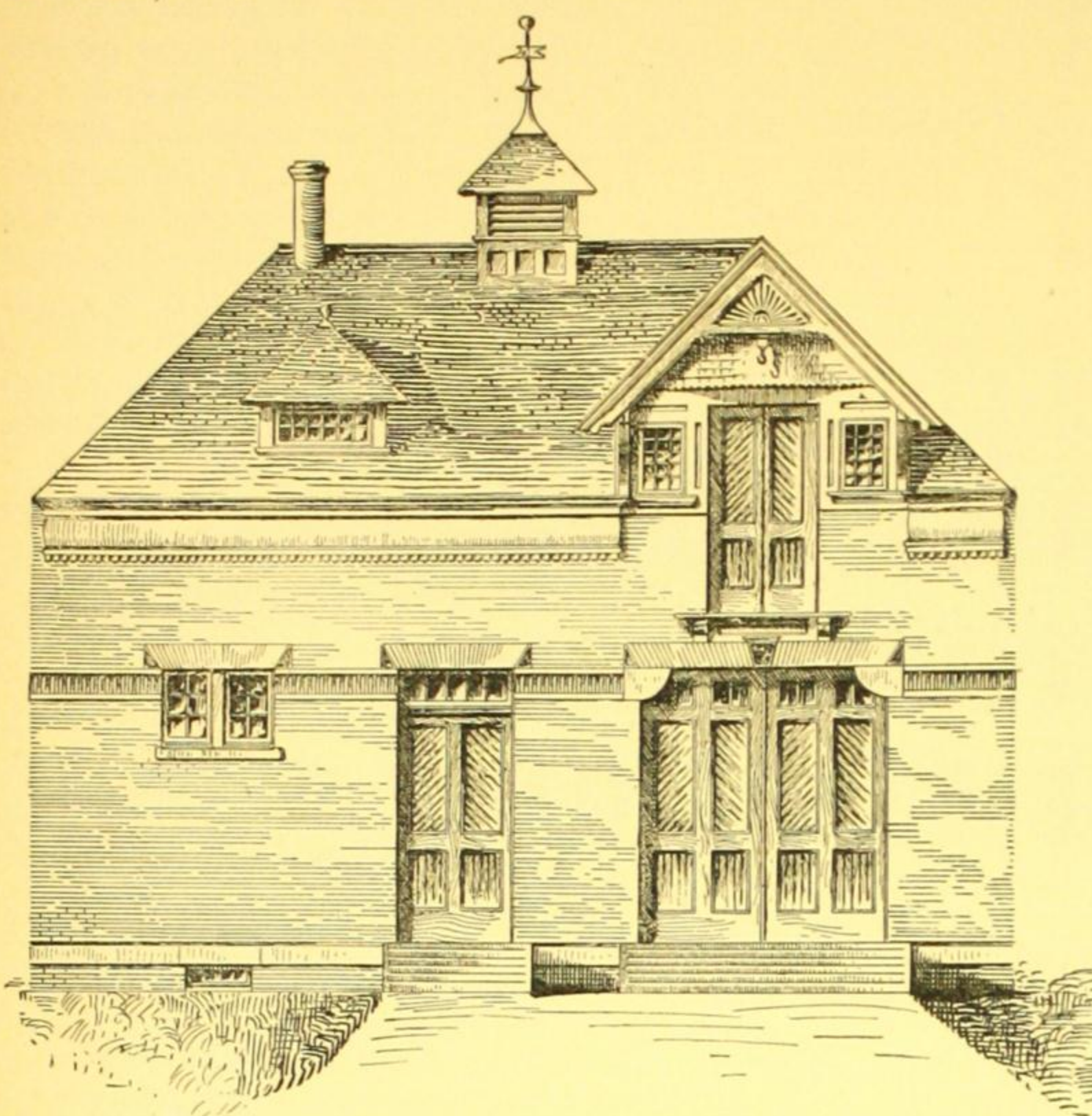
SEE DESCRIPTION ON PAGE 62

DESCRIPTION OF DESIGN NUMBER 511

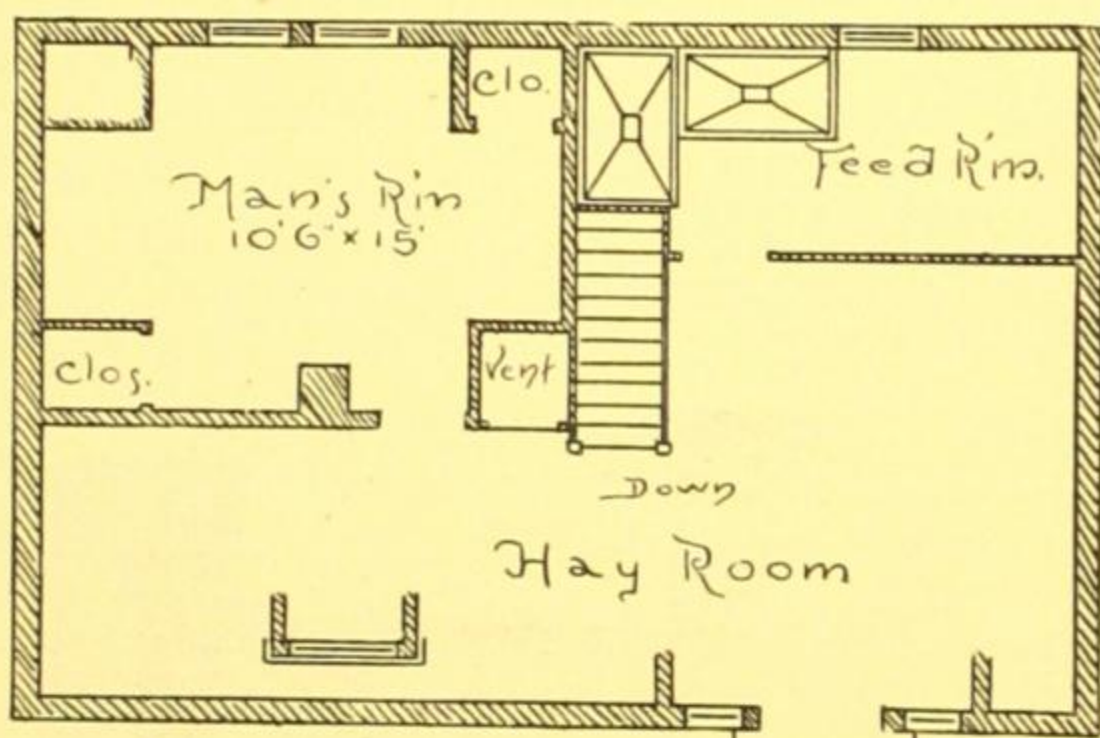
BRICK STABLE AND CARRIAGE-HOUSE

SIZE OF STRUCTURE: Front, 31 ft., 4 in. Side, 20 ft.

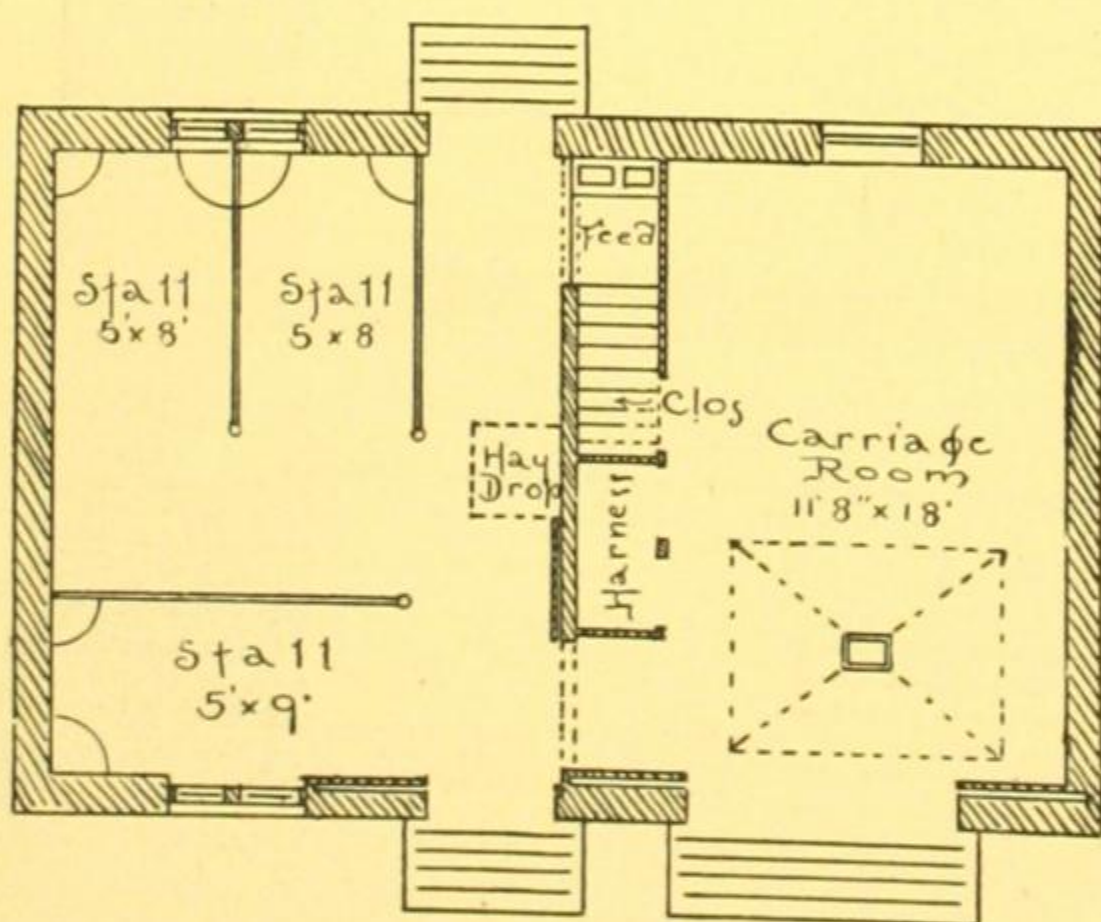
HEIGHT OF STORIES: First Story, 9 ft., 6 in.; Loft, height at centre, 11 ft.



DESIGN No. 511. FRONT ELEVATION



LOFT PLAN. NO. 511



GROUND PLAN. NO. 511

MATERIALS: Foundations and walls to cornice, brick, 12 in. thick; Roof, slate.

COST: \$1,050, complete.

SPECIAL FEATURES.—The walls are faced with select stock brick. The stable is ventilated by a shaft 2 ft., 6 in. square, which

is boxed up through the loft and finished above the roof as shown by the elevation. This serves, also, for hay-drop.

A sliding door connects the stable and the carriage-room.

A terra cotta chimney provides means of heating the stableman's room in the loft.

Tin-lined feed boxes are provided.

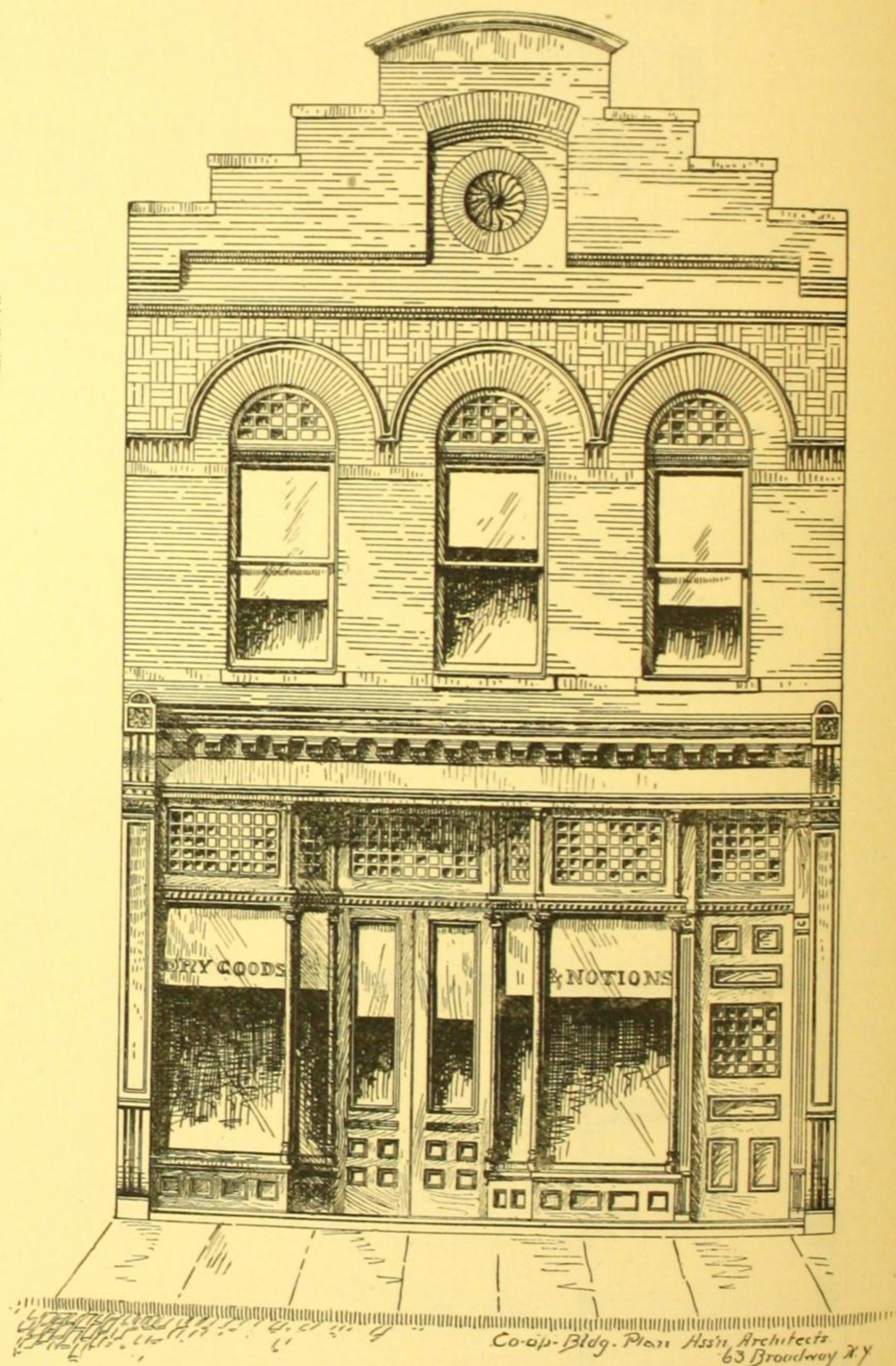
The foundations are carried 3 ft., 6 in. below ground.

This stable was designed to fill the rear end of a lot 31 ft., 4 in. wide, having an alley back of it. This will explain why the side walls are quite blank, and why the cornices on the sides have no projection.

A STORE FRONT

THE frontage is 21 ft., 6 in. Height of first story, 13 ft.; of second story, 12 ft.

The work around store front is of wood. Two 12-in. square iron columns at either extreme side of the building support two



ELEVATION OF STORE FRONT

12-in. rolled iron beams, forming a girder which carries the upper front wall.

The upper story is designed for construction in press brick.

This is an inexpensive design, and is suitable for remodeling as well as for new work. It can be extended to three or more stories, by raising the present second story to the top, and giving square heads to the windows of the intermediate story or stories.

DESCRIPTION AND SPECIFICATIONS OF DESIGN NUMBER 513

SEE PERSPECTIVE VIEW AND PLANS ON PAGES 70 AND 71

SIZE OF STRUCTURE: Front, including veranda, 42 ft. Side, including veranda and refrigerator room, 59 ft., 6 in.

SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 10 ft.; Second Story, 9 ft.; Attic, 8 ft., 6 in.

MATERIALS: Foundation, brick piers; First Story, clapboarded; Second Story, shingled; Tower, shingled; Gables, shingled and paneled; Roof, slate.

COST: \$4,600. See "EXTRAS" on page 77, for other items that may be desirable to include in contract.

SPECIAL FEATURES.—Designed for a seaside house. The veranda is carried around three sides, and is 10 ft. wide. No cellar.

The parlor, sitting-room and dining-room are connected by sliding doors, the hall and parlor by a portiere.

A glass door leads from the dining-room to the side veranda.

Two good rooms are finished in the attic and another can be obtained if desired.

The full specification of material and labor is given below. We may add that the specifications furnished with our working plans are all as complete as this one. Many people, who have had little or no experience in building, think that working plans, details and specifications are unnecessary, and some builders encourage this idea. An examination of this specification, which does not contain a single word that is not needed to insure the proper construction of the house and the use of good materials, must convince such people of the indispensable importance of it.

[Copyright, 1887, R. W. Shoppell, New York.]

SPECIFICATION

of Work and Materials required for the erection and completion of a Frame Dwelling for Mr. to be situated County of and State of in accordance with this Specification and the accompanying Drawings, as furnished by THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects, New York.

GENERAL DESCRIPTION

The building is to be located on the lot in such position as may be designated by the owner or his representative.

GENERAL NOTES AND CONDITIONS

Reference must be made to the Drawings for the above and all other measurements, together with the arrangement of rooms and general finish; the Drawings are to be considered as a part of this Specification, and should correspond in every particular. Should, however, any discrepancy appear between the figures and scale measurements, or between the wording of the Specifications and the coloring or lettering on Drawings, the figures shall in all cases take precedence of scale measurements, and the wording of the Specifications shall take precedence of all.

In case an error becomes apparent to the contractor, which is not explained by reference to the Drawings or Specifications, the same shall be referred to the architect for correction before proceeding with the work.

All materials to be of the best quality of their respective kinds, unless otherwise specified.

The contractor is to give his personal attention to the work, or have a competent foreman in charge; and is to see that all the works are performed in a thorough and workmanlike manner, by skilled mechanics; to furnish all material and labor necessary for the due performance of the work, as hereinafter described; to furnish all necessary implements, scaffolding, cartage, etc.; to obtain all necessary permits for obstructing the street, connecting with the sewer, tapping water and gas mains, etc., and pay all necessary fees for same; to be responsible for any damages incurred through violation, on his part or that of his workmen, of village ordinances; construct proper enclosures for the protection of the public during the progress of the work, perfectly re-instate pavements, make good any damage to adjoining premises, and shall hold the owner harmless from any damage or expense incurred through neglect of these conditions; to provide stoves and fuel for heating the house while plastering is being done, during cold weather, hard coal or coke only to be used in same (no wood), and under no circumstances is the heater or range to be used by the workmen; neither are fires to be made in the fire-places, nor any heating apparatus used that will blacken or discolor the walls or other interior finish.

To protect all work properly while the building is in his hands; remove all rubbish and superfluous material from off the premises, and leave all clean and perfect at completion of contract.

No part of the work to be sub-let, unless by the written consent of the owner or his representative.

MASON'S WORK

EXCAVATION

Excavate for the foundation piers 12 inches larger than same all round, $3\frac{1}{2}$ ft. below grade. Fill in around piers after same are above ground and the mortar set; thoroughly tamp the earth and grade from the building 10 feet off, around same.

FOOTINGS

The foundation and chimney piers are to start $3\frac{1}{2}$ ft. below grade. Footings to be full size of excavation, 1 ft. thick, of concrete composed of four parts broken stone and sand to one part cement, well mixed and tamped solid.

PIERS

Build the foundation piers and chimneys of merchantable, hard burned brick, properly bonded, laid close, straight and plumb and well flushed in. Brick to be wetted when laid up in hot dry weather, and kept perfectly dry if laid up in frosty weather. All exterior joints to be neatly pointed where exposed to view, and re-pointed where necessary at completion. Select best brick for facing piers. Chimney flues to be left clean. All brick-work below grade to be laid up in cement mortar.

PIER CAPS

Cap all piers with 3-inch blue-stone, full size of piers.

FIRE-PLACE

Build the fireplace of size and shape shown on Drawings, with proper ledges in throats. Face the breast 8 inches, and the jambs and back of fire-place with Trenton pressed brick laid up in red putty. Turn flat 12-inch arch over fire-place with pressed brick.

KITCHEN FIRE PLACE

Face the piers, and the jambs and back above the range to a height of $5\frac{1}{2}$ ft. with best Trenton pressed brick, laid in red putty. Build in rubbed stone shelf lintel 4x8 inches the full width of breast; hearth to be rubbed stone, 2 feet wide by the length of lintel.

HEARTH

Hearth in parlor to be of black enameled brick bedded in cement and projecting $\frac{1}{4}$ inch above floor, and to extend to the back of the fire-place.

MORTAR

Use fresh burned lime, best to be found in the market. Thoroughly mix with clean, sharp sand in the proportion of two parts lime to five parts sand. Cement mortar to be made by mixing cement and sand, dry, and adding water to bring it to the proper consistency when ready to use. After the first setting it is not to be tempered up for use again. Use Rosendale brand of cement.

THIMBLES

Build in sheet iron thimbles, 5 inches in diameter, with ventilating covers, in rooms having no fireplaces.

TOPPING OUT

Top out the chimneys above roof with best select stock brick, as shown on Drawings, laid up in cement mortar, joints neatly pointed.

Chimney caps to be blue-stone, in one piece, 3 inches thick axed edges, with flue holes cut to correspond with top of chimney.

TRIMMER ARCHES

Build 4-inch brick trimmer arches for all hearths, and level up with concrete. All arches to be turned on wood centres, which will be furnished by carpenter.

DRAINS

All pipes to be laid below action of frost. All drain pipes to be laid to a uniform grade of not less than $\frac{3}{8}$ inch to the foot. All joints in earthen pipes to be made absolutely tight with fresh Portland cement. Furnish and lay a line of 5-inch salt glazed earthen socket-jointed drain pipe, connecting with the iron pipe just under ground, and running thence to the sewer in street.

Fill in all trenches, and tamp thoroughly after pipes are laid.

DRAIN TRAP

About 6 feet from house, in the line of main drain, place an earthen running trap same size as pipe, with hand hole for cleaning. Between the trap and house insert a T branch, and carry from same to 12 inches above grade line a 3-inch iron pipe to serve as fresh air inlet, same to be protected by a ventilating cap.

Connect the rain water leaders with main drain by 4-inch earthen pipes. All connections of different lines of pipes to be made with Y branches. All joints to be made tight with cement, and to be made clean on the inside.

LATHING AND PLASTERING

All walls, ceilings, partitions and work that is furled off throughout the first, second and attic stories to be lathed with sound, merchantable lath, placed $\frac{3}{8}$ inch apart, nailed to each bearing, with joints broken every ten courses. Laths to be placed horizontally, with solid angles; none to pass behind partition framing from one room to another, and to extend to the floor. Where chimneys are set flush in partitions or form a part of studded breast, laths are to extend over the brick-work and be nailed to thin vertical stripping, placed 12 inches apart. Back lath and plaster behind all wainscoting on outer walls.

After the lathing is finished, the floors are to be swept clean and covered $\frac{1}{2}$ inch deep with sand, for protection of floors while plastering is going on; also, if chimneys are to be built after floors are laid, the floors are to be protected by rough boards or sand. Disregard of this precaution will render the contractor liable to damages for stains or injury to floor. Before plastering is commenced, see that the exterior openings are closed with old sash or boards, with one window movable in each room; if weather is warm the openings are to be closed with muslin on movable frames; put up temporary outside doors.

Do all patching, cleaning off, whitening, etc., that may be required, after other workmen, to make the job perfect at completion of contract.

For mortar use plastering lime, fresh burned and thoroughly slacked under water in a slack box, and run off through a wire screen set into the spout of the slack box, into the mortar bed, mixed with clean sharp sand in the proportion of three parts sand to one part lime; to be stacked in the rough two weeks before using. Under no circumstances must the lime be slacked in a heap with sand.

Lime for putty to be run off in same manner and run through a sieve. All lathing to be covered with a good coat of mortar, having plenty of long cattle hair thoroughly mixed in, and applied with sufficient force to secure strong clinches: this to be well scratched, and covered with a heavy coat of brown mortar (without hair) screeded even and true to the grounds with all angles straight and plumb and brought to an even surface, and good sand finish for tinting.

Attic rooms, all closets, and the rooms in rear extension are to have white plaster finish laid on the first coat, which is not to be scratched.

CARPENTER'S WORK

TIMBER

All timber used in building to be well seasoned, mill sawed, merchantable, and free from imperfections that may impair its durability or strength. Timber to be hemlock, except sills, which are to be spruce, and girts, which are to be yellow pine.

FRAMING

Building to be substantially framed in the most workmanlike manner, to be leveled, squared and plumbed, strongly anchored and strapped where necessary. Frame to be what is known as balloon style, sills halved together at angles, and posts to be tenoned into same. Headers and trimmers carrying more than one tail joist to be doubled, and all joists carrying partitions to be doubled with separators the thickness of the partition to be carried.

Frame around fire-places, well holes, scuttles, etc., with mortise and tenon, and spike thoroughly.

Girts to be let into studding, and floor joists notched over same, and spiked to studding. Where it is necessary to splice sills or plates, perform splicing with a ship lap, or mitre splice. All mouldings to be mitre spliced.

Roofs to be properly framed for all gables, dormers, etc., and brace and tie same thoroughly where necessary, and as shown or directed.

The two outside corners of tower are to be made with two 4x6-inch spruce joists spiked together, tenoned into main sill, and running from sill to the ceiling of tower room without splice.

Frame the floor of the upper tower room with joists projecting out to carry balcony, as shown on framing plan.

SIZES OF TIMBER

Sizes of timber to be as follows:

SIZES OF TIMBER			VERANDA TIMBER		
Girders,	6x8 in.	Rafters,	2x6 in.	Sills,	3x8 in.
Sills,	4x8 in.	1st floor joists, .	3x8 in.	Cross sills, . . .	3x8 in.
Posts,	4x6 in.	2d " " " " " "	3x8 in.	Floor joists, . . .	2x8 in.
Plates,	4x4 in.	3d " " " " " "	2x8 in.	Plates,	4x8 in.
Studding,	2x4 in.	Collar boards, . .	2x6 in.	Ceiling joists, . .	2x6 in.
Girts,	1 1/2 x 6 in.	Braces,	3x4 in.	Rafters,	2x6 in.
Valley rafters, . .	3x7 in.	Ridgetrees,	2x8 in.		

SPACING

1st floor joists to be spaced 16-in. centres.	Collar boards to be spaced 24-in. centres.
2d " " " " " " 16 " " "	Rafters " " " " " " 24 " " "
3d " " " " " " 16 " " "	Outside studding " " " " " " 16 " " "
Partition studding, " " " " " " 16 " " "	

BRIDGING

Each tier of floor joists to be bridged in every span exceeding 8 feet with one row 2x2 inch cross-bridging, nailed with two 10d. nails at each end. Every span exceeding 15 feet to have two rows bridging.

All partitions of first story to have one row of **W** bridging.

PARTITIONS

Principal partitions, where practicable, are to pass through between floor joists and rest directly on the girder or plate of partition underneath. All to be set plumb, and well nailed top and bottom, to have plates not less than 3x4 inches, and in case they do not run through between beams, they are to have sills not less than 2x4 inches.

Studs at all openings to be doubled, also to be doubled at all angles. Form a truss over openings that exceed 3 feet in width. All partitions having no support underneath, to be well trussed.

FURRING

Do all necessary furring about stairs, chimneys, roof, etc., and where called for by the plans.

GROUNDS

Put up 3/8 x 1 1/4-inch dry pine grounds to all door and window openings to finish plastering against.

SHEATHING

Cover the entire frame with seasoned 3/8-inch surfaced hemlock boards, laid diagonally and well nailed with 10d. nails.

SHEATHING PAPER

Cover the sheathing, except roof, with one thickness Sackett's No. 1 sheathing paper, well lapped and nailed, and passing under all casings, corner boards, etc., so as to make a tight job.

SIDING

Cover the exterior walls of first story, as shown on drawings, with first quality white pine 6-inch beveled clapboards, laid 4 3/4 inches to the weather, 1 1/4-inch lap, securely nailed with 6d. nails properly set. To be well seasoned, joints properly broken, heading joints and all uneven places to be made smooth.

ROOF SHINGLING

Cover the roofs of the entire building and tower with 16-inch first quality shaved white cedar shingles, laid 5 1/2 inches to the weather, well nailed and with joints well broken. Valleys to be left open and to be widest at the bottom.

FLASHING

Flash the valleys and angles of all roofs, and around chimneys, scuttle, skylight, etc., and over door and window heads, with I. C. roofing tin in the best manner; build step counter flashings into the joints of brick-work of chimneys, on rake of roof. All the flashings, etc., to be painted both sides with one coat metallic paint before laying, and all to be made tight.

SHINGLING ON SIDE WALLS

Cover the walls of second story main house with alternate courses of round butt and square butt first quality white pine 6-inch dimension shingles, laid 6 inches to the weather, well nailed and with joints properly broken. Enclose sides of tower in similar manner.

Enclose second story of extension, and cover veranda roofs with plain clear pine shingles. Shingle gables and upper part of tower with fancy cut shingles as shown. All shingling except main roof to be dipped in oil stain before laying. See painter's specification.

EXTERIOR FINISH

All exterior trim to be of first common well seasoned white pine, free from large or loose knots; to be planed and smoothed by hand, with clean sharp angles; nail heads "set."

Corner boards and outside casings for doors and windows to be 4 1/2 x 1 1/4 inches. Water table, bands, belts, cornices, eaves, etc., to be made and moulded as per detail drawings. Put up rough bracketing for projecting cornices where necessary.

Enclose between the foundation piers with panels formed with 1 x 5-inch T. & G. white pine and 1 1/4 x 6-inch frame or rails as shown.

GUTTERS

Form gutters in the cornices of house and verandas as shown; to be lined with I. C. charcoal tin same to be carried well up under the roofing and carried over front edge of gutter and neatly tacked. Grade the gutters properly toward the leaders and put in the necessary tubes for connecting with the leaders.

The tower will not have gutters.

CABLES

The east side gable will be shingled. The front and west side gables will be ceiled vertically with 1x3-inch dressed No. 1 white pine, and have 1x6-inch panel strips planted on as shown.

VERANDA

Cross sills to be strongly secured to the house, floor joists to be framed into them, so that the flooring will run at right angles to house; floor to have an inclination of 1/8 inch to the foot from house.

Flooring to be 1x3 inch white pine, joints laid in lead paint, driven up close, and blind nailed; all joints made smooth. At corners the floor boards are to be stepped together, not mitred. To be finished at edges with rounded nosing and cove moulding.

Steps to be formed of 1 1/4-inch pine stepstuff with 3/8-inch risers, 7/8-inch strings, nailed to 2-inch carriages. Rail and balusters at side of steps to be same as veranda rail, etc.

Posts to be square, built out of 1 1/4-inch white pine, tongued together, quarter circle spandrels cut out of the solid and let into posts.

Rail and balusters to be formed as per drawings; top rail, 2 1/2 x 3 1/2 inches moulded; bottom rail, 2 1/2 x 3 inches beveled top; balusters, 1 3/4 inches square, plain; frieze rail, 2 3/4 x 2 3/4 moulded; frieze slats, 1 1/2 inches square, plain. Set solid 6x6-inch chestnut newel posts, chamfered, with turned top, posts to set 5 feet in the ground. Rail to match veranda rail. Veranda balcony and tower ceiling to be formed level with 3/8-inch beaded yellow pine ceiling boards blind nailed; step the ceiling together at the corners or returns, cover the intersections with house and plate, with a small moulding.

BALCONIES

The balconies on front and west side, and over east side bay window, and the open tower, will have floors laid with 1x5-inch T. & G. pine, graded properly to outlet. On this, lay "Standard" roofing, well lapped and joints made with "Standard" cement. To be turned up at least 6 inches on all sides, behind the siding, and all made water tight.

Ceil the inside face of balconies below rail with 3/8 beaded yellow pine ceiling,

and form cap and rail, etc., as shown on detail drawings. Turned posts for front balcony and tower to be dry white pine, 6 inches square. Spandrels 2 inches thick. The large modillions under tower balcony to be built out of six 2-inch planks glued and nailed.

FLOORING

All floors to be made smooth, and left clean at completion.

FIRST STORY floor to be tongued and grooved 1x3-inch dry selected yellow pine, laid with close joints, and well blind nailed.

SECOND STORY floor, except where otherwise specified, to be tongued and grooved 1x4-inch dry white pine, laid as above described.

ATTIC floor to be 1x6-inch second quality white pine.

Set moulded hardwood thresholds to all doorways, and hardwood borders to all hearths.

DOOR FRAMES

All door frames, unless otherwise specified, to be made of seasoned white pine dadoed at heads. All frames for outside doors to be 1 1/4 inches thick, rabbetted for doors. All interior door frames to be 1 inch thick, to have 1/2-inch x 2-inch moulded stop planted on face of frame. Door frames to be blocked for locks and butts on both sides.

WINDOW FRAMES

All window frames, unless otherwise specified, to be second quality dry merchantable white pine properly framed together, and of sizes shown on drawings.

CELLAR FRAMES to be made of first quality white pine 1 1/2 x 6-inch plank, rabbetted for sash, 1 1/2-inch sills, weathered.

SLIDING SASH FRAMES to be made in the usual manner, 1-inch pulley stiles, 1-inch top sills, 1 1/2-inch subsills; to be housed at heads and sills, and to have 1 1/8-inch blind stop, parting strips, double cut pockets, stop beads, and steel pinion noiseless pulleys, 2 inches diameter. For thickness of sash, see "Sashes."

The circle head windows in tower attic room, in front hall second story, and over first landing stairway first story hall, are to have frames made of 1 1/4-inch stuff, rabbetted for sash, which will be hinged to open outward; sills same as for sliding windows.

Frame for oval window in east gable to be made for pivoting sash in centre each side.

Frames for triple window in second story hall to be made for stationary fanlights.

SASHES

All sashes to be made of clear, dry white pine, of size and design shown on drawings; to be moulded, coped and framed together, and all to be smooth, clean and workmanlike in construction.

SLIDING SASH to be double-hung with best hemp sash cord, and solid eye cast iron weights properly balanced; meeting rails to be weather-lipped. All sliding sash in first and second story main rooms and hall to be provided with Ives' patent plain bronze sash locks; other windows to have Ives' patent sash locks, Berlin bronze.

All sashes except the small attic windows to be 1 1/2 inches thick. The latter to be 1 1/4 inches thick.

The circle head windows in tower attic room, front hall second story, and over first landing stairway, to have sash hung with 2-inch japanned butts, and to fasten with small mortise latch with crank handle. To have deeply undercut drips tongued into the sash.

GLAZING

All glass to be well bedded, tacked in and back puttied.

All first and second story sash, unless otherwise specified, to be glazed with first quality French sheet. In rear extension and attic use third quality French. All glass over 60 united inches to be double thick.

STAINED GLASS

Two sash on east side of hall, first story, and fanlight over three windows, hall second story, to be glazed with stained, rolled cathedral glass, in tints as directed.

BLINDS

Provide and hang to all windows, not otherwise specified below, outside blinds with rolling slats, of best quality dry, white pine, 1 1/4 inches thick, made smooth, slats to move easily.

Hangers and fasteners to be heavy and substantial, and of approved make. On mullion windows the blinds are to have galvanized iron adjustable fasteners, so that they can be secured at any desired angle.

Front and east side bay windows, hall first and second story and attic windows will not have blinds. Mullion windows will have blinds made in one fold.

INTERIOR TRIM

To be made according to detail drawings, of clear, dry stuff, hand smoothed and to have all stains removed on each work as required for finishing in the natural color; to be well and securely put in place, and nailed with finishing nails; all nail heads to be "set." None of the trim is to be brought into the house or set until the finishing coat of plaster is dry.

Trim throughout, unless otherwise specified, to be clear white pine for finishing natural color or staining.

CASINGS

Door and window casings in first and second stories to be 3/8 x 5 inches, with base blocks and turned corner blocks; see details.

Casings in closets and attic rooms to be 3/8 x 1 1/2 inches with moulded edge.

WINDOW FINISH

Casings of all windows to finish on neat stool cap with apron and moulding. Portiere openings to be trimmed same as doors.

BASE

In all finished rooms throughout the house put base or skirting boards of same material as the general finish of rooms, moulded as per detail or as described below; to have carpet strip, and to be coped at the corners.

NOTE.—The height of base given below includes plinth and moulding.

In first story principal rooms and hall base is to be 10 inches high.

In second story to be 9 inches high.

In closets and attic rooms to be 6 inches high, plain board with beveled top.

PICTURE MOULDING

In the principal rooms and hall of first story put a finished hardwood picture moulding placed 12 inches below the ceiling.

CHAIR RAIL

Put a moulded chair rail at a height (to centre of rail) of two feet 10 inches above the floor, on the walls of the dining-room; to be of same wood as the general finish of the room, angles neatly mitred.

STAIRS

To be built as shown on drawings, properly supported on 3x6 carriage timbers spiked in place after stairs are up.

Main staircase to have 1 1/4-inch treads, 7/8-inch risers, tongued and grooved together, and housed into wall string, and to be wedged, glued and blocked. Treads finished with rounded nosings and cove mould under.

Outer string to be 2-inch yellow pine, bracketed and face reeded.

Treads and risers to be yellow pine.

Newels, rail and balusters to be yellow pine.

Principal newel to be 6x6 inches, turned and chamfered, with carved panel.

Other newels to be 5x5 inches, turned and chamfered.

Balusters to be 1 3/4 inches, square reeded, dovetailed at bottom and doweled into handrail.

Level rail in second story to be finished against a half newel.

Panel the spandril under stairs down to seat, as shown on detail, with yellow pine rails halved together. Form the seat, front and end to same as shown, of 2-inch yellow pine.

Build the back stairway, as shown, with 1-inch treads and risers, tongued and grooved into each other, rounded nosings, all of white pine. Hang door at bottom and put 4x4-inch square pine post and rail in second story, as shown, 1 1/4-inch square pine balusters.

BATH-ROOM

Wainscot the walls 4 feet high with 3/8 x 3-inch yellow pine ceiling boards beaded. Cap neatly and cover joint at floor with small quarter round mould.

Bath-tub to be encased with narrow ceiling to match wainscoting. Top to be 1 1/4-inch cherry, with projecting rounded edges and cove mould under, top to go back to the plaster and wainscoting of wall to be scribed neatly on same.

Enclose water-closet neatly with 1-inch cherry, seat to be framed together, made smooth, and hinged; flap to be cleated and hinged; front to be removable.

Build proper support for wash bowl, and enclose underneath slab same as tub; to have a door hung with brass butts, and spring catch.

All fittings in bath-room and around pipes to be put together with brass screws, and all wood-work to be made smooth with sand paper, and finished the natural color of the wood.

KITCHEN

Walls to be wainscoted 4 feet high with 5/8 x 3-inch tongued and grooved double beaded yellow pine or ash ceiling boards, on grounds set before lathing; to have moulded cap, and quarter round at joint with floor. Behind the sink and draining board the wainscoting is to be 2 feet higher than sink. Behind the boiler carry the wainscoting to the ceiling. Provide proper support and grooved draining board (in one piece) for the sink as shown on plans, of ash; draining board and rim around sink to have rounded edges and all made smooth. Space underneath sink is to be left open.

DRESSER

Build a pine dresser in the kitchen, as shown on plan, 7 feet high, upper part to be 12 inches deep, and to have 3 shelves, enclosed by glazed folding doors, hung on bronzed iron butts, and to have a bolt and 2-inch bronzed spring catch; lower part to be 20 inches deep, and to have 2 drawers, provided with locks and pulls. Two single paneled doors to lockers below with suitable hardware.

SHELVING

All closets throughout the house to be fitted up with an average of 3 shelves each. All shelves to be inch thick, dry shelving on rabbetted cleats, all according to the directions of the owner or architect. Put up throughout the house, on beaded cleats, 4 dozen tinned "Gem" wire hooks, as directed.

WOOD MANTELS

Provide and set in the parlor and bedroom over same, wood mantels. That in parlor to cost \$30, and in bedroom, \$20, net.

Chimney breasts to be measured for mantels after the plastering is finished.

DOORS

Furnish and hang all doors throughout, as shown on drawings and as specified. To be of clear selected dry stuff, put together in the most workmanlike manner, and made smooth and clean. All doors are to be blind mortised and tenoned and finished by hand. For sizes and thicknesses of doors see plans.

All doors, unless otherwise specified, to be made of clear, white pine.

Doors in attic and rear extension may be "stock" doors, not blind mortised.

Ordinary ROOM DOORS throughout first and second stories, main house, to be 1 1/2 inches thick, 4 panels, moulded, hung with 3-inch loose pin, light bronzed butts, good, city-made, mortise locks, brass fronts and striking plates and hardwood knobs. In extension and attic hang with 3-inch japanned butts, and put good rim locks and black China knobs, all with brass keys to vary.

NOTE.—Opening between hall and parlor will have no doors, but will be cased same as door openings with plain jambs.

SLIDING DOORS to be 1 1/4 inches thick, 4 panels, hung with Philadelphia overhead hangers.

Doors to slide smoothly and easily, double sliding doors to have astragal front; to have mortise lock, with bronzed front, and bronzed flush finger plates, and spring pulls.

FRONT ENTRANCE DOOR and dining-room door to veranda to be 2 inches thick, paneled as shown. To be made of clear, dry, white pine, and to be hung with 4-inch bronzed loose pin butts with ball tips, and to have a 5-inch mortise lock, with night-latch attachment bronze front and striking plate, and three plated keys, and hardwood knobs. To have a 6-inch Ives' mortise bolt; upper part of doors to have centre and border lights of plain plate glass put in with wood moulding—no putty.

CLOSET DOORS throughout are to correspond in style with the doors of the rooms in which they are located; to be 1 1/4 inches thick, moulded one side, butts and furniture to be same as for the room doors.

MISCELLANEOUS

Doors throughout, opening against plaster walls, to have hardwood base knobs, with rubber tips, screwed into base.

Provide all locks, butts, hooks, bolts, etc., of suitable character and finish, that may be necessary to make a perfect and complete job.

Put up 1 1/4-inch angle beads 5 feet long, with turned tips, on all exposed angles of plastered walls.

WASH-TUBS

Provide and set in kitchen two stationary wash-tubs, constructed of clear dry 1 1/2-inch white pine, housed together at all points in white lead, and nailed tight. To be supported on neat turned legs. Lids to be 1 1/4 inches thick, cleated at the ends and hinged with 2-inch galvanized iron back flaps.

PIPE CASING

Where water or other pipes pass through rooms place neat pine boards, with beaded edges, for pipes to be fastened to; boards to be varnished.

Where pipes are to be carried horizontally underneath the floor, place boards, with proper incline, between the floor joists to lay pipes on.

TINNER

All tinwork to be thoroughly soldered where necessary. Use I. C. charcoal Terne plate tin, unless otherwise specified; provide and perform all tin flashings, etc., as specified in carpenter work; paint all tin-work two good coats metallic paint before putting in place.

Line the gutters and valleys with tin, carrying same well up under the roof and over the front of cornice moulding or gutter, where it is to be tacked down smoothly.

LEADERS

Provide and put up where shown on Drawings leaders of I. C. tin to carry rain water from gutter to ground. Those from main roof to be 4 inches diameter; those for veranda and bay window roofs 3 inches diameter; make all branches where necessary, neatly and gracefully. Secure the leaders to the house with galvanized iron holdfasts. Put galvanized iron leader guards over all openings in gutters. Connect leaders with the earthen pipes leading to main drain.

BELL

Provide and put upon neat board, in kitchen, a good 5-inch gong. To be connected with front doorway with steel wire, to work with all necessary cranks. To have an appropriate bell-pull and plate at front door to match front door furniture. Wire to be carried out of sight underneath floor.

FINIAL

Provide and set the wrought and galvanized iron finial and vane on tower as per detail drawings.

PLUMBER

The plumber is to furnish all labor and materials of the best description, as specified below, and make a complete and perfect job. He is to comply with all the rules of the local Board of Health, and should said rules require any deviation from the Specification, he is to make them, accordingly, without extra expense to the owner.

All water service pipes to be put on wood stripping, prepared by carpenter, and secured with hard metal tacks and screws.

No pipes to be run on outside walls unless absolutely necessary, and should it be necessary to run them where there is danger of freezing, they are to be thoroughly packed with mineral wool, or other good non-conductor, and encased by the carpenter.

All pipes to be evenly graded so as to drain dry when water is turned off.

All connections of lead pipes to be made with wiped solder joints.

All connections of lead pipes with iron pipes are to be made through brass ferrules, soldered to the lead, and caulked with oakum and lead into the iron hub.

All fixtures are to be trapped with lead S trap—of same size as waste pipe—with brass trap screw.

Place safes of 3-lb. sheet lead—edges turned up 2 inches all around—under all fixtures above ground floor.

SOIL PIPE

Connect with the main earthen drain under house, and carry from that point a vertical line of 4-inch cast iron pipe, tarred, with all proper and necessary branches for connection with water closet, waste pipe, etc.; these connections to be made with Y branches. Carry soil pipe 30 inches above the roof and leave the end open. Secure the pipe to walls with iron holdfasts. All joints to be caulked with oakum, run with molten lead, and bedded with caulking iron and hammer, care being taken not to crack the hub. This line to be closed at the bottom and subjected to water test. Carry this pipe alongside of kitchen chimney. Carry a line of 2-inch pipe alongside of soil pipe starting at trap of sink, for ventilation of traps—turn into soil pipe above upper fixture. Carry a separate line of 2-inch iron pipe from trap of wash-tubs through roof for ventilation.

WATER SUPPLY

Supply the house with water from main in street through 1-inch AA lead pipe, carried to bath-room, to rise alongside of kitchen chimney. Pipe to be laid below frost and thoroughly protected where it rises to kitchen.

RANGE

To be furnished by owner and set by plumber and connected with water supply and made ready for use.

BOILER

Furnish and set on cast-iron pillar, a 30-gallon galvanized iron boiler, connected with water back of range with 3/4-inch AA pipe, and with main supply by 3/4-inch A pipe, with ground brass couplings complete.

Boiler to have sediment stop and waste cock at bottom, and finished stop and waste cocks at top to shut off both hot and cold water from upper part of house. Run 1/2-inch circulation pipe from boiler to wash basin.

SINK

Set in kitchen a 30x18x6-inch galvanized cast-iron sink, with strainer; supply hot and cold water through 5/8-inch A pipe. Cocks to be brass compression, with flange and thimble, same size as pipes, cold water cock to have hose end. Waste to soil pipe through 2-inch B lead pipe, trapped.

WASH-TUB

Supply with hot and cold water through 1-inch A pipe and 5/8-inch brass flange and thimble compression tray bibbs. Waste through 1 1/2-inch B lead pipe, trapped, and brass sockets, strainer, plug, and chain.

BASINS

Set in bath-room a white overflow wash basin 14 inches in diameter. Supply hot and cold water through 5/8-inch A lead pipe, and 1/2-inch plated compression basin cocks. To have plated strainer, plug, chain and stay. Waste through 1 1/4-inch B lead, trapped. Overflow to be 5/8-inch, connected with waste above trap. Basin to have white marble countersunk slab, and marble back 12 inches high, moulded edges.

BATH-TUB

Set a 5 ft. 16 oz. tinned and planished overflow bath-tub. Supply with hot and cold water through 5/8-inch A lead pipe and 5/8-inch plated flange and thimble bath compression bibb cocks. Waste through 1 1/4-inch B lead pipe, and provide plated strainer, plug, chain and stay. Overflow for bath and for all other fixtures is to be connected with the waste pipe above the trap.

WATER-CLOSET

Fit up in bath-room, in proper working order, a "National" water-closet in one piece, flushed with water from painted cast-iron 3-gallon cistern with Weeden's patent time valve. Trap to be connected with soil pipe in proper manner.

TRAP VENTILATION

Ventilate all traps by 2-inch lead pipe into the ventilation pipe.

GAS PIPING

Pipe the house for gas in thorough and proper manner with best wrought iron gas pipe, leaving all outlets of proper length. No pipe for fixture connections to be less than 3/8-inch, and larger where required for chandeliers. Put all joints together with cement. The whole to be tested and all openings left capped.

Pipe for drop lights in halls first and second stories, parlors, dining-room, kitchen and three bedrooms. Pipes for bracket lights in all other rooms and attic hall.

PAINTER

Provide all materials and perform all labor for the full and proper painting, staining, etc., as specified below; putty all nail holes, etc., smoothly, of both interior and exterior work, after the priming is done; cover all knots, etc., with strong shellac before priming. All paint to be best Atlantic white lead and linseed oil.

EXTERIOR

Paint the exterior wood-work, etc., 3 coats, finishing in the following colors:

Body of the work, first story, light brown.

Trim—including water table, corner boards, casings, cornices, bands, veranda posts, rail, etc., dark brown; panels in gables, dark brown.

Outside doors, dark brown.

Blinds, dark brown.

Sashes, dark brown.

Veranda, floor, light brown.

Veranda, ceiling, to be twice oiled.

Conductors, dark brown.

Brick-work, Indian red.

NOTE.—Consult the architect for exact colors.

Shingling on side walls to be dipped in an oil stain of burnt sienna. This to include all shingling of second story and tower.

Shingled roofs to be twice oiled.

INTERIOR

All interior wood-work to be thoroughly grain filled with a good wood filler, and finished with two coats hard oil varnish.

Tint the walls and ceilings, in halls and principal rooms first and second stories in tints as directed, with two coats water colors.

SHOPPELL'S MODERN HOUSES

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This monthly publication is the continuation of the quarterly of the same name. The following back numbers of the quarterly, viz., Nos. 1, 2, 3, 4 and 5 each consists of 72 pages, and each contains over 50 designs for residences, besides much miscellaneous matter. Price of each, \$1.

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THE CO-OPERATIVE BUILDING PLAN ASSOCIATION is an association of Architects and Builders, incorporated under the laws of the State of New York, for the purpose of furnishing architectural services for all kinds of structures. The special features of their services are unusual promptness and low charges. Their charges are about one-quarter of the charges by other architects. Eight thousand houses have been built from the Working Plans and Specifications furnished by this Association.

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FOUNDATION WALLS AND DRY CELLARS

BRICK and stone walls will absorb moisture and allow water to pass through, even though laid in cement. In order to have a dry cellar it is necessary to use some precautions to render the walls waterproof. It will not do to furr off and plaster the walls inside, as the dampness will be transmitted through the furring strips to the plaster, which will soon become mouldy, and the furring strips will rot. The best precaution is to build a hollow wall—that is, say, an 8-inch brick wall outside, a 3-inch or 4-inch air space, and then a 4-inch or 8-inch inside wall. The two walls should be bonded together every fifth or sixth course with iron ties placed two or three feet apart, not one above the other, but alternating each course. Bricks should not be used for ties, as they will convey dampness to the inner wall.

It will be necessary to place a drain around the outside of the footings or underneath them, so that water which finds its way down the outside of the walls will not go underneath them and make the cellar bottom wet, which it certainly will do unless efficient means are taken to prevent it.

In a good location free from bogs or springs it is generally sufficient, in addition to concreting the cellar bottom, to place just outside of and on a level with the bottom of the footings an open joint tile drain of 4 or 5 inches diameter around the building, filling in above and around this, say 6 inches, with loose broken stone, and above this it is well to place a layer of straw or hay to keep the earth from filling in the stonework; then the trenches can be filled in. If the walls have been built hollow, as above described, the bottom of the air space should be connected with the drain at intervals. At the lowest point a tile drain should connect the wall drain with some convenient ditch or drain. Sometimes the stone and tile drains are put directly under the footings, the tile being laid on the earth bottom of the trenches, and broken stone placed above.

Coarse gravel makes a good filling around a tile drain. A damp-proof course should always be built into the walls just above the ground line to prevent dampness rising through the brick or stonework by capillary attraction. This may be of glazed tile, double course of slate laid in cement, sheet lead, hot asphalt mixed with sand, or a manufactured bitumen damp-course.

The outside of the walls below ground should be coated with cement, or, if the surface is smooth, with hot asphalt, gas tar, or pitch. The walls must be perfectly dry when this is applied. When the house is placed on a sloping site, extra precautions should be taken against the water which will run down the side of the hill, and, if not intercepted before reaching the house, will strike and run down the wall, overflow the drain at the bottom of foundations and get into the cellar. For this a trench should be dug as low as the cellar bottom, 10 or 15 feet outside of the walls on the side or sides of the house from which the surface water would come, the trench to be filled up to within 12 inches of the surface with stones and covered with hay or straw, gravel and earth. This will collect most of the surface water, and must be graded and connected by a tight joint tile drain with some ditch, brook or drain. A line of open joint tile should be laid in the bottom of the trench.

Plans and Specifications
Full working plans, specifications, bills of quantities, and sheets of details, complete, ready for the builder, may be obtained for any of the structures illustrated in this publication. Charges, one per cent. of the estimated cost. Address the Co-operative Building Plan Association, Architects, 63 Broadway, New York.

DESCRIPTION OF DESIGN NUMBER 512

A CONVENIENT COTTAGE OF LOW COST

SIZE OF STRUCTURE: Front, 22 ft. Side, 28 ft. SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: First Story, 8 ft., 6 in.; Second Story, 8 ft.

MATERIALS: Foundations, wood posts; Side walls, pine siding; Roof, shingles.

COST: \$800, complete. Ordinarily, the cost of a cottage like this would be from \$1,200 to \$1,300. The principal savings are effected by using posts for foundations, by omitting cellar, by using cement chimney flues, and by using paper in place of plaster. All these things are minutely described in the specifications.

Many unthinking people, and even some builders, who ought to keep up with modern improvements affecting their trade, will say: "Oh! let us build as our grandfathers built."

The actual fact is that this cottage is warmer, stronger, healthier, more convenient, as well as amazingly lower in cost, than if built by old methods.

SPECIAL FEATURES.

—Can be built on a 25-ft. lot, leaving a passage of 3 ft. at the side.

There is no cellar, but a wood and coal bin is provided. The side porch is large enough to accommodate an ice box, so that a cellar is not a necessity.

An earth closet, well lighted and ventilated, is provided, reached from the side porch. The objection may be raised that this is at the front and inside of the house. There is a double boarded and papered wall to separate it from the house proper, and as it does not connect with any room, if it is properly attended to, there is no danger whatever of its being objectionable in any way. It is easily reached, with no exposure to the weather, by passing from the kitchen to the side porch, which is covered by the main roof. A well-made earth closet is so inoffensive that it is often kept in a sleeping room. With the working plans and specifications for this design, two styles of earth closets are illustrated and described.

A double terra cotta chimney in the centre of the house provides for fires in any of the rooms. It is thoroughly protected against danger from fire.

Should the family be large, the dining-room may be converted into a bedroom, and the parlor used as a living and dining-room.

The space under the stairway is utilized for a large pantry. The parlor alcove accommodates a sofa.

The two small upper panels of the front door are glazed, to light the lower hall and stairway. The upper hall receives full light from the dormer window.

A bath-tub is provided on the second floor, with a pump to draw water from a cistern or a well.

The bath costs but little when hot water is not introduced, and is a very great convenience.

The floor of the first story is protected against the entrance of cold from underneath, by the use of paper—one of the best non-conductors of heat or cold.

The finish of the interior walls and the ceilings is as follows: the walls of all rooms are wainscoted to a height of three feet, with yellow pine; the walls, above the wainscoting, and the ceilings are papered with heavy red or gray manilla paper, glued on lathing, which makes a very substantial, enduring and handsome wall covering, that can be painted, or papered with ordinary wall paper, at any time, the same as plastering. Its cost is about one-half that of plastering.

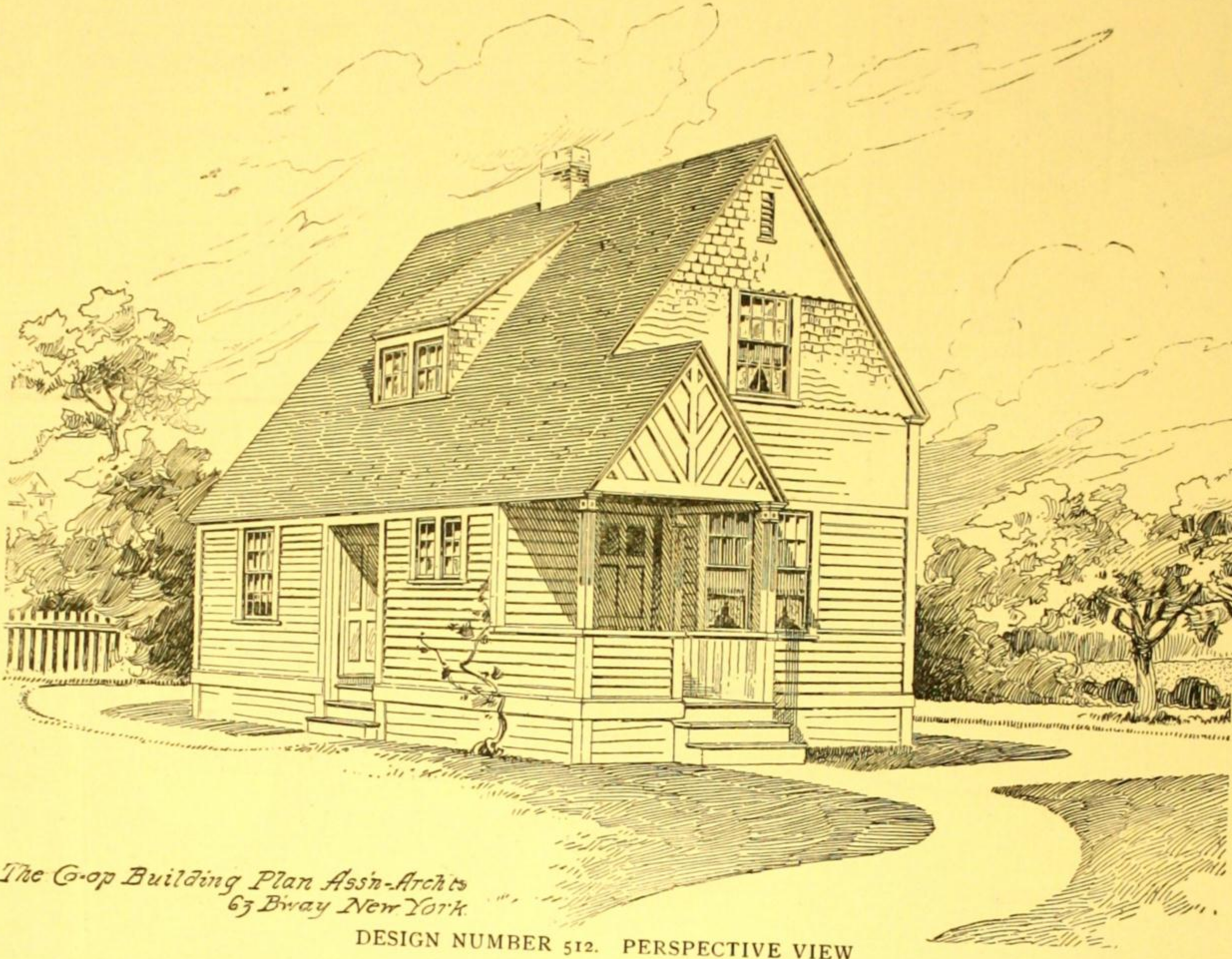
The hall and stairway walls are finished entirely with wood underlaid with paper.

All interior woodwork is finished its natural color.

Unless our full Working Plans and Specifications are used it cannot be expected that a contract can be made at the figure given above, as these explain fully the peculiarities of construction and finish which secure the saving in cost.

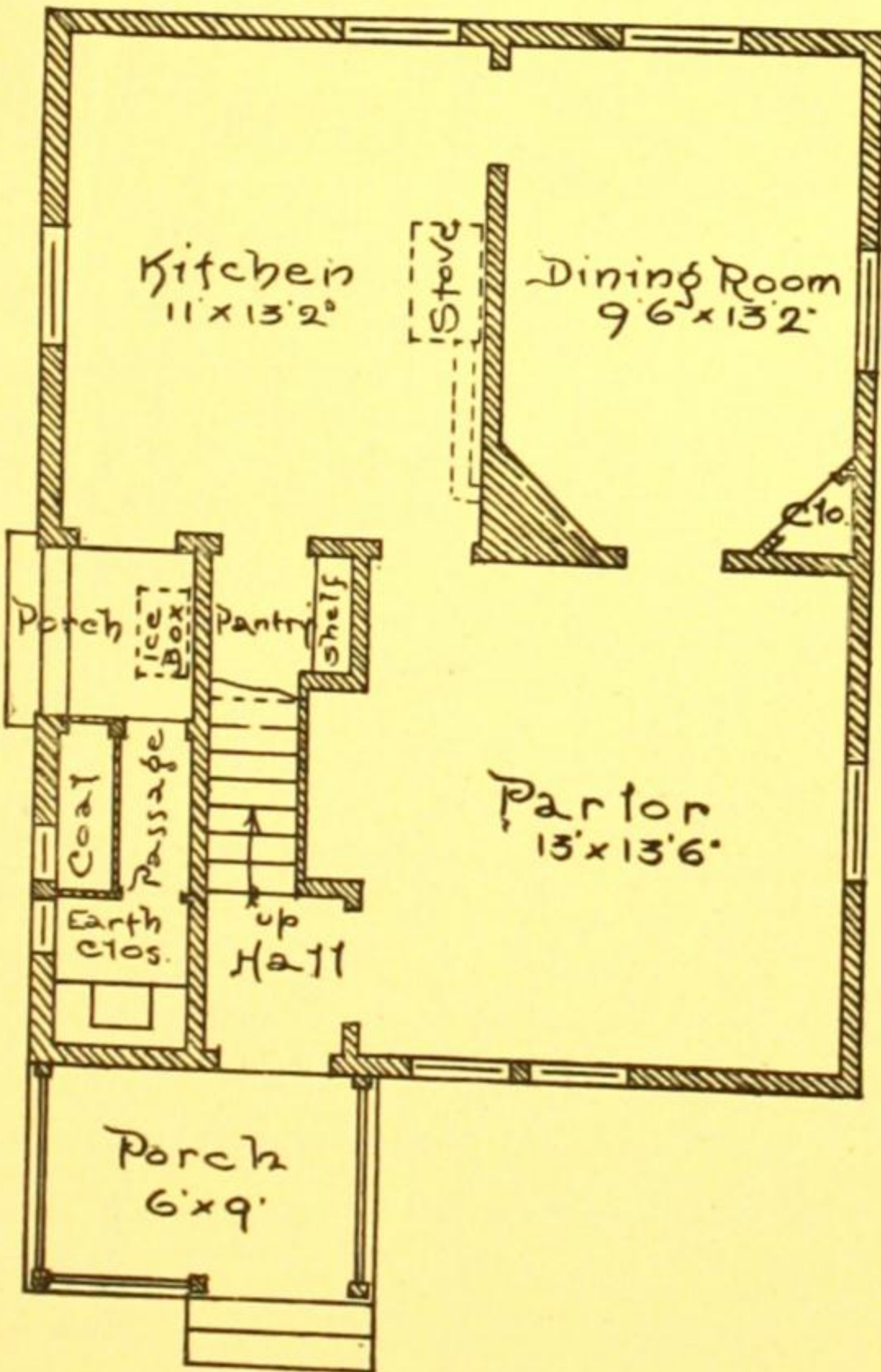
WORKING PLANS AND SPECIFICATIONS.

The Working Plans, large sheets of Details, Specifications, Bill of Quantities, Color Sheet, a large sheet of details for building Cisterns and Earth Closets, and Blank Contracts for any of the designs in this publication, are furnished by the publishers for one per cent. of the estimate given, except in cases where the estimates are under \$1,500. In such cases the fee is \$15. No full set of Plans or Specifications are sent out for less than \$15. Therefore the fee for this design is \$15.

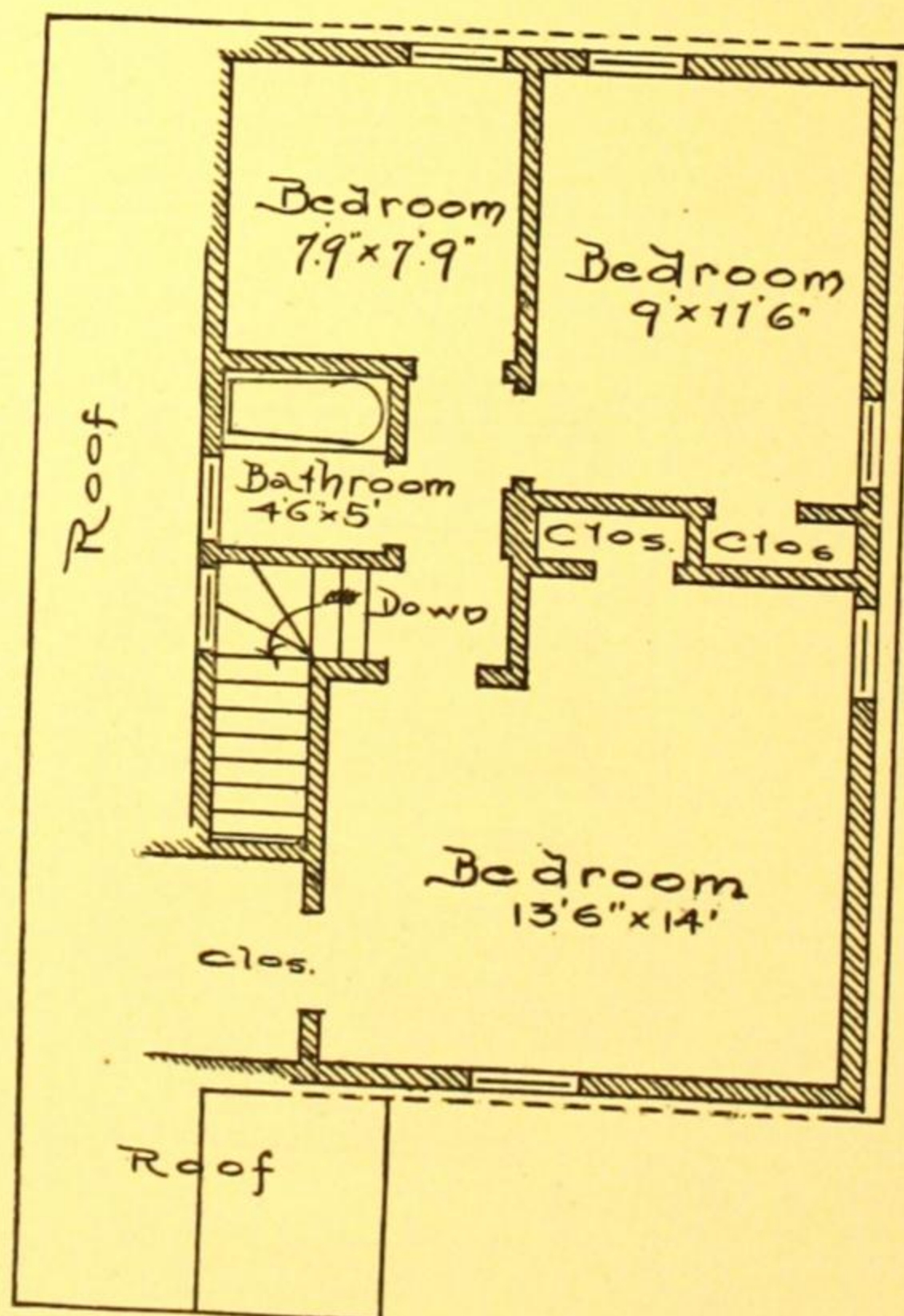


The C-o-p Building Plan Ass'n-Archts
63 B'way New York

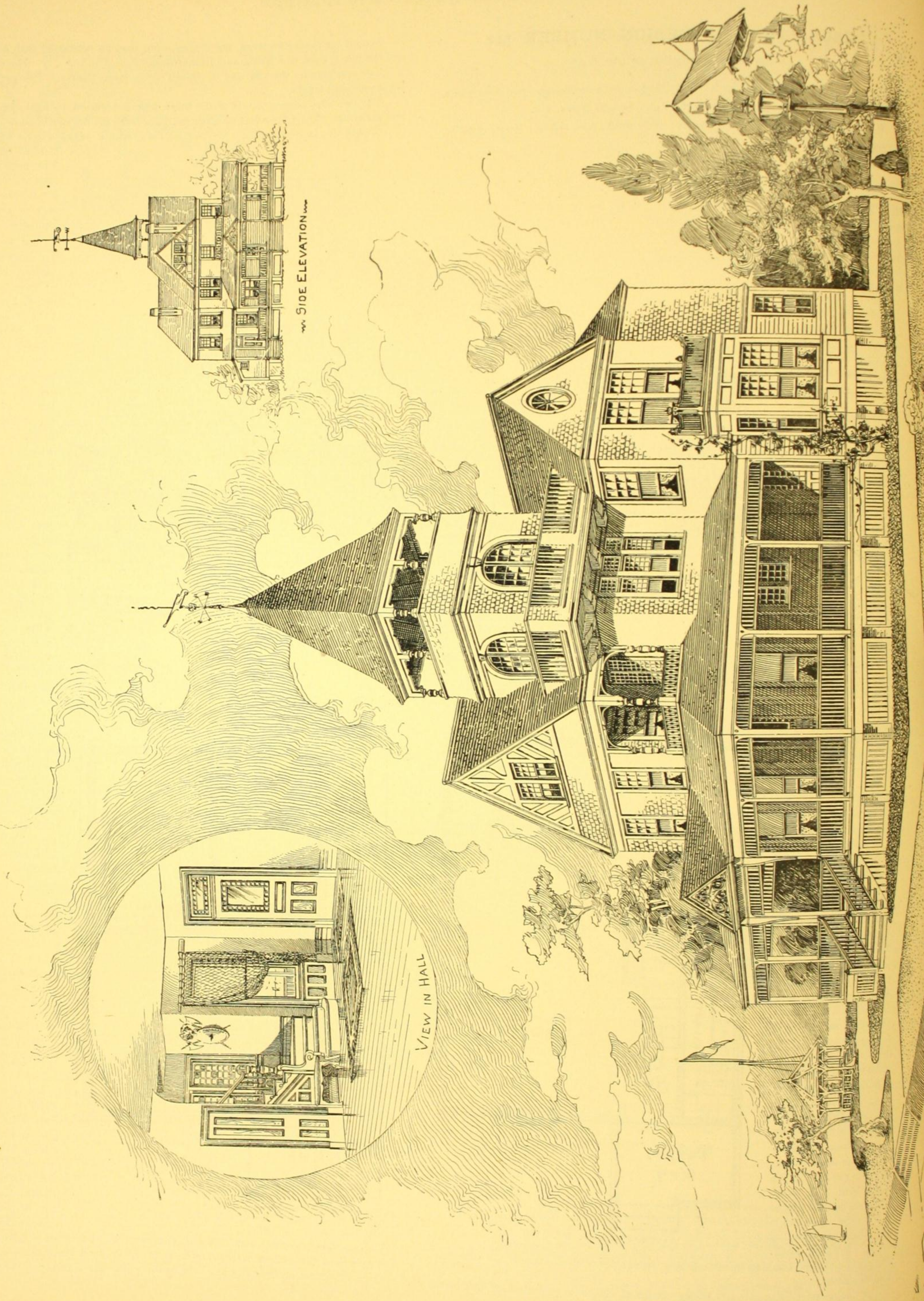
DESIGN NUMBER 512. PERSPECTIVE VIEW



FIRST FLOOR. NO. 512



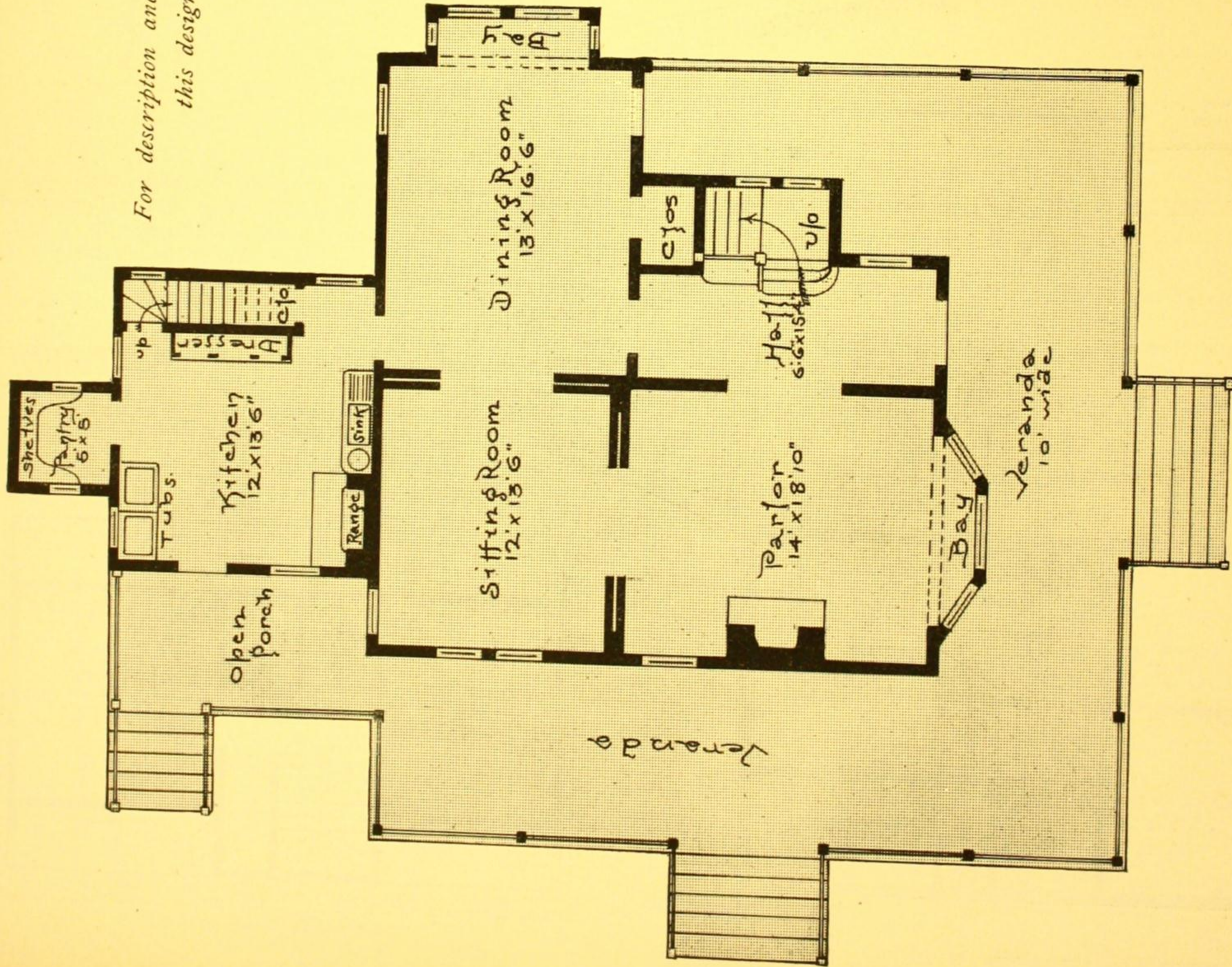
SECOND FLOOR. NO. 512



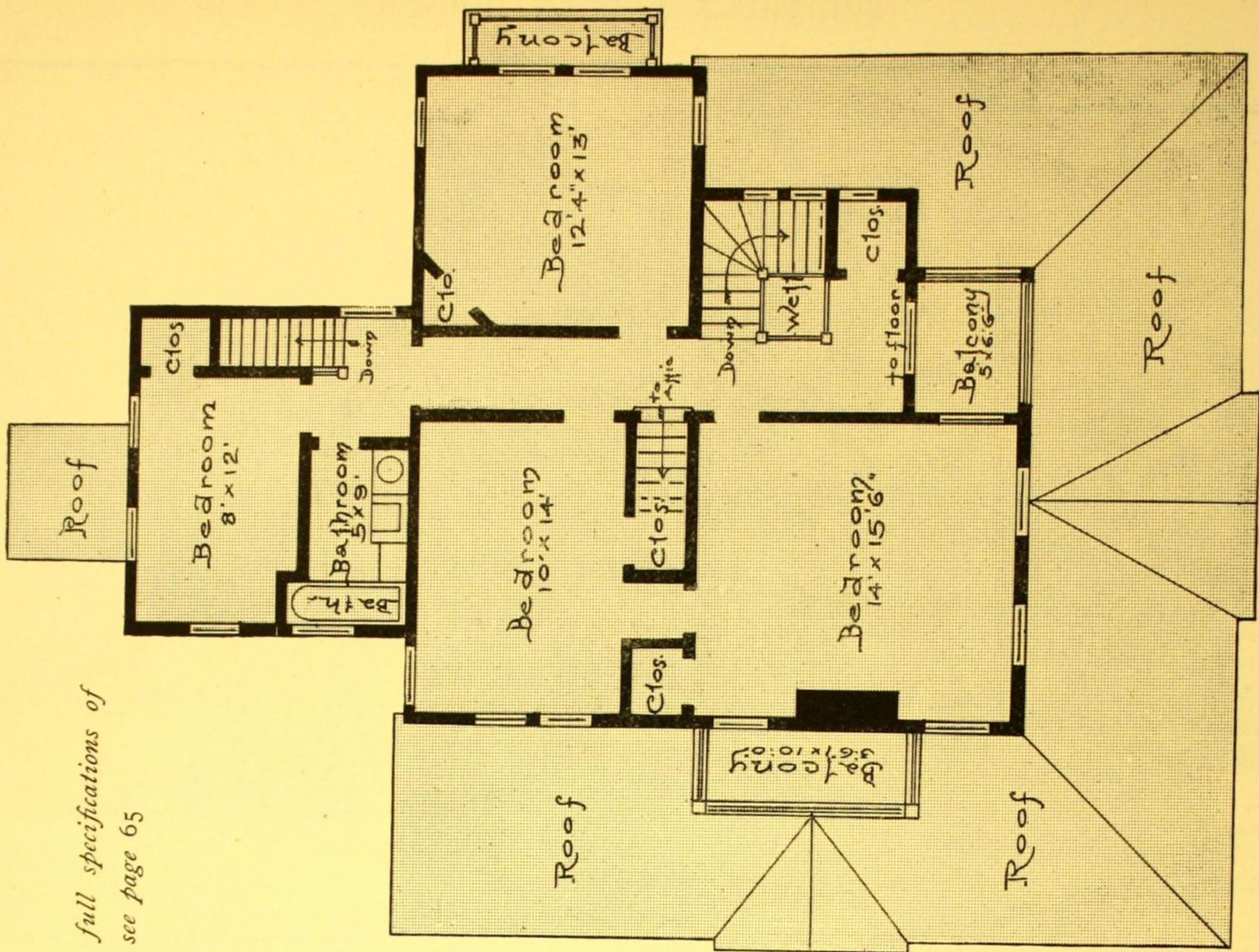
Perspective Building Plan No. 11397
 Architects - G. B. Way, N.Y.



PERSPECTIVE VIEW



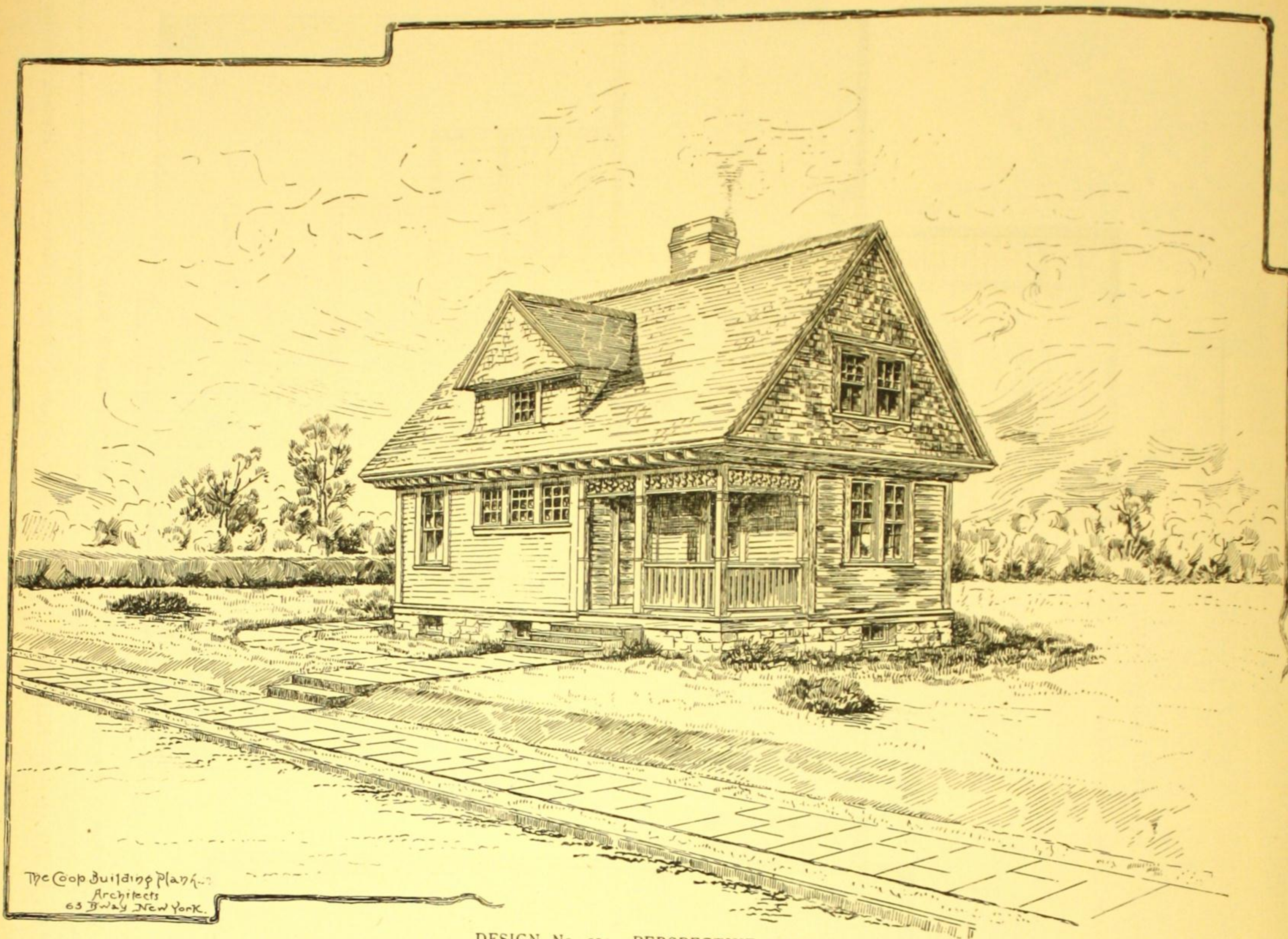
FIRST FLOOR PLAN



SECOND FLOOR PLAN

Scale of Plans: 8 ft. to the inch

"SHOPPELL'S MODERN HOUSES" IS PUBLISHED MONTHLY AT 10c A NUMBER. Each number contains at least 10 designs for Houses (mostly of moderate cost), with designs for Barns and Outbuildings and much miscellaneous matter of great value to all readers. Entire contents original.



DESIGN No. 514. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 514

SIZE OF STRUCTURE: Front, 34 ft. Side, 23 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 6 ft. First Story, 9 ft.; Second Story, 8 ft.
MATERIALS: Foundation, stone wall; First Story, pine siding; Roof and Gables, shingles.
COST: \$1,450, complete. See "EXTRAS," on page 77.
SPECIAL FEATURES.—Cellar under the whole house, made with an 18-inch stone wall, well lighted.

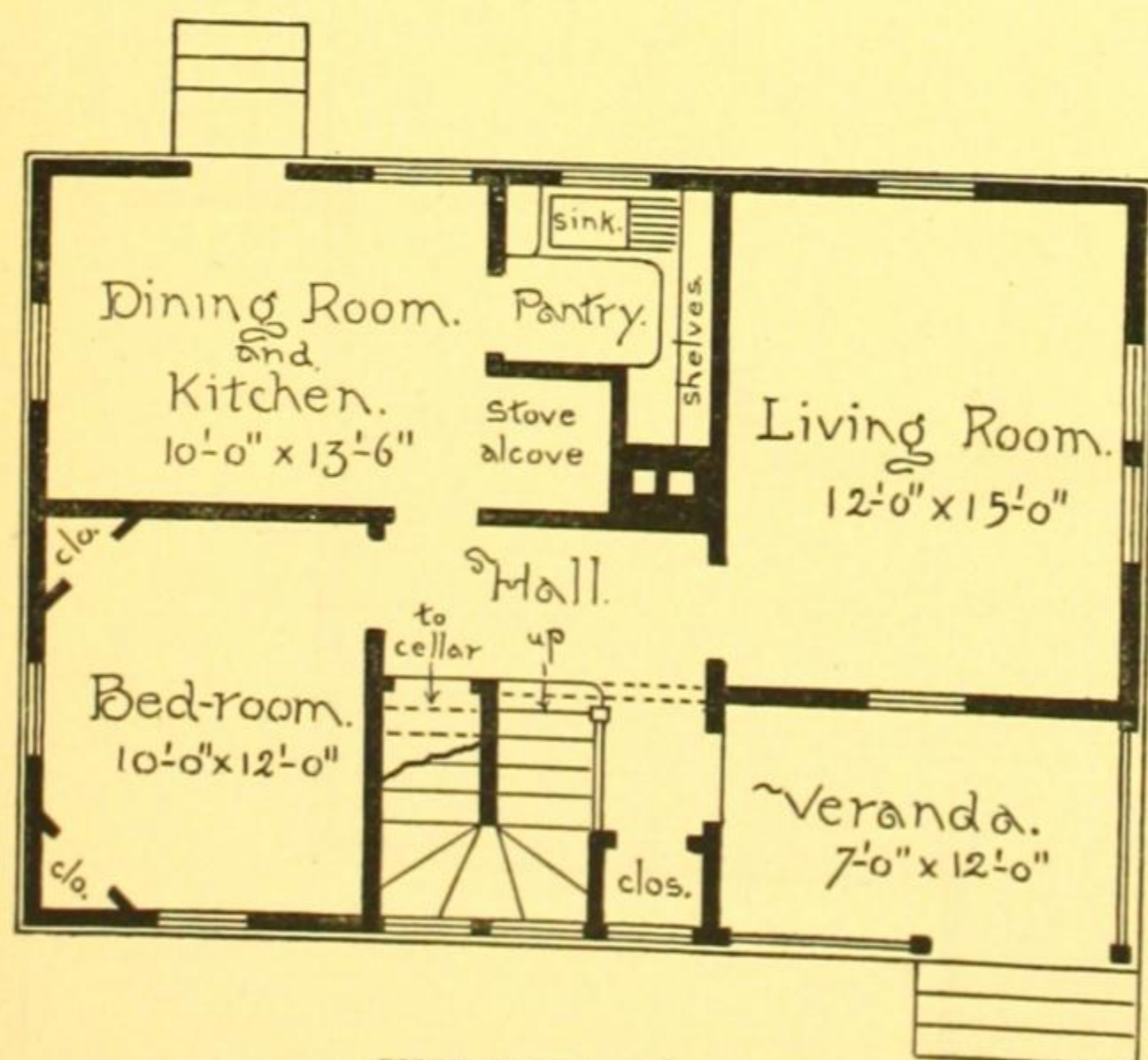
The hall and stairway are lighted by two of the small windows, shown in the perspective view, which are filled with stained cathedral glass. Another small window lights the hall closet.

The bedroom on the first floor can be used as a parlor, if preferred.

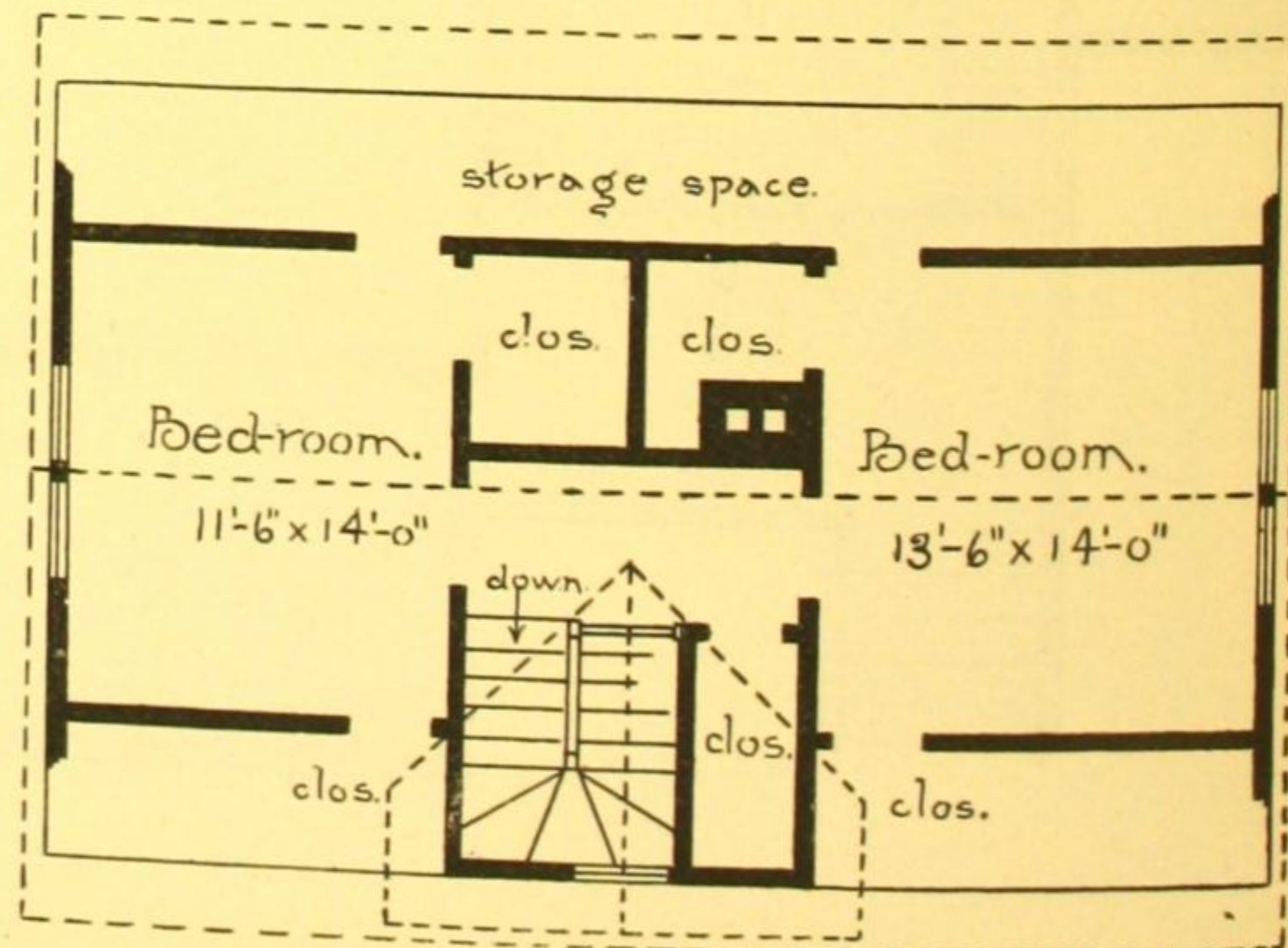
The kitchen stove sets in an alcove and does not impose on the room.

The overhang of the second story gives large storage space and closets for the upper floor.

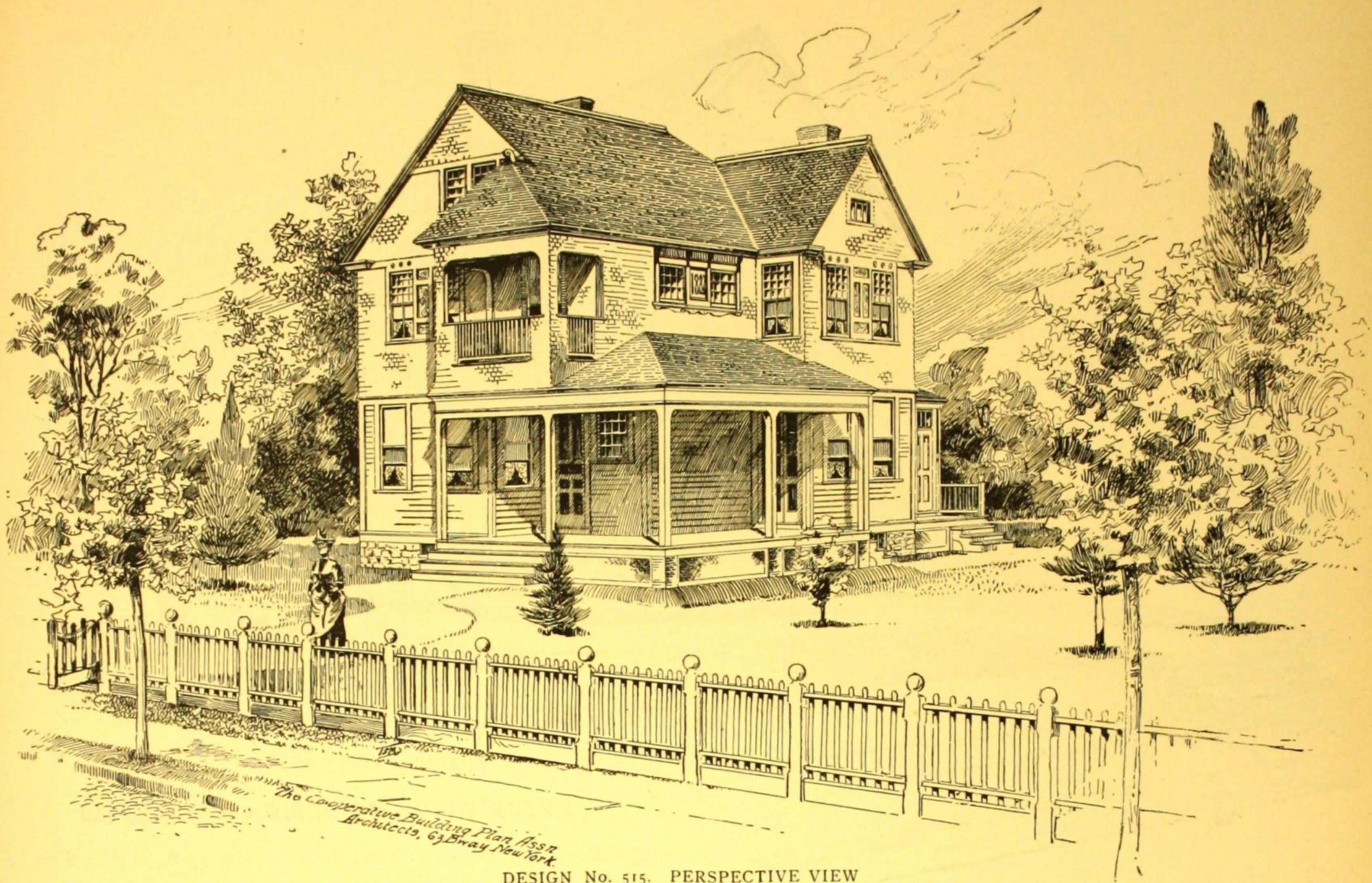
An additional room can be gained on the second floor, if desired, by putting a gable extension at the rear centre, the same as at the front, doing away with the two closets.



FIRST FLOOR. NO. 514



SECOND FLOOR. NO. 514

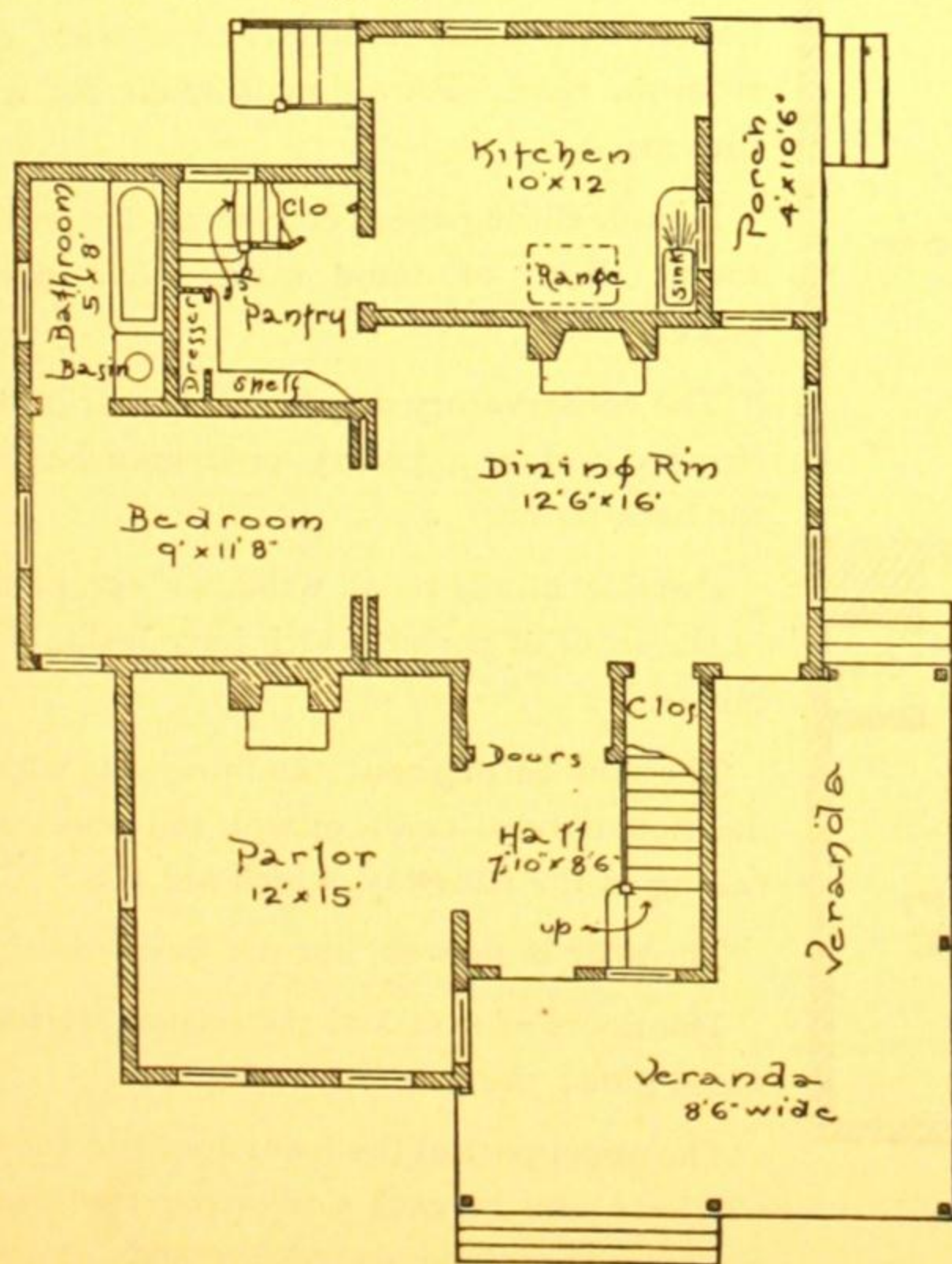


DESIGN No. 515. PERSPECTIVE VIEW

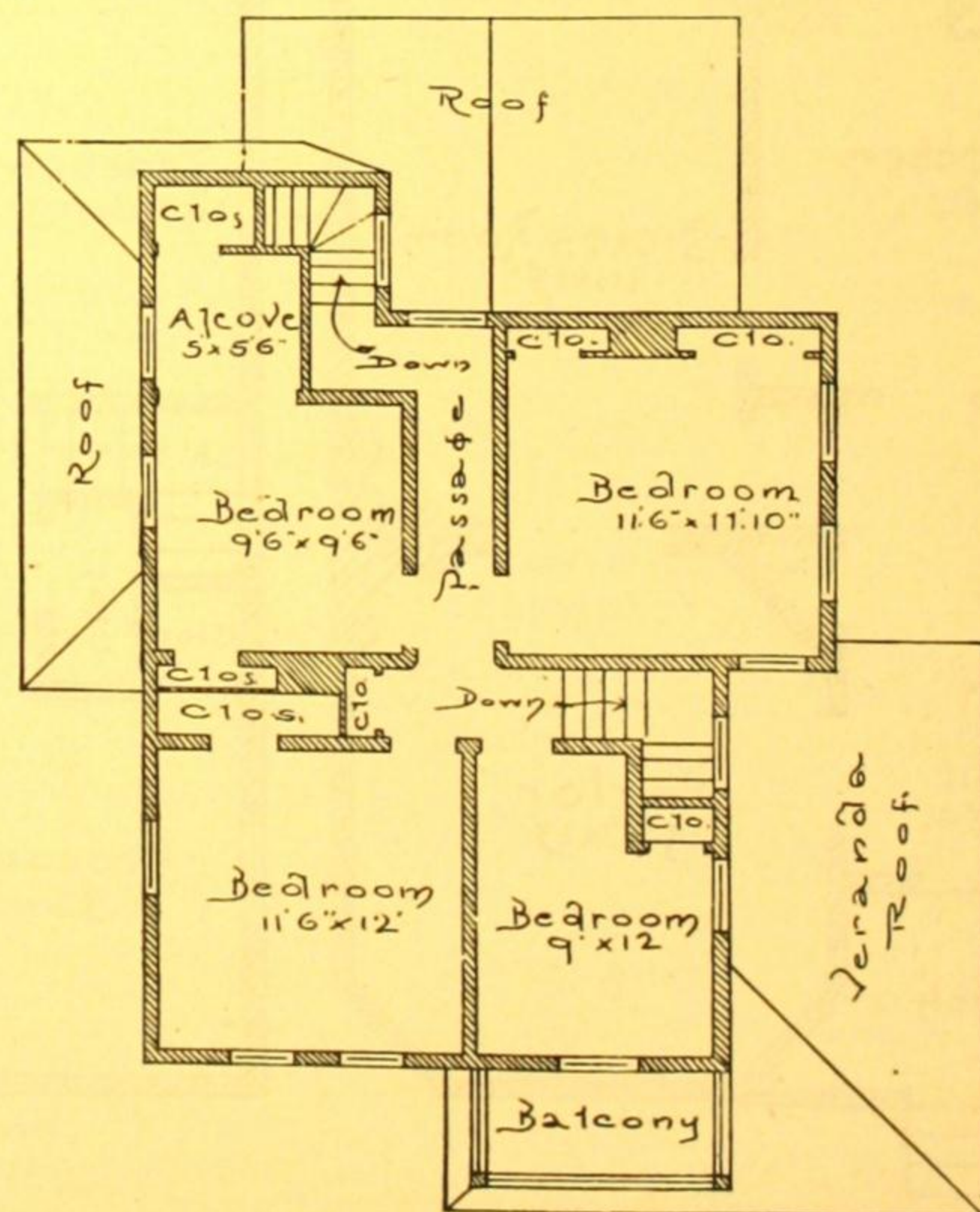
DESCRIPTION OF DESIGN NUMBER 515

SIZE OF STRUCTURE: Front, not including veranda, 22 ft. Width through bedroom and dining-room, 29 ft., 6 in. Side, 39 ft., 6 in.
SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft.; Second Story, 8 ft.; Attic, at highest point, 8 ft.
MATERIALS: Foundation, stone walls; First Story, clapboards; Second Story, shingles; Roof, shingles.
COST: \$2,600, complete, except mantels and range. See possible "EXTRAS," on page 77.

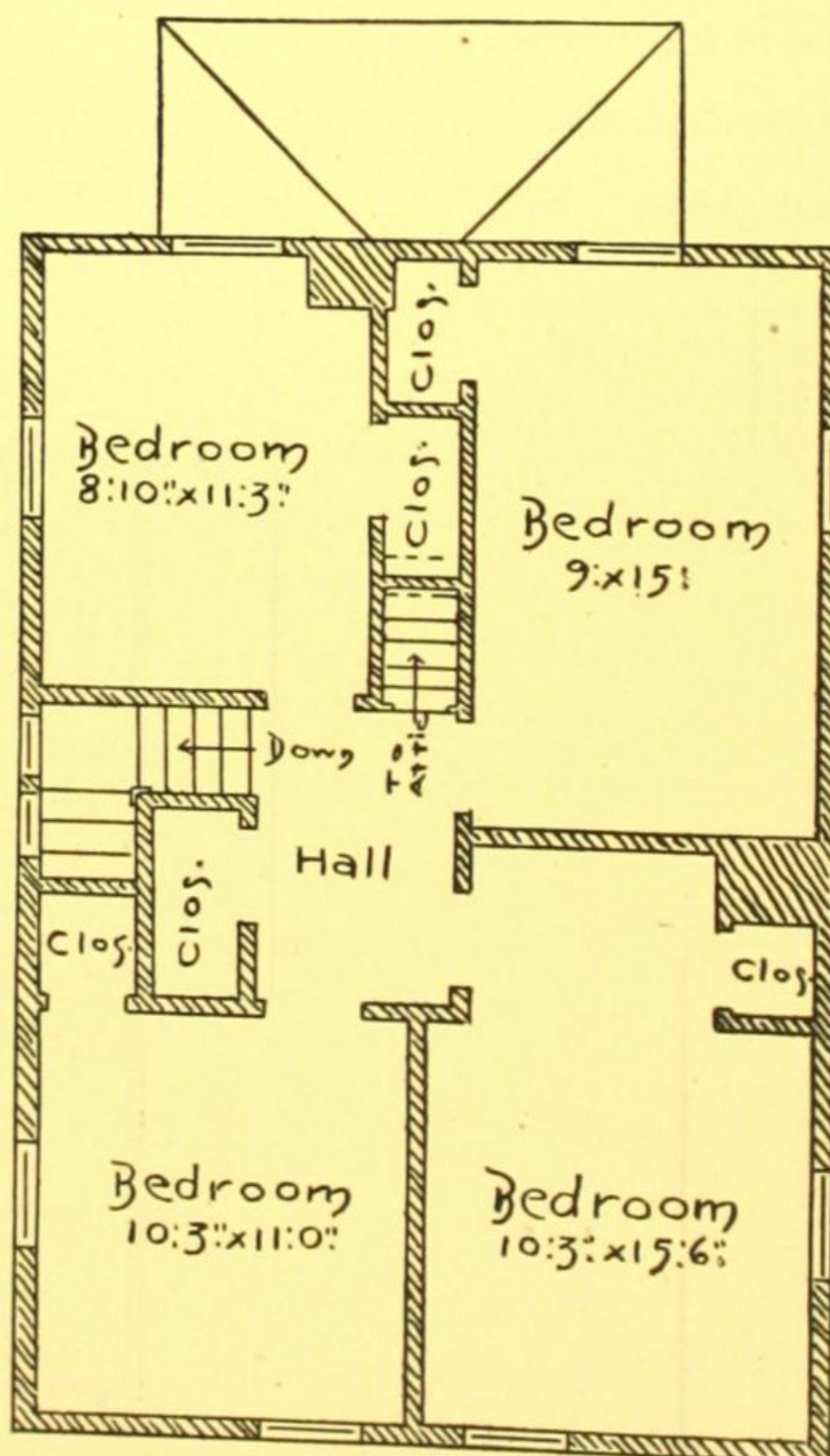
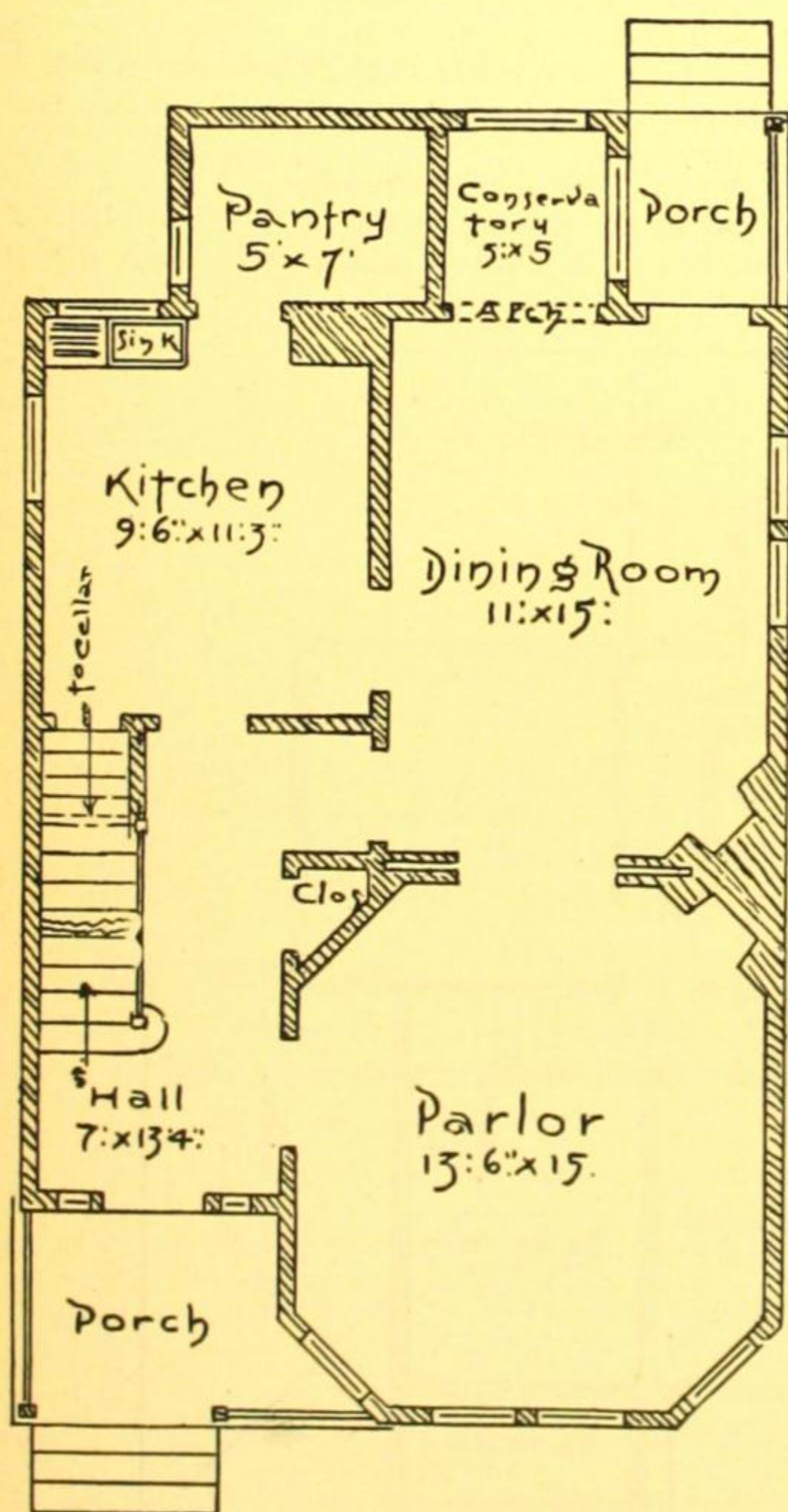
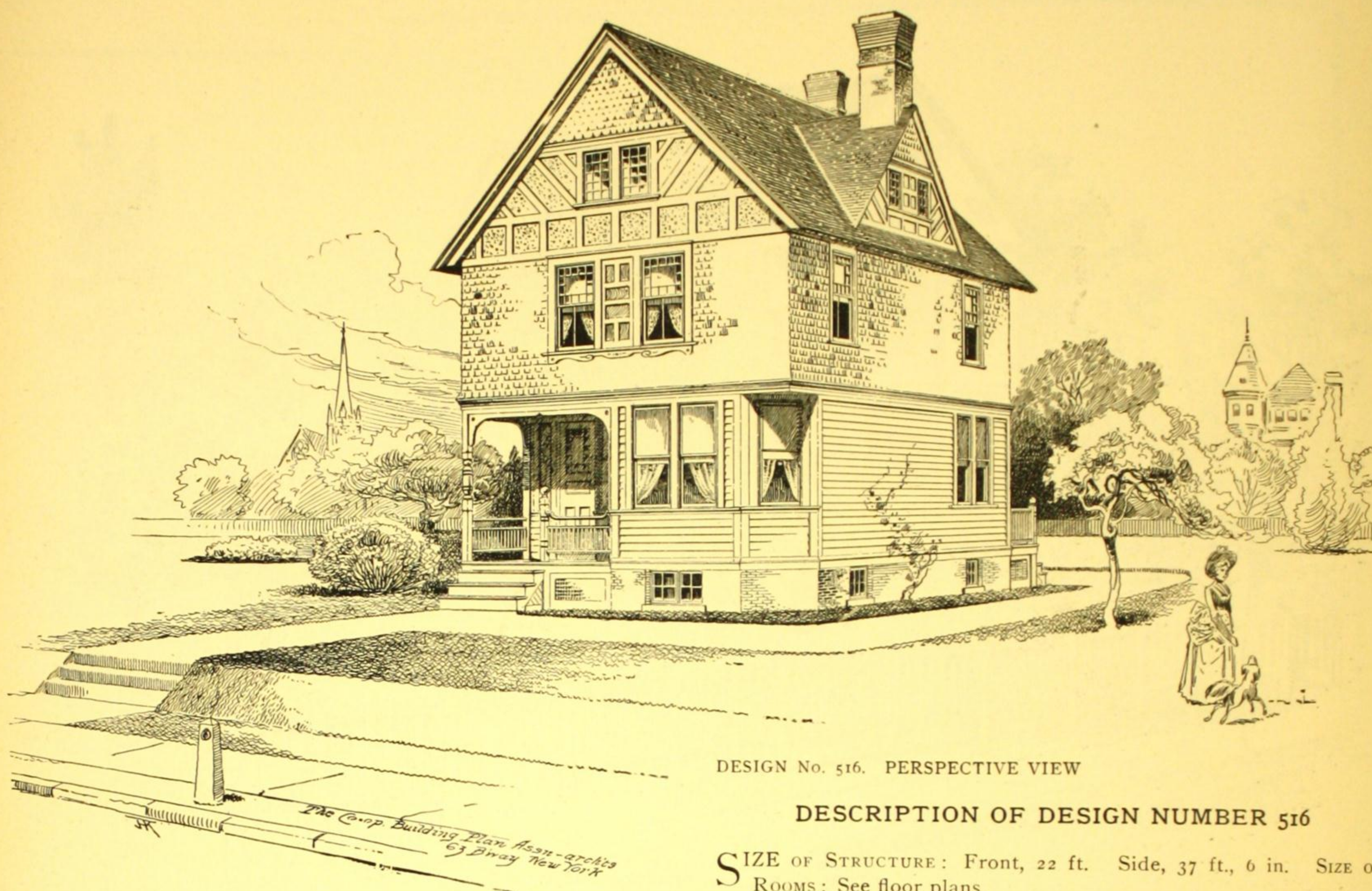
SPECIAL FEATURES.—Cellar under dining-room and kitchen. Stone walls under the whole house.
 The bedroom on the ground floor, with bath-room connected, is a feature that is often desired. The bath-room contains a full size tub and a basin, but no water-closet.
 Open fire-places in the parlor and dining-room.
 A back stairway, starting in the pantry, leads to the second floor. The attic is unfinished, but it is floored and is 8 ft. high under the ridge.

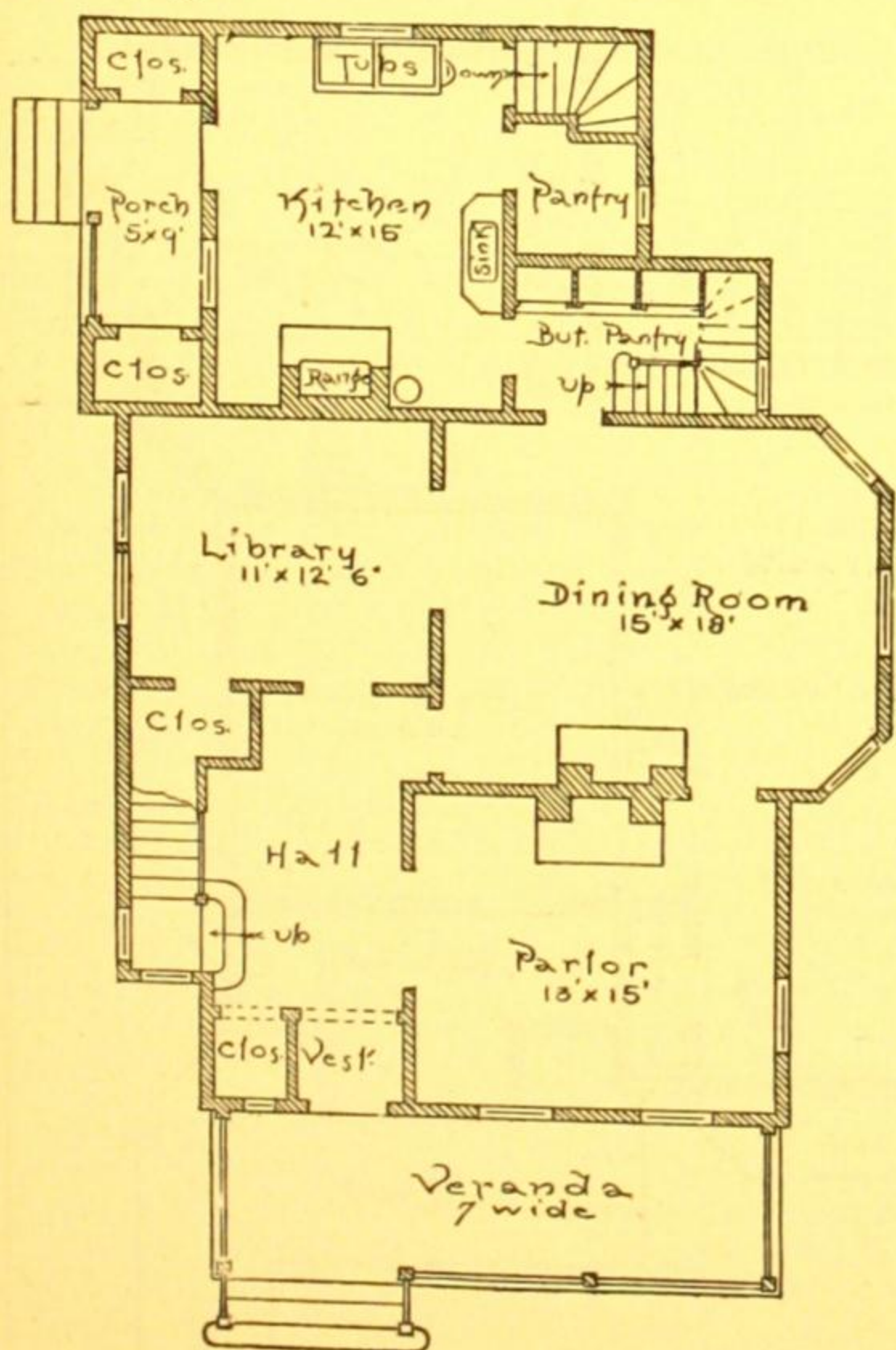
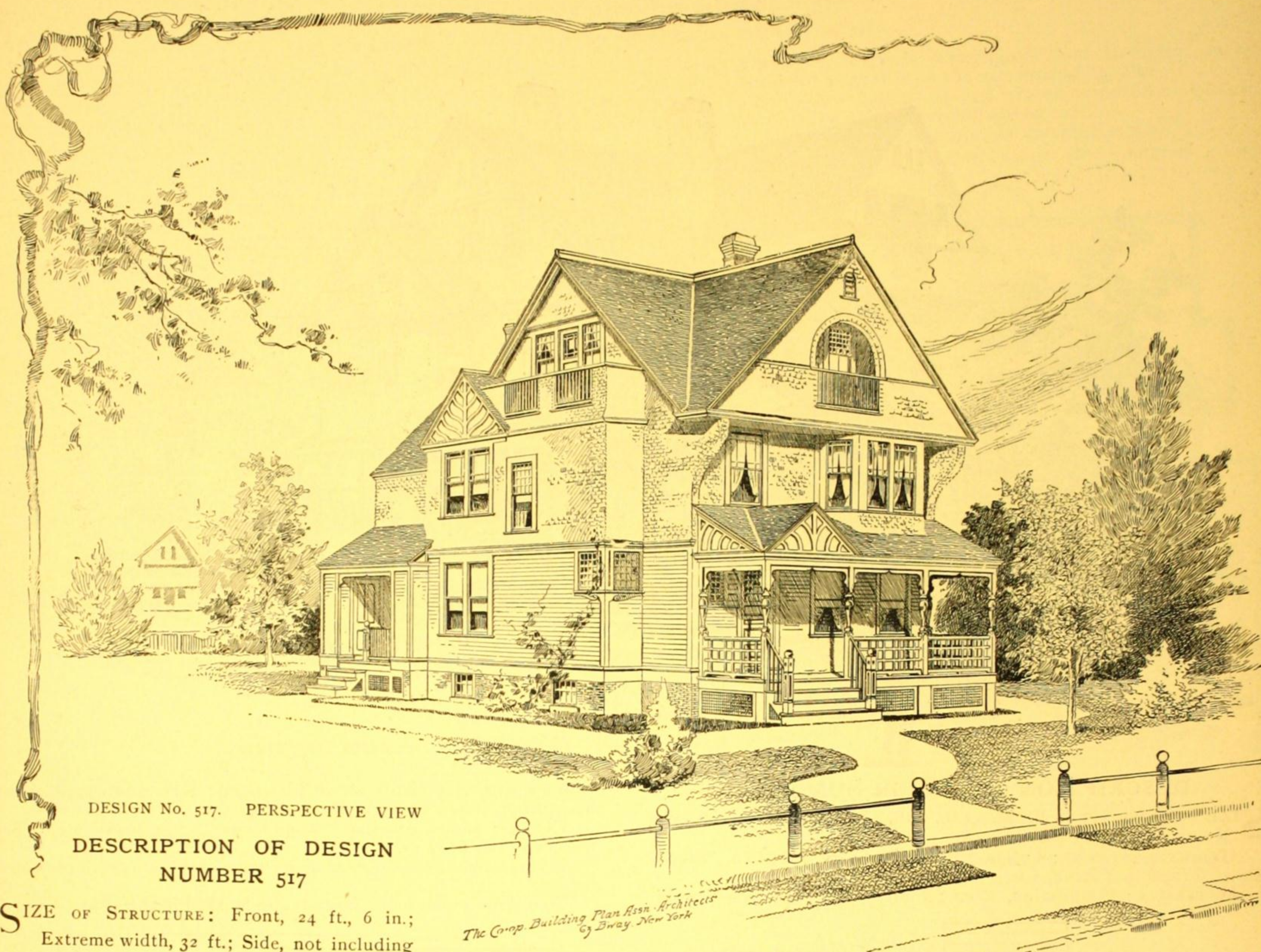


FIRST FLOOR. NO. 515



SECOND FLOOR. NO. 515





SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.;
First Story, 9 ft.; Second Story, 8 ft., 3 in.;
Attic, 7 ft.

MATERIALS: Foundations, stone and brick;
First Story, clapboards; Second Story,
shingles; Roof, shingles.

COST: \$3,600, complete, except mantels,
range and heater. See "EXTRAS" on
page 77.

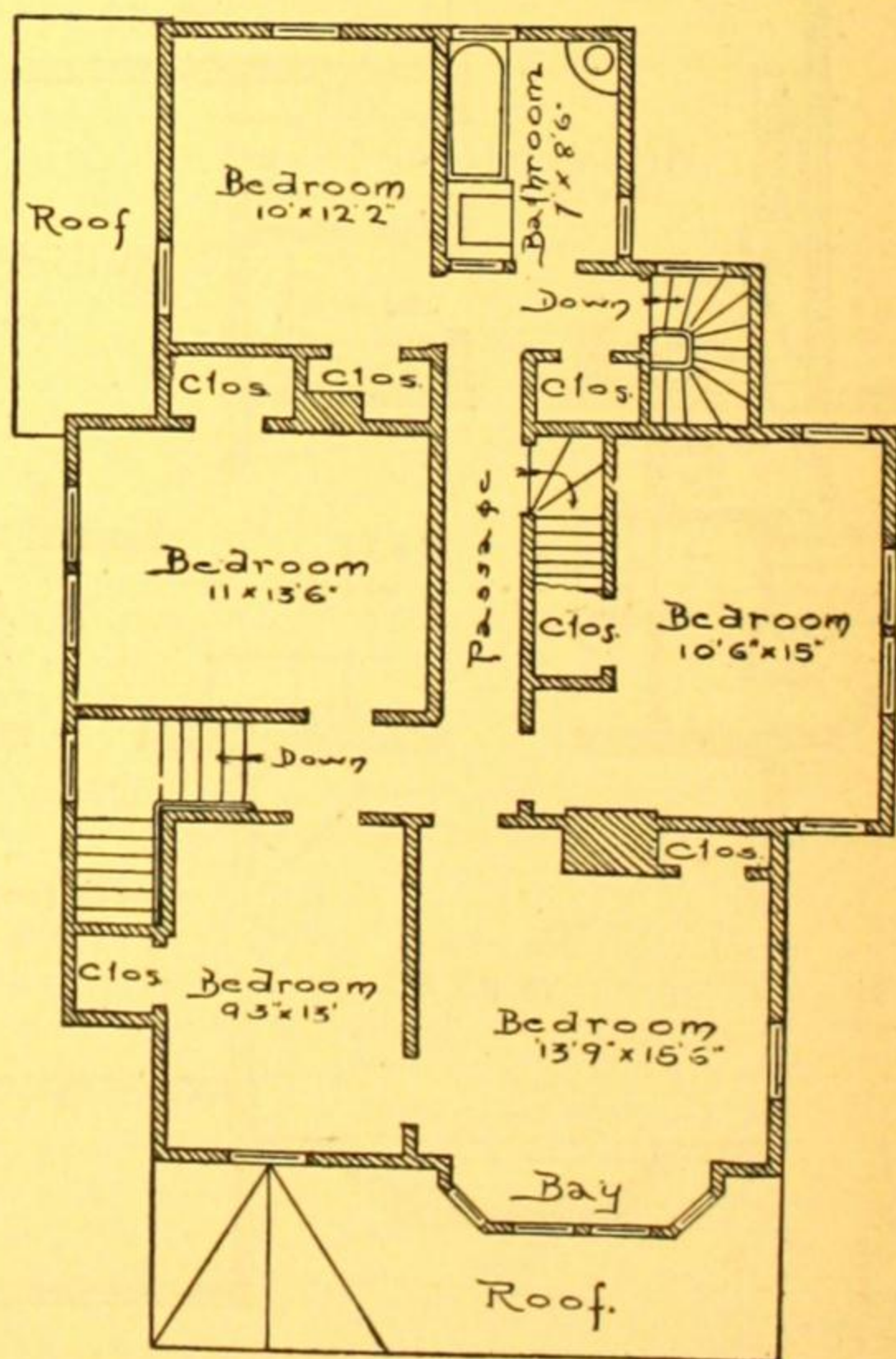
SPECIAL FEATURES.—Cellar under the whole
house with an outside back entrance thereto.
Cellar has cemented bottom.

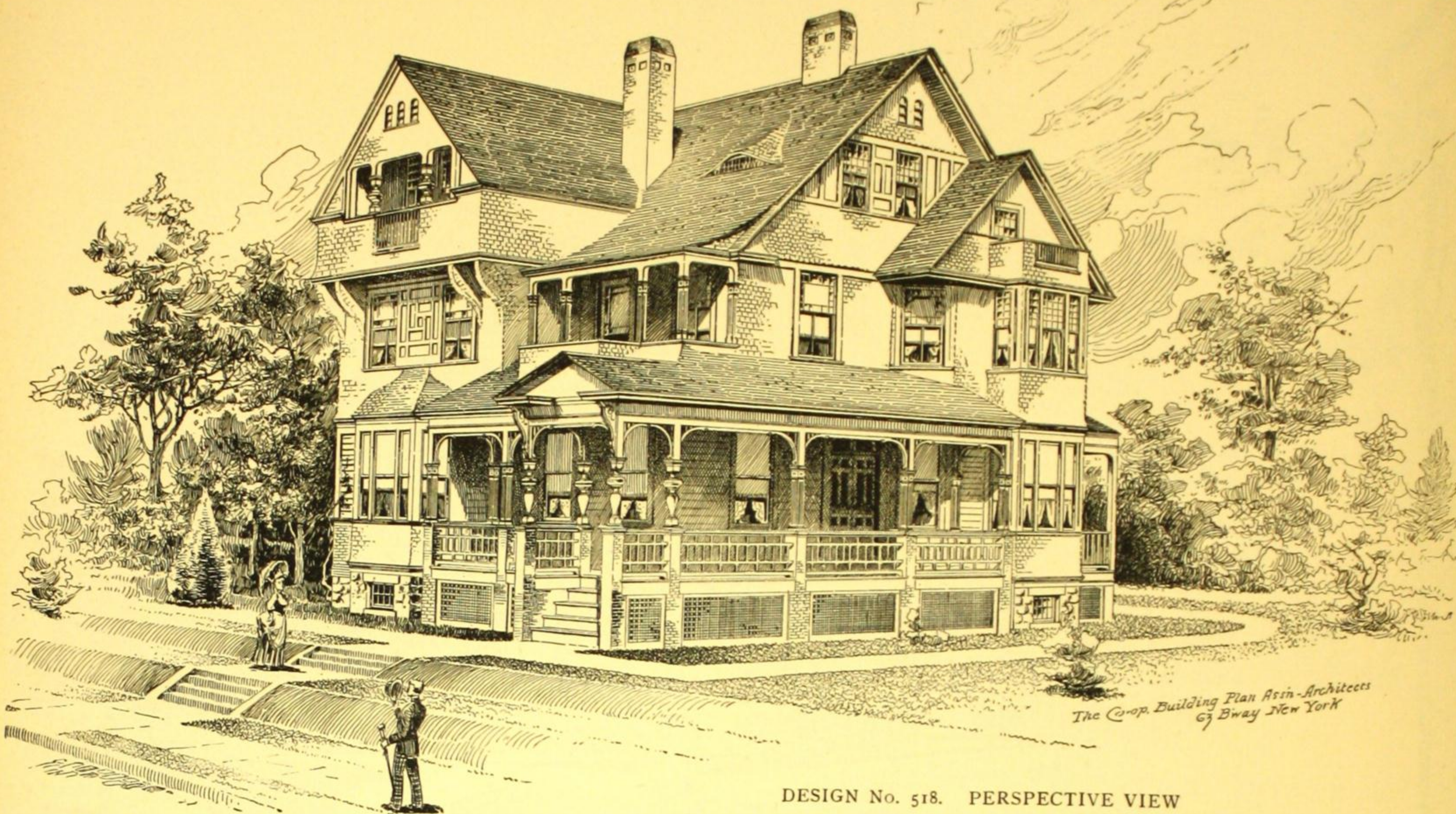
A furnace flue is provided in the front
chimney.

Two bedrooms are finished in the attic.
The remaining space is floored for storage
room.

The floors of the open balconies are made
absolutely water-tight by the use of a mastic
compound.

The two windows over the first stair
landing are glazed with stained glass,
the front door with small squares of plate
glass.





The Corp. Building Plan Assn. Architects
67 Bway New York

DESIGN No. 518. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 518

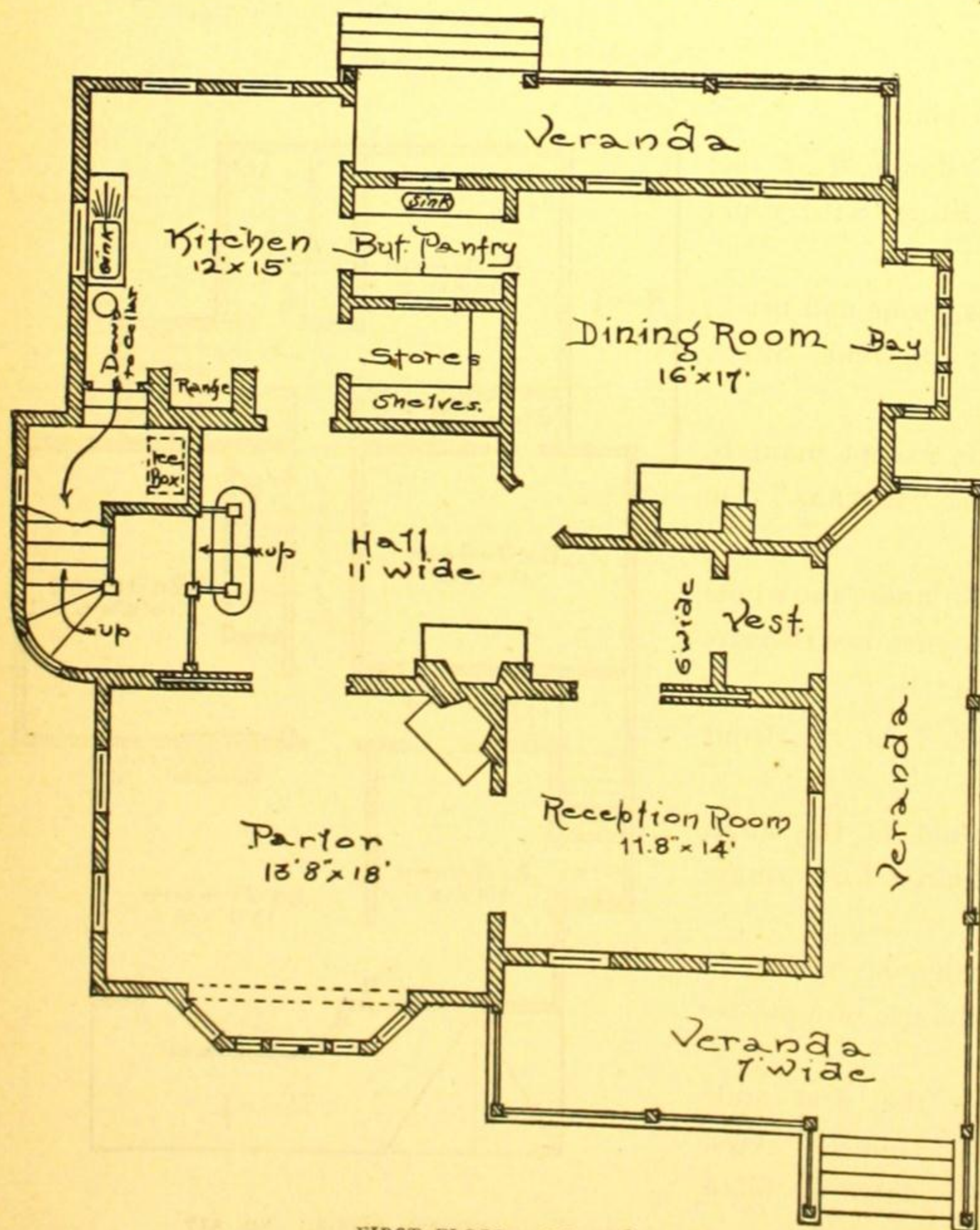
SIZE OF STRUCTURE: Front, 33 ft., 6 in.; Side, 42 ft., 6 in. SIZE OF ROOMS: See floor plans.
HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Attic, 8 ft.
MATERIALS: Foundation, stone; First Story, brick veneer up to

window sills, clapboards above that point; Second Story, shingles; Main Roof, slate; Veranda Roof, shingles.

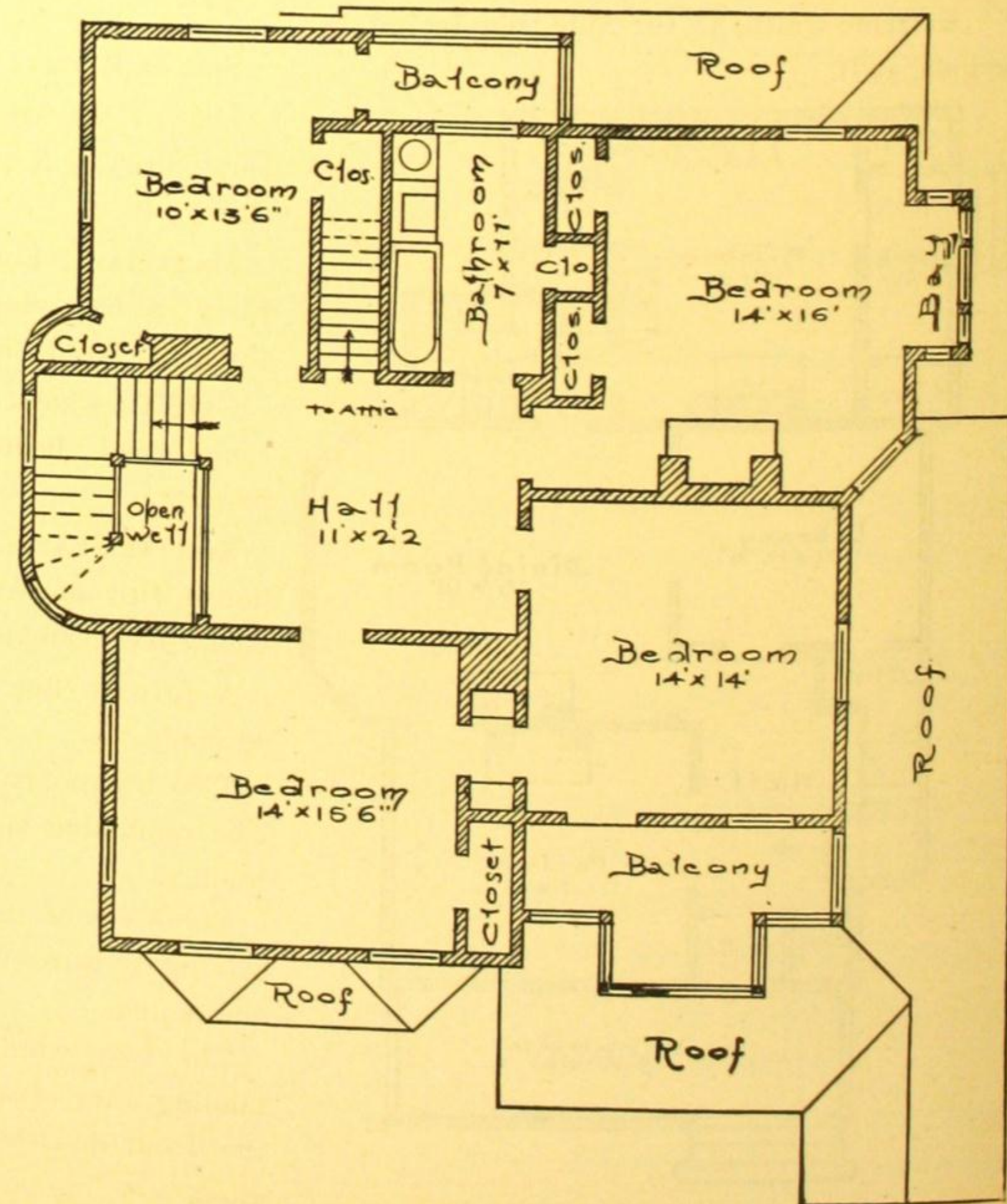
COST: \$6,100, complete, except heater, range and mantels. See "EXTRAS" on page 77.

SPECIAL FEATURES.—Cellar under the whole house, with cemented bottom.

Two large rooms and a hallway are finished in the attic.



FIRST FLOOR. NO. 518



SECOND FLOOR. NO. 518

DESCRIPTION OF DESIGN NUMBER 519

THE EXTERIOR APPEARANCE IS THE SAME AS THAT OF DESIGN NO. 518

THE size of the first floor, second floor and attic floor plans are the same as those of design number 518. This house is intended for a hillside location, where the ground slopes toward the rear. The dining-room and the kitchen are placed in the rear basement, where full size windows are obtained.

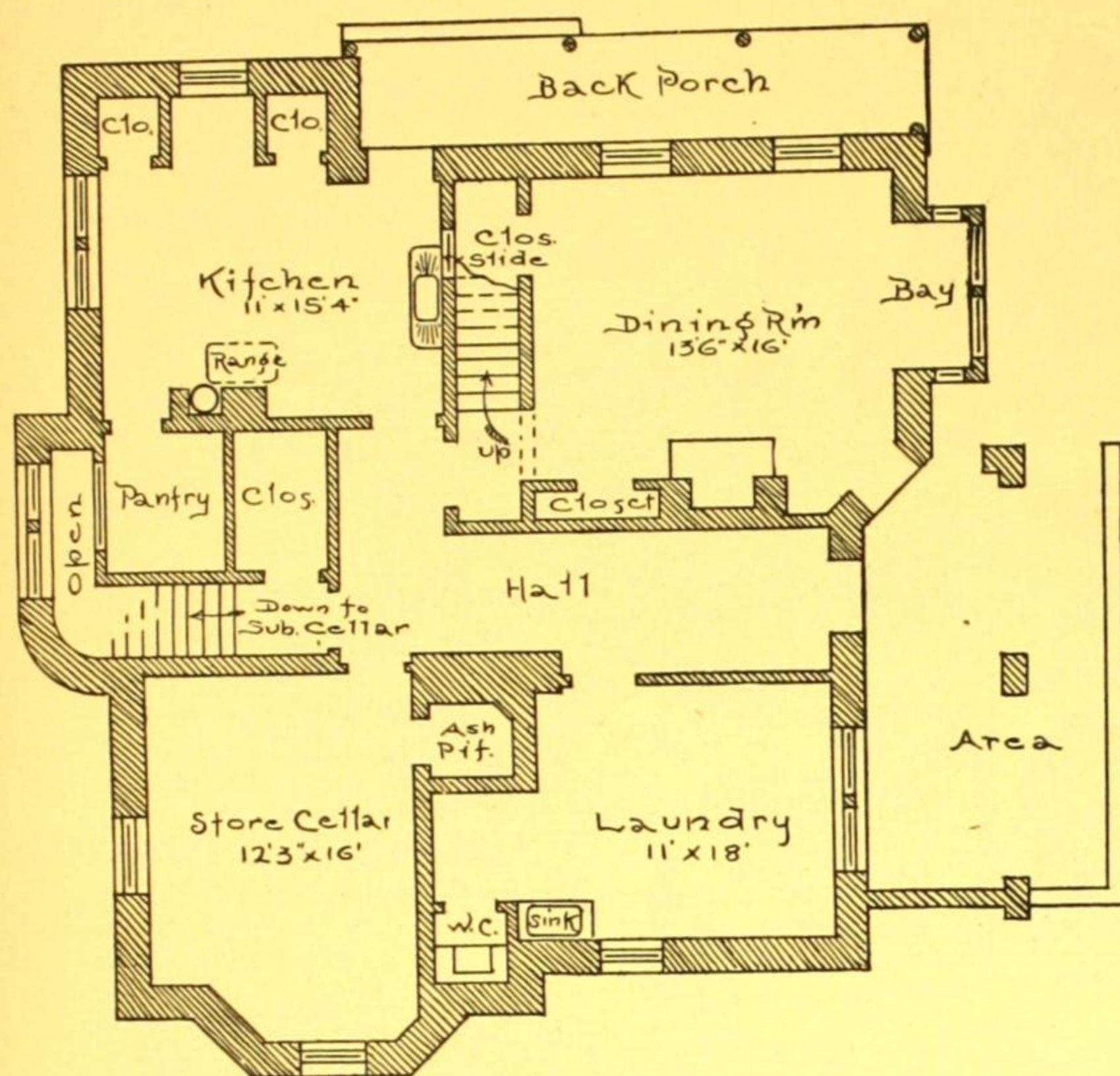
The basement story is 8 ft., 6 in. high in the clear.

Laundry, pantries, servants' water-closet and storage-room are also in the basement as shown on the accompanying plan.

There is a sub-cellar under the hall or centre portion of house, where the heater is placed, and for storage of coal.

Smoking-room or office and library are on the first floor.

COST: \$6,950, without heater, range and mantels. See "EXTRAS" on this page.



BASEMENT FLOOR, NO. 519

"EXTRAS"

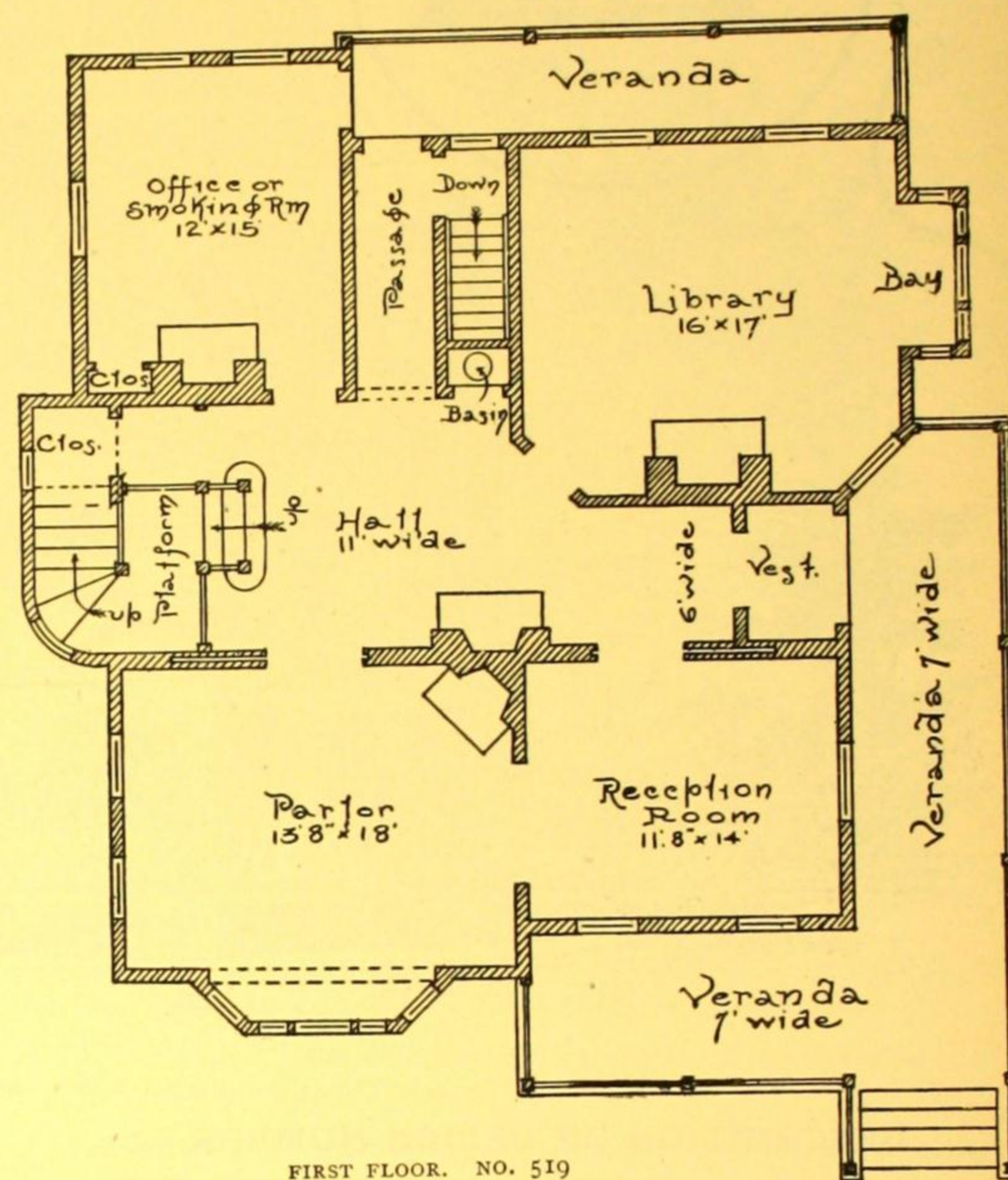
IN the building of a house, if the contract between the owner and the builder is loosely drawn, or worse still, if a great many things are left to an oral understanding, there is sure to be a vexatious disagreement in the settlement of "extras." Two men will remember and will construe things in different lights, and both may be conscientious. The best plan is to have no extras; the only way this can be done is to use the Working Plans and Detail Drawings (in which everything is accurately drawn and figured), and the Specifications (in which everything required is minutely described), as the basis of the contract. If anything unusual (an "extra") is required it may be added to the specification or written in the contract.

The "estimate of materials and labor" which should accompany every set of Working Plans, Details and Specifications, gives all items, except those that may, or may not (according to circumstances) be required. Below will be found a list of possible extras to be used as a guide in making up a supplemental bill, which should be described in the contract and added to the cost of the house. The first item (architectural aids) is wholly in the interest and for the protection of the owner, and need not of course be described in the contract.

Working Plans, Detail Drawings, and Specifications, including Color Sheet, Estimate of Materials and Labor and Blank Contracts supplied by the Co-operative Building Plan Association, Architects, 63 Broadway, New York, for one per cent. of the estimated cost of structure.

- Cess-pools and drains.
- Privy and vault for same.
- Cistern and pipes to connect same with leaders.
- Water and gas connections with main.
- Flagging for walks, etc.
- Grading, Fences, Range, Furnace, Grates, Tank.

It is generally advisable to have the contract for the house include all these items, so that one man will be responsible for the whole, and that responsibility for delay may not be laid to another contractor. It is rarely that a saving can be effected by dividing the contract between several men, while the trouble to the owner is much increased thereby.



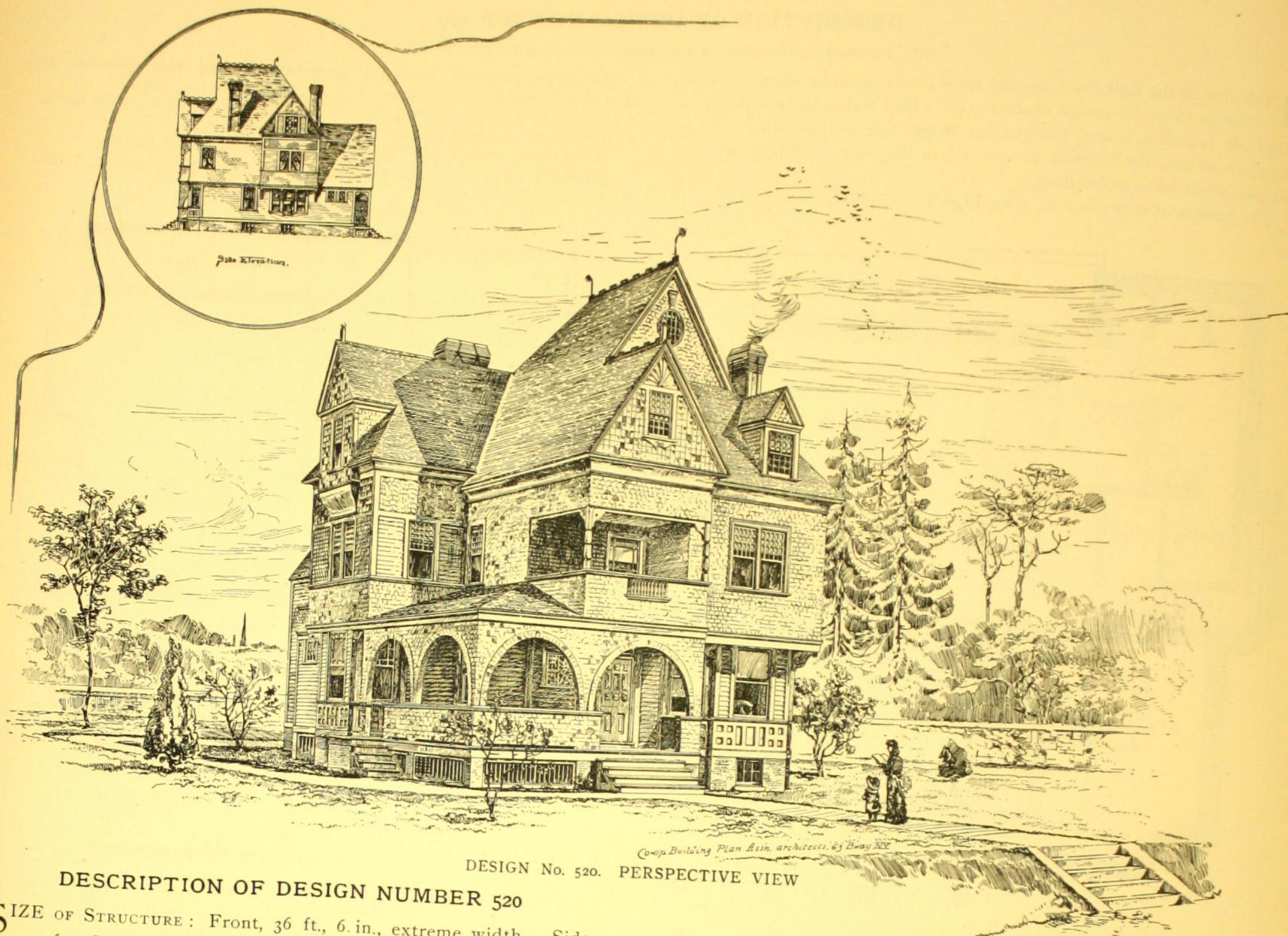
FIRST FLOOR, NO. 519

ARCHITECTURAL AIDS

THE following may be regarded as a full and complete list of architectural aids for the building of a house. The last four items are not usually furnished by architects, but we consider them necessary. Besides these aids the client is entitled to consultation at all times before commencing, during the progress and at the completion of the work:

- WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.
- DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Mantels, Staircases, Trim, etc., large scale and full size.
- SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.
- BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.
- COLOR SHEET, giving a number of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.
- SUPPLEMENT SHEET, containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.
- BLANK CONTRACTS, ready for use.

Those who have once employed Working Plans, Specifications, etc., in building, need not be told how useful, indeed how indispensable they are. How they enable the owner to invite competition among the builders; how they simplify everything and make him the master of the situation; how they compel the use of good qualities of material and workmanship; how they secure the correctness of the details of Cornices, Verandas, Gables, Trim, Colors, etc.—very important matters that should not be left to the taste of workmen; how they insure against costly mistakes; how they decide all misunderstandings that may occur between owner and contractor; how they actually save money, it being a well known fact that their use saves at least ten per cent. of the cost of construction.



DESIGN No. 520. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 520

SIZE OF STRUCTURE: Front, 36 ft., 6 in., extreme width. Side, 51 ft. SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 6 ft., 6 in.; First Story, 9 ft., 6 in.; Second Story, 9 ft.; Third Story, 8 ft., 6 in.

MATERIALS: Foundation, brick and stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles.

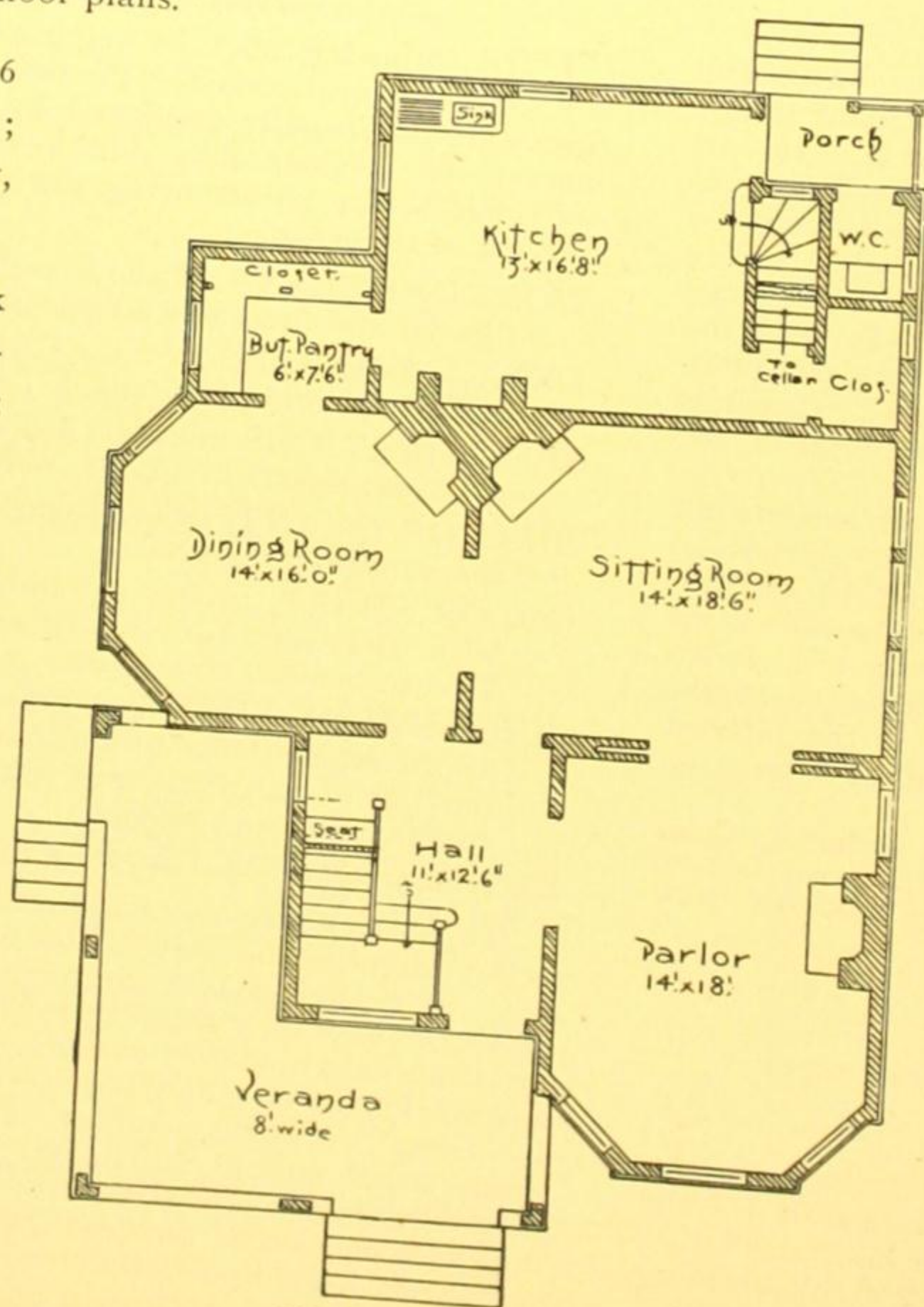
COST: \$4,500, complete, except heater, mantels and range. See "EXTRAS" on page 77, for items that the owner may wish to include in a contract.

SPECIAL FEATURES.—Cellar under the whole house with cemented bottom, and an outside entrance from the back yard.

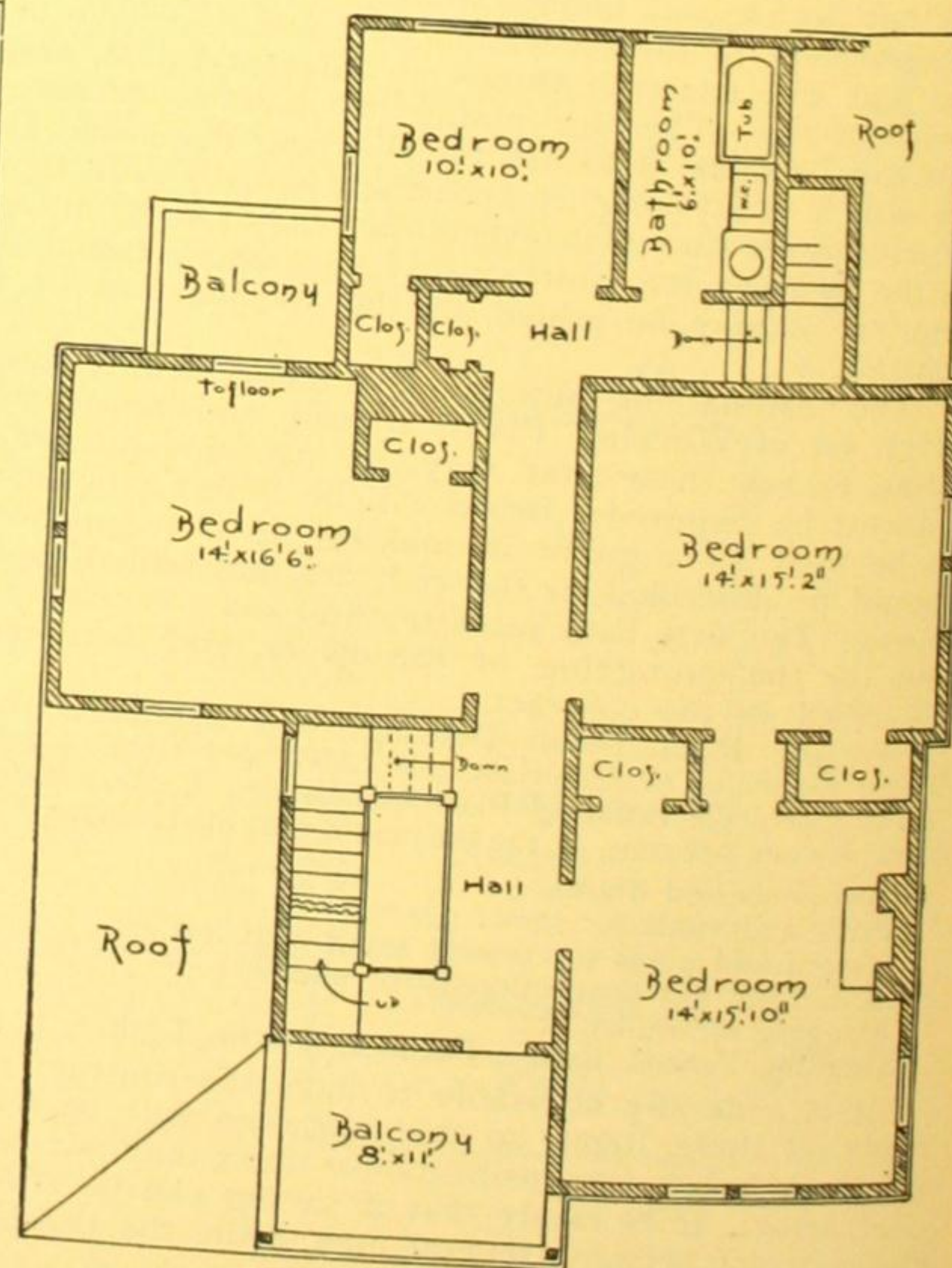
The second story contains three large bedrooms and one small one. There is access to the front balcony from the hall, through a sash door. The balcony is 8 x 11 ft. Three good

bedrooms are finished in the attic, besides which there is storage space.

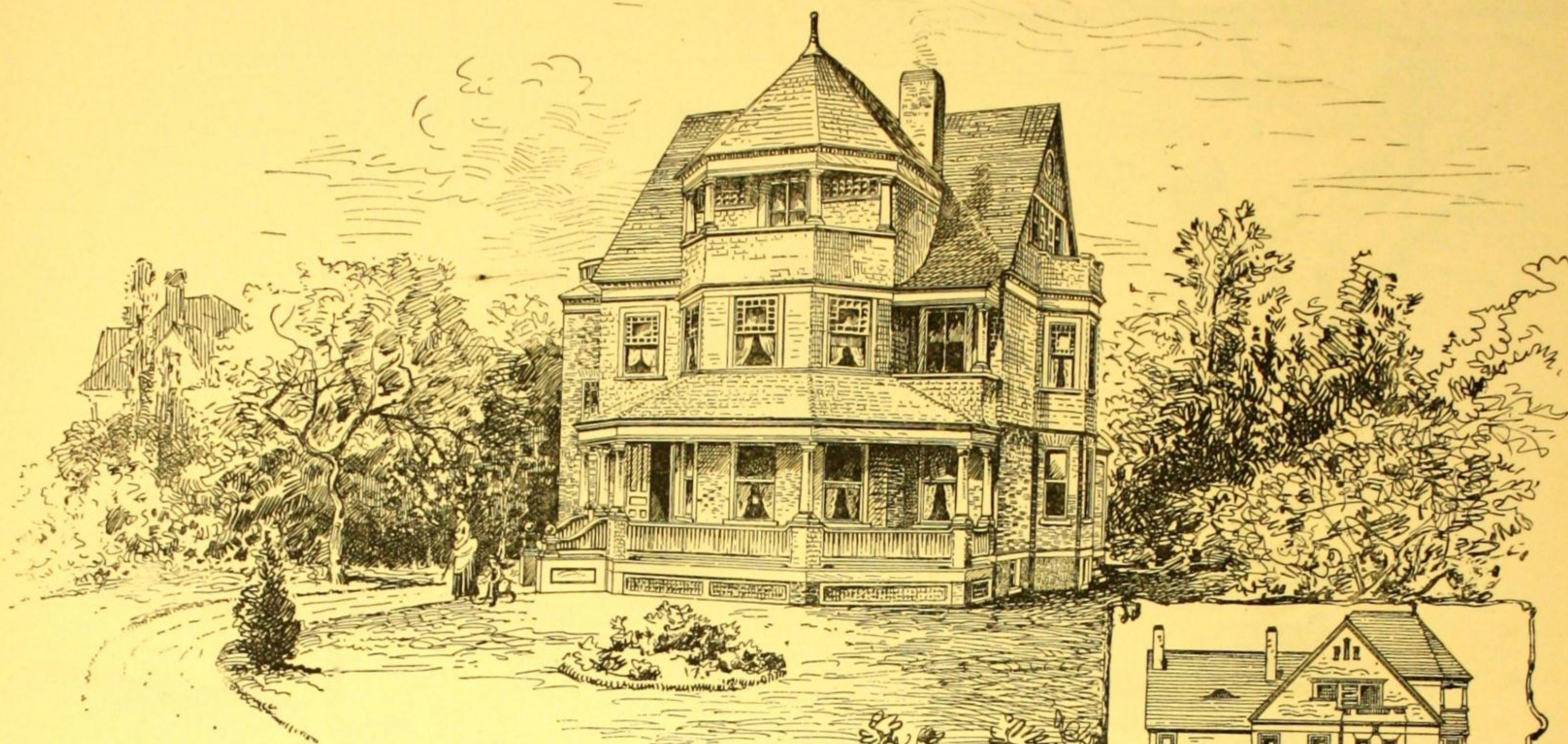
A laundry, with stationary tubs, is provided in the cellar.



FIRST FLOOR. NO. 520



SECOND FLOOR. NO. 520



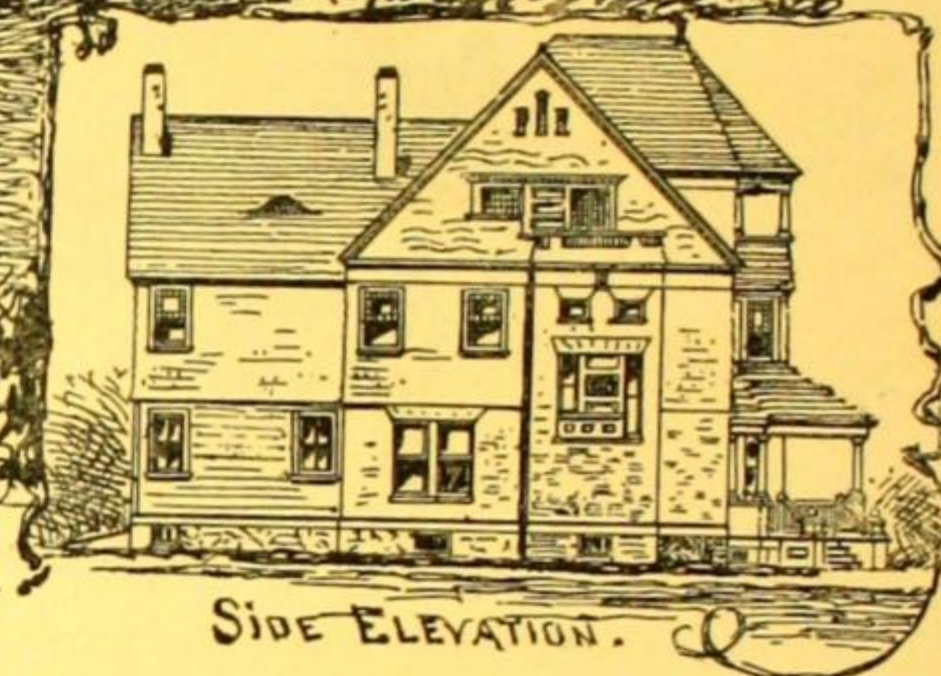
DESIGN No. 521. PERSPECTIVE VIEW

DESCRIPTION OF DESIGN NUMBER 521

SIZE OF STRUCTURE: Front, 32 ft.; Extreme width, 42 ft., 6 in.; Depth, including veranda, 58 ft., 6 in. SIZE OF ROOMS: See floor plans.

HEIGHT OF STORIES: Cellar, 7 ft.; First Story, 9 ft., 6 in.; Second Story, 8 ft., 6 in.; Attic, 8 ft., 6 in.

Co-operative Building Plan Assn. architects
63 Brway New York



SIDE ELEVATION.

MATERIALS: Foundations, stone; First Story, a 12-inch brick wall; Second Story, shingles; Gables, shingles; Roof, slate.

COST: \$5,800, complete, except mantels, heater and range. See page 77 for possible "EXTRAS."

SPECIAL FEATURES.—Cellar under the whole house, with cemented bottom; an outside entrance to the cellar is provided.

Handsome staircase of ash. Open fire-places in the parlor, the dining-room and the sitting-room, and in two bedrooms.

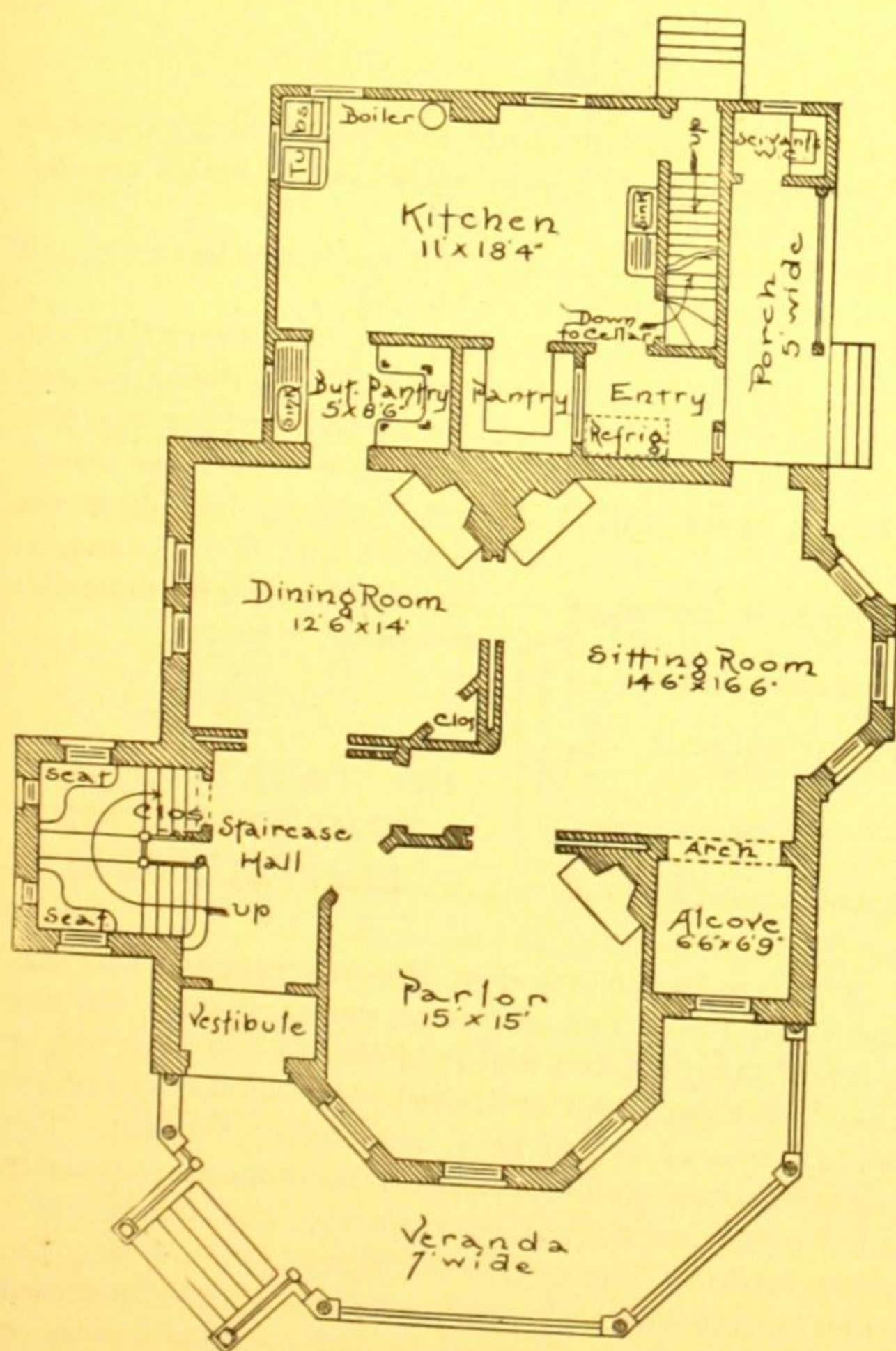
Sliding doors connect the hall and the dining-room, the dining and the sitting-room, and the sitting-room and the parlor.

Large kitchen, butler's pantry and store pantry. The large kitchen entry furnishes a good place for the refrigerator.

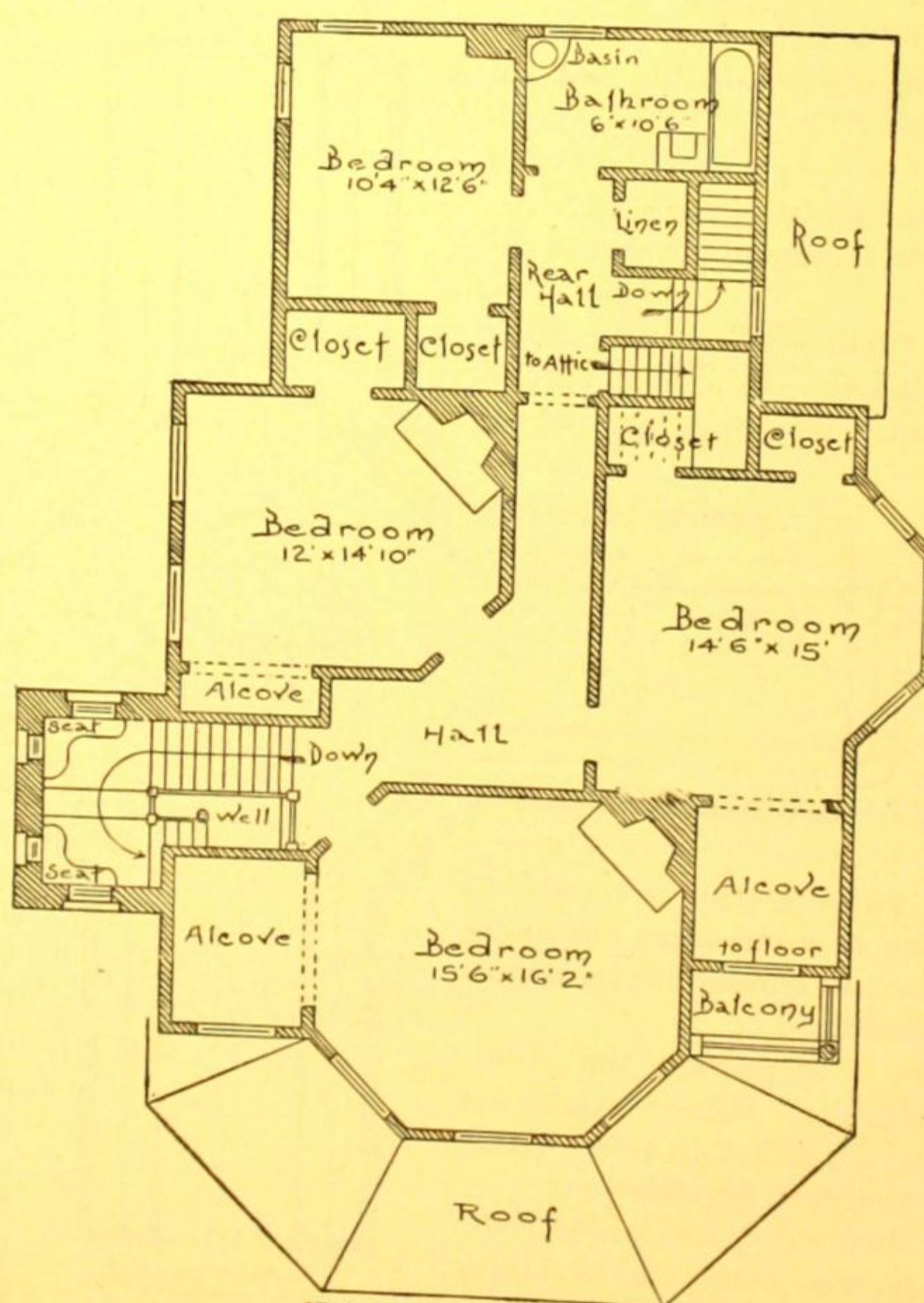
The walls above the grade are faced with selected brick, laid up in red mortar.

The attic stairway ascends near the back stairway, for the convenience of servants in reaching the attic rooms.

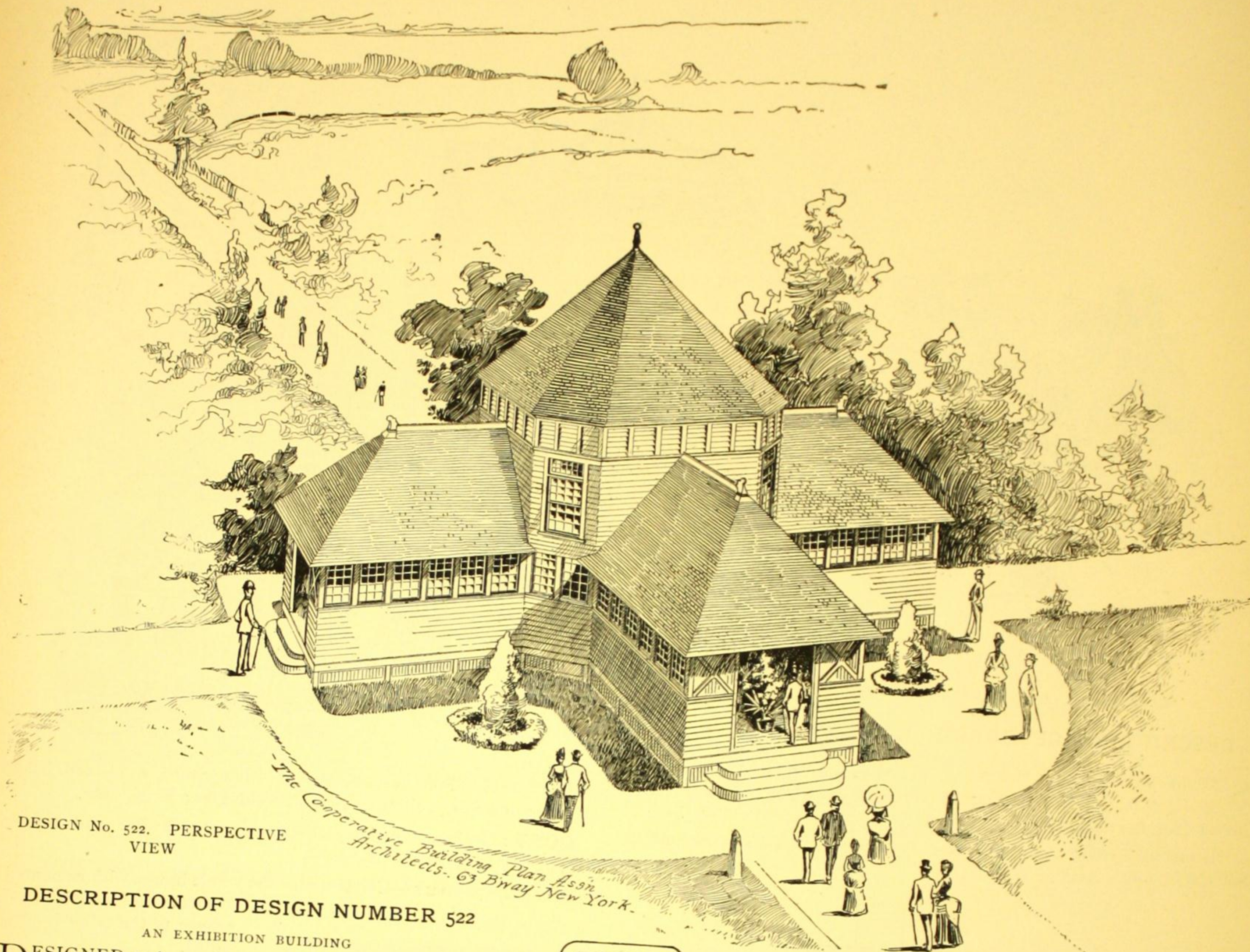
Three bedrooms, a hall-way and a store-room are finished in the attic.



FIRST FLOOR. NO. 521



SECOND FLOOR. NO. 521



DESIGN No. 522. PERSPECTIVE
VIEW

DESCRIPTION OF DESIGN NUMBER 522

AN EXHIBITION BUILDING

DESIGNED to be made as cheaply as possible and yet present a good appearance.

The foundations are posts set in the ground and sawed off to a level surface, to receive the framing timbers.

The floor is raised above grade sufficiently to insure the floor-joists clearing the ground.

The frame is a light form of "balloon;" the cruciform shape of the building makes it possible to use light framing and yet secure great strength. The studding and all other framing timber is dressed stuff, and shows on the interior. The inner surface of the tongued and grooved sheathing, which forms the inside finish in place of plaster, is also dressed. All treated with hard oil finish.

This building is well adapted for a chapel, and could be disposed of for that purpose to help reimburse the first outlay. This was borne in mind when designing the building. The roof timbers and trusses are treated in a style suited to ecclesiastical building.

The railing shown on plan is to prevent the public crowding too closely on the exhibits. Where articles are of great value, an assistant may be detailed to stand within the railing to watch and to prevent any depredations.

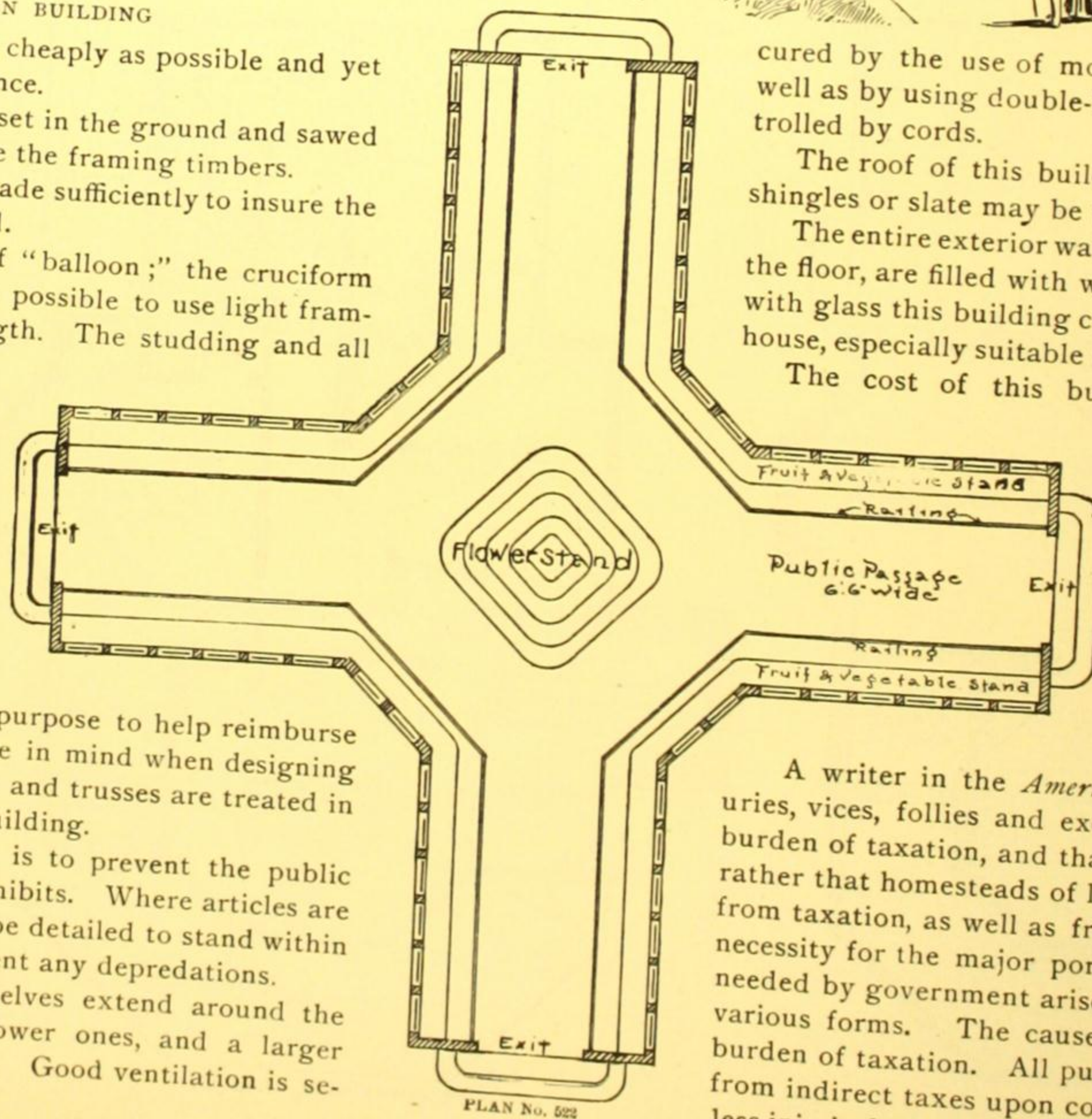
Two rows of rather wide shelves extend around the sides of the building, but narrower ones, and a larger number, may be used if desired. Good ventilation is se-

cured by the use of movable louvre slats in the tower, as well as by using double-hung sashes, all of which are controlled by cords.

The roof of this building is intended to be of tin, but shingles or slate may be used instead.

The entire exterior walls, above a height of four feet from the floor, are filled with windows; by filling the entire roof with glass this building could be transformed into a greenhouse, especially suitable for tropical or other large plants.

The cost of this building complete, including the benches and flower-stand, at New York prices for materials and labor, is \$1,500.



NO TAXATION ON HOMESTEADS OF LIMITED COST.

A writer in the *American Magazine* suggests that luxuries, vices, follies and excessive wealth should bear the burden of taxation, and that land should not be taxed, or rather that homesteads of limited value should be exempt from taxation, as well as from attachment for debt. The necessity for the major portion of the enormous revenue needed by government arises from vice and folly in their various forms. The causes of taxation should bear the burden of taxation. All public revenues should be drawn from indirect taxes upon conduct and conditions more or less inimical to the general welfare.

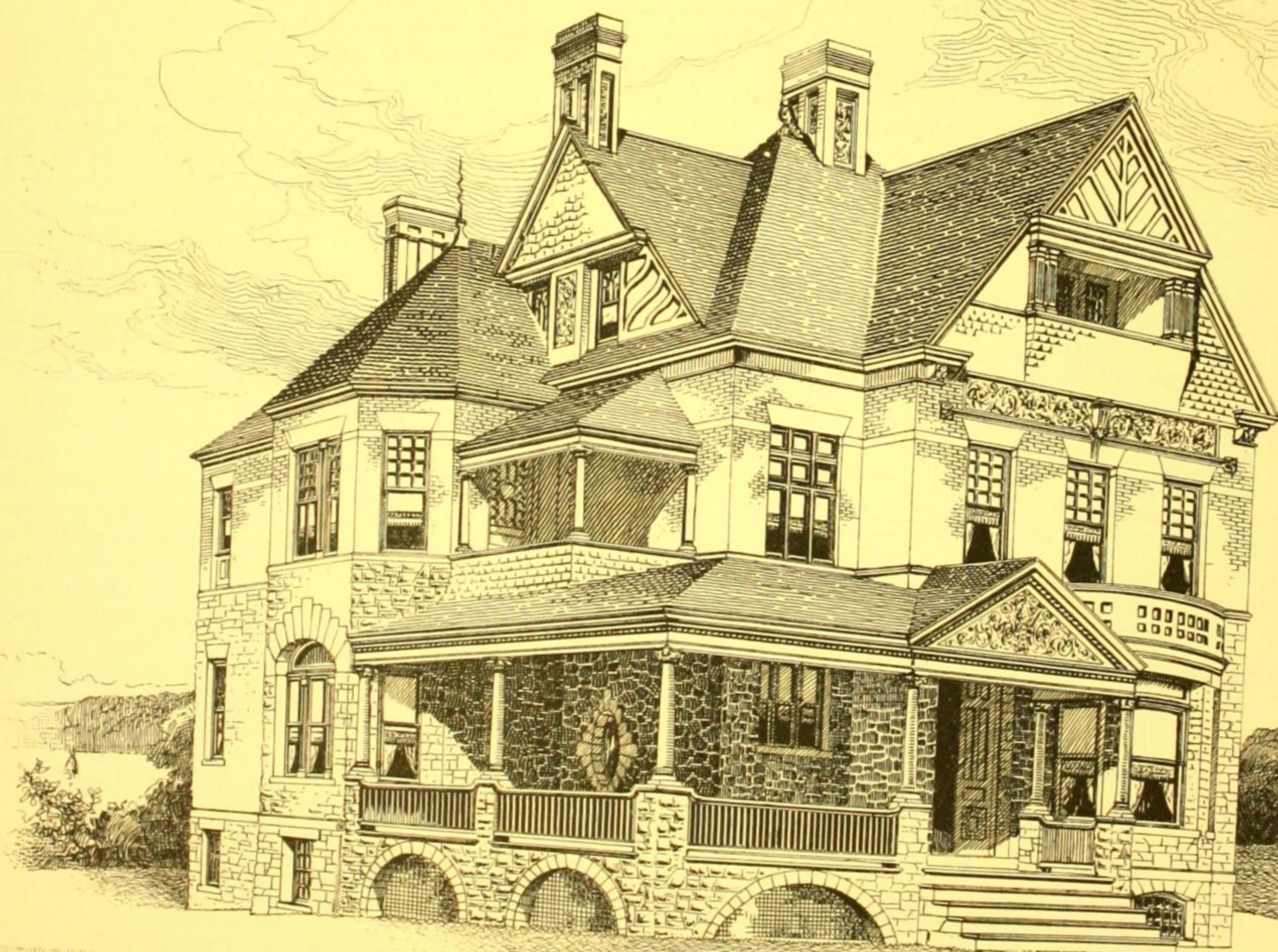
SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

VOL. III. }
No. I. }

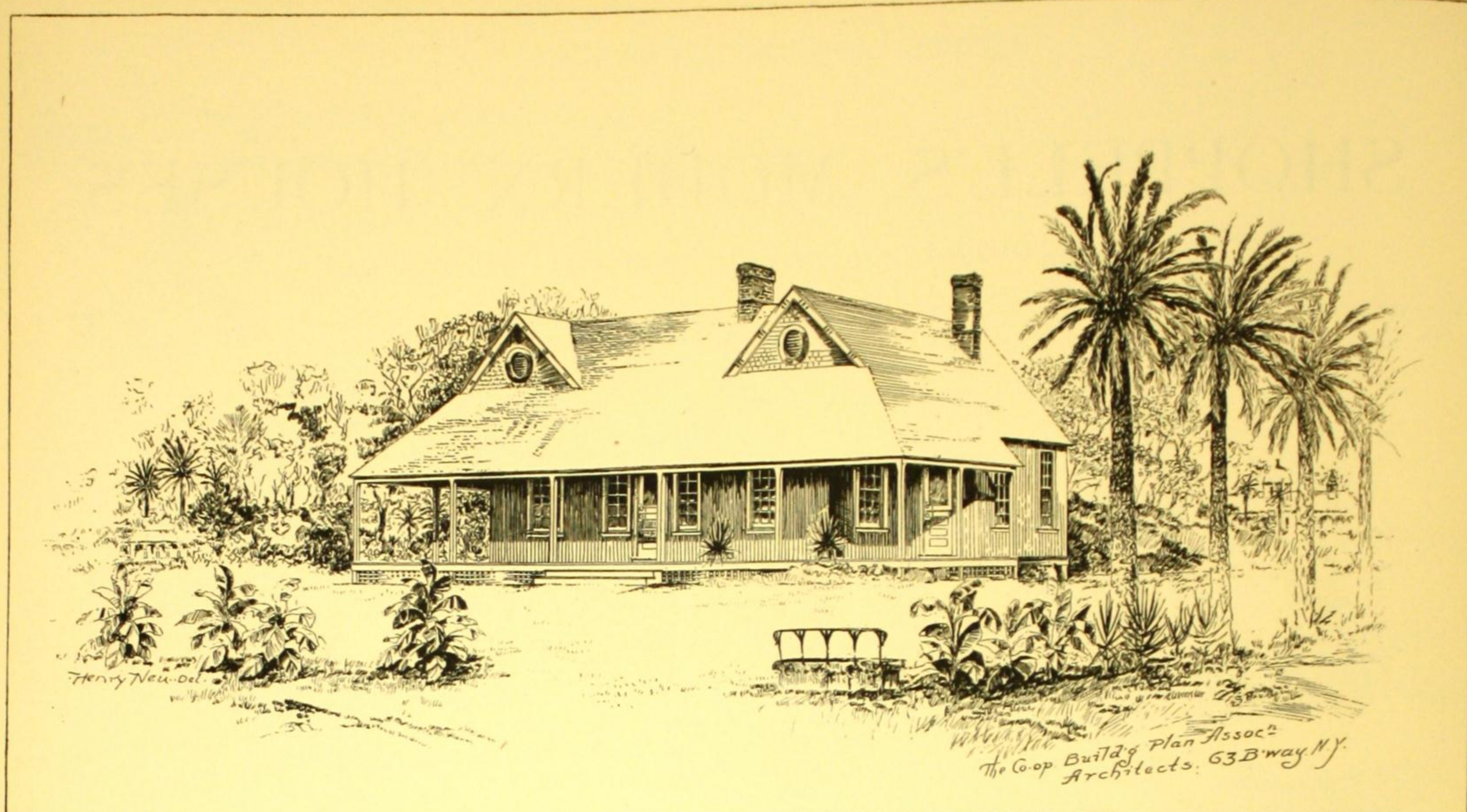
NEW YORK, OCTOBER, 1888.

{ WHOLE No. 10.



*The Coop Building Plan Assoc.
Architects. 63 Broadway.
N.Y.*

PERSPECTIVE VIEW OF DESIGN NUMBER 524.
For description and floor plans, see page 24.



PERSPECTIVE VIEW OF DESIGN NUMBER 525.

DESCRIPTION OF DESIGN NUMBER 525.

SIZE OF STRUCTURE: Front width, 38 ft., not including verandas; width through the rear portion, 53 ft. Side depth, 34 ft., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, posts; First Story, boards; Gables, shingles; Roof, shingles. Interior—Finished with soft wood, and plaster-board is used in place of ordinary plastering.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plan given here. Beside these there is storage space in the garret.

COST: \$500 to \$1,200, according to the prevailing prices for materials and labor in different localities. All complete, except mantels. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: A design well planned for a warm climate and suitable for a summer residence anywhere. Also suitable for a cottage auxiliary to a hotel, in which case the kitchen and laundry should be finished as bedrooms and the dining-room could be used either as a parlor or as a chamber.

SUGGESTIONS FROM ONE MAN'S EXPERIENCE.

A number of years ago we received an order for Plans, etc., from a gentleman who has since built a number of houses from our designs. The order read as follows: "Enclosed find \$—, for which send me a full set of Working Plans, Specifications, etc., for your house design No. —. The exterior appearance and the arrangement of rooms are not exactly as I think I want them, but the size of the house (the height, front and depth) and the cost are about what I want. I think the cost ought to be somewhat less here."

We sent him the Plans, etc., promptly, and a short time thereafter received the following letter: "I submitted the Plans, Specifications and Details, just as I received them, to six different builders, and received from each a bid for

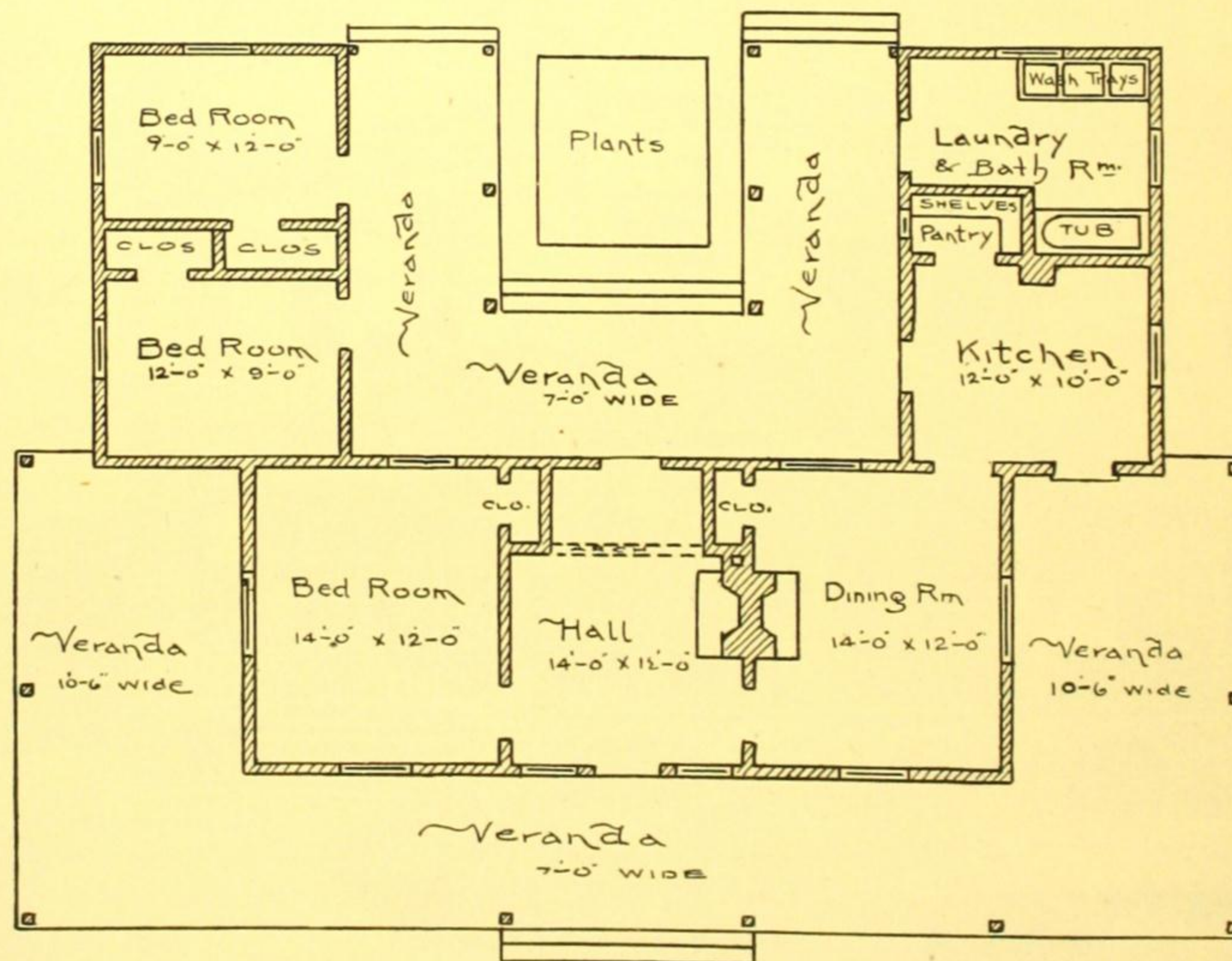
the contract. Their bids differ widely, but the lowest bid is from Mr. —, a reputable man. His bid is \$—, everything complete, including grading around the house, but not including the furnace, the make of which I have not determined on yet and which I will have the furnace people put in; and not including the parlor and dining-room mantels, which I will select ready-made (wood). * * * After studying these Plans I find that the arrangement of rooms suits me better. Indeed, I am almost persuaded to build exactly according to the plans, but I will ask you if an arrangement like that shown by the rough drawings of the floor plans enclosed is practicable, if you consider it an improvement, and what effect it would have on the cost? I would like a

bay-window for the dining-room, but I do not care for the small balcony in the second story. The builder suggests a few changes in the sizes of timber (see his letter inclosed), which he says he can get more readily at the mills here. I enclose the list of Materials and Labor, which you sent me, filled out with prices that prevail here."

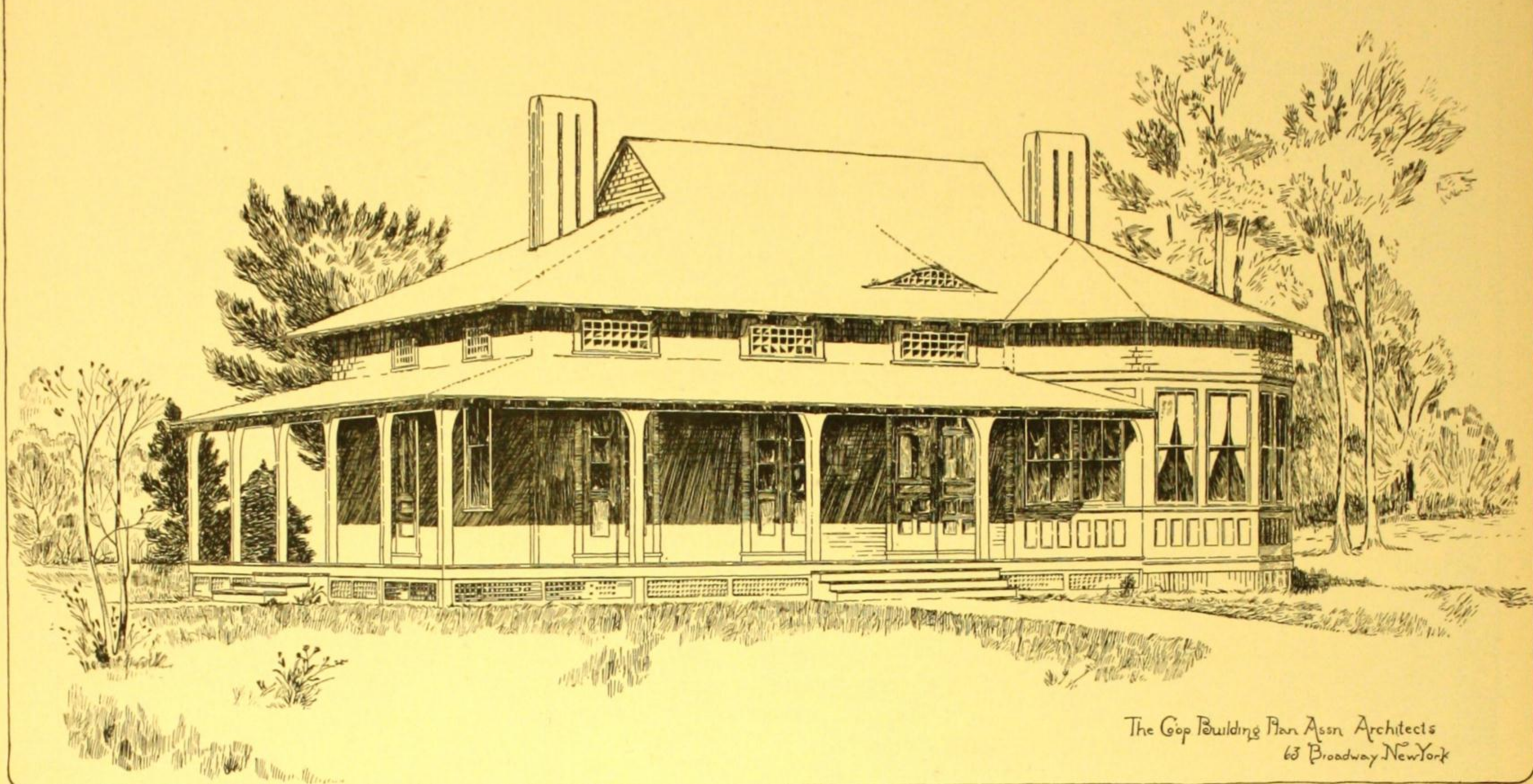
We answered as follows: "Basing our estimate on the Price List which you send and also on the contract prices at which this same house has been built in other parts of the country, we would say that the lowest bid you received is about right. At that figure it makes the builder a very good profit and we think you can fairly ask him to reduce his bid \$100 to get the contract. We think he will do it. * * * Now about the changes: they are entirely practicable, with one or two unimportant exceptions which we have

noted in the small sketch enclosed. If you prefer this arrangement, or if it is generally preferred in the neighborhood, and would make the house more salable, by all means have it. It does not change the elevations or size of house. It consists simply of a re-arrangement of partitions, and as a matter of fact requires a little less material, and is quite as easily built. Leaving off the balcony will just about balance the cost of the bay-window. If anything these changes reduce cost and you can fairly ask Mr. — to reduce \$50 on account of them.

"If you will send back the Drawings and Specification we will make the changes on the Plans and in the Specification, also on the elevations to omit



GROUND FLOOR OF DESIGN NO. 525.



The Gop Building Plan Assn Architects
63 Broadway New York

PERSPECTIVE VIEW OF DESIGN NUMBER 526.

balcony and to include bay window; will send Details for the bay window. Our charge for making these changes will be \$5."

The result was the building of a very good house, satisfactory to the owner in appearance, arrangement, and as to cost.

The "points" illustrated by the foregoing experience are that *size* and *cost* are the first things to determine. The size and cost are easily decided upon as each regulates the other. When these points are decided, the experience of the gentleman quoted and the experience of many others have demonstrated that the best way to proceed is as follows:

Select a design from our books as nearly the required size, cost, exterior appearance, and arrangement of rooms as can be found. Order the Working Plans, Specifications, etc., of the design selected, and submit them to local builders for their estimates and bids.

With their bids the builders will probably make plenty of "suggestions," some of which may be helpful, others worthless. The interviews with the builders, however, and the discussion of the plans with them, will probably settle in the owner's mind just about the appearance and the arrangement of rooms that he wants. These we can then put in proper shape for him on his plans and in his specification and tell him how much the changes should increase or decrease the bids.

If no change of size is wanted, the materials and labor required for quite an alteration in the exterior, and a complete re-arrangement of rooms remains about the same. Some change of size, even, can be made.

Among the advantages of this way of proceeding is that *all* changes are likely to be made before the contract is let. Making changes after the work has commenced is always expensive for the owner.

"But why not get estimates and bids from builders from the design as published in the book?" some owner may ask. The answer is that the book information is necessarily abridged and incomplete. Instead of one page it would require forty pages to give the full information that is necessary for a close estimate. Some builders may estimate from the book, but such estimates

are sure to be too high. The builder knows that nineteen out of twenty of the people who ask for estimates from book or newspaper plans do not mean business. But when he is approached with a full and complete set of Working Plans and Specifications, he knows that does mean business and he will "sit up late" to figure out an estimate and to make a bid that he hopes will be low enough to get the contract. When builders see that the owner has Working Plans and Specifications, they all know that there will be competition for the work, and they all figure as close as possible."

It is not safe for the owner to contract with a builder who says, "I'll build the house at the cost given in the book." It may be that in the owner's neighborhood the cost ought to be hundreds of dollars less.

DESCRIPTION OF DESIGN NUMBER 526.

SIZE OF STRUCTURE: Front width, 42 ft., not including the veranda. Side depth, 33 ft. 6 in., not including the verandas nor the bay window.

MATERIALS EMPLOYED: Exterior—Foundations, posts; First Story, clapboards and shingles; Roof, shingles. Interior—White pine trim throughout.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plan given here. No cellar and no attic rooms, but there is space in the attic for two rooms of fair size.

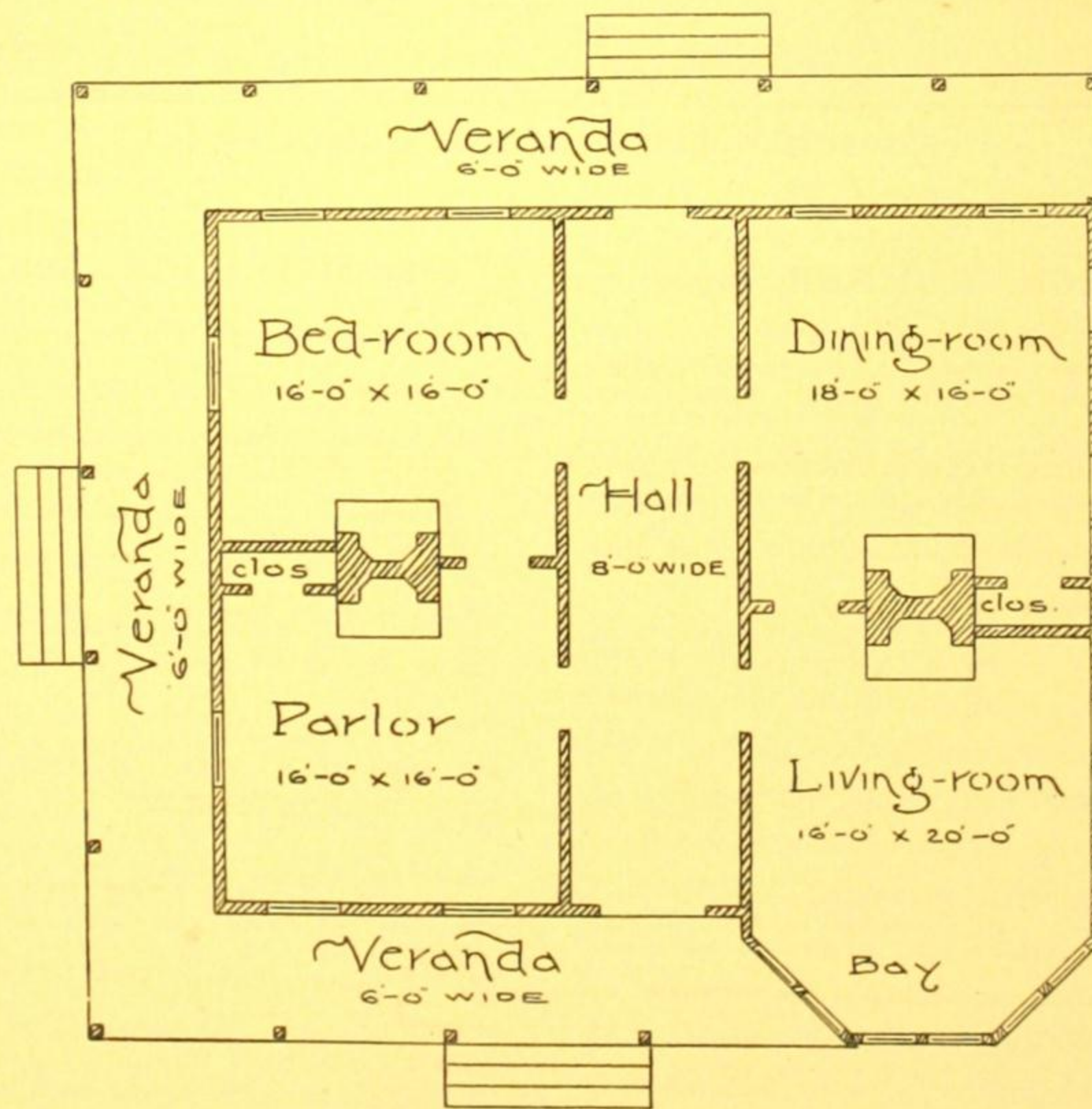
COST: \$900 to \$1,600, according to the prevailing prices for materials and labor in different localities. All complete, except mantels. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.:

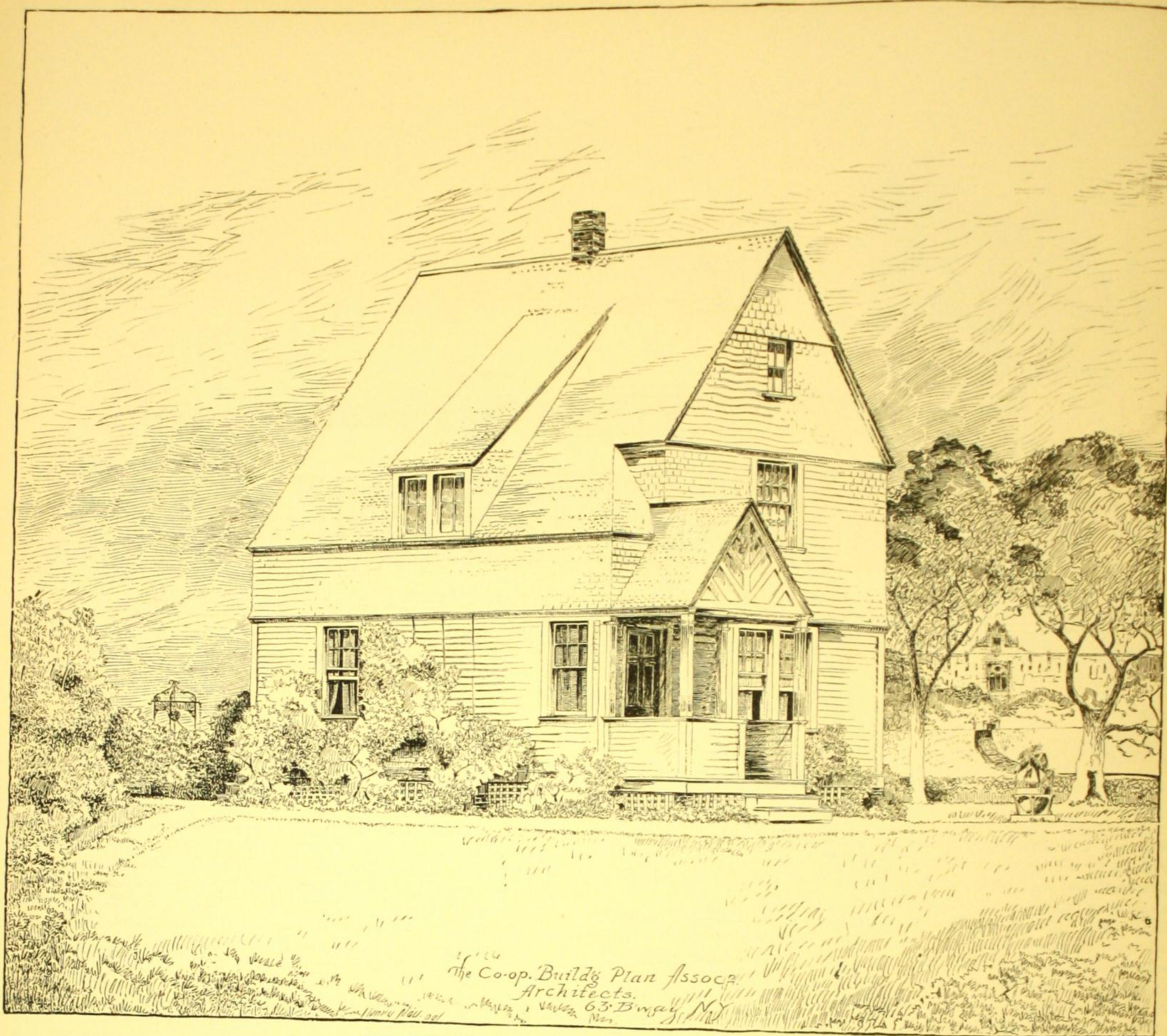
See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: A good design for a warm climate. The ceiling is very high, and the windows above the veranda afford perfect ventilation. By glazing these windows with stained glass, beautiful light effects will pervade the hall and the rooms. A kitchen should be provided by erecting a small detached building in the rear.



GROUND FLOOR OF DESIGN No. 526.

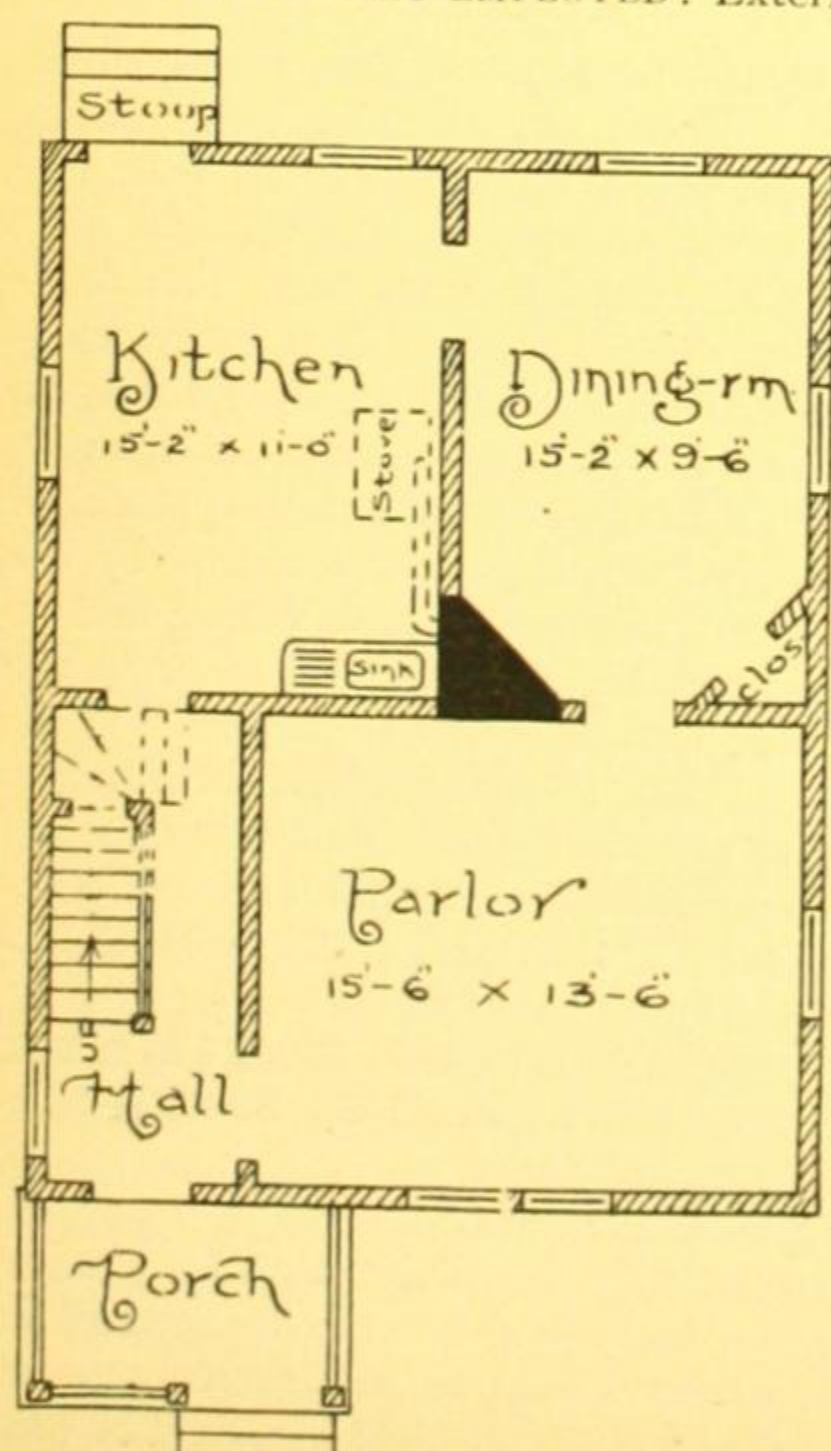


PERSPECTIVE VIEW OF DESIGN NUMBER 527.

DESCRIPTION OF DESIGN NUMBER 527.

SIZE OF STRUCTURE: Front width, 22 ft. Side depth, 30 ft.

MATERIALS EMPLOYED: Exterior—Foundations, posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Finished throughout with soft woods.



FIRST FLOOR OF DESIGN NO. 527.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is an unfinished attic, where there is space for two rooms of fair size. No cellar.

COST: \$900 to \$1,600, according to the prevailing prices for materials and labor in different localities. All complete. The wide difference in cost is explained on page 23.

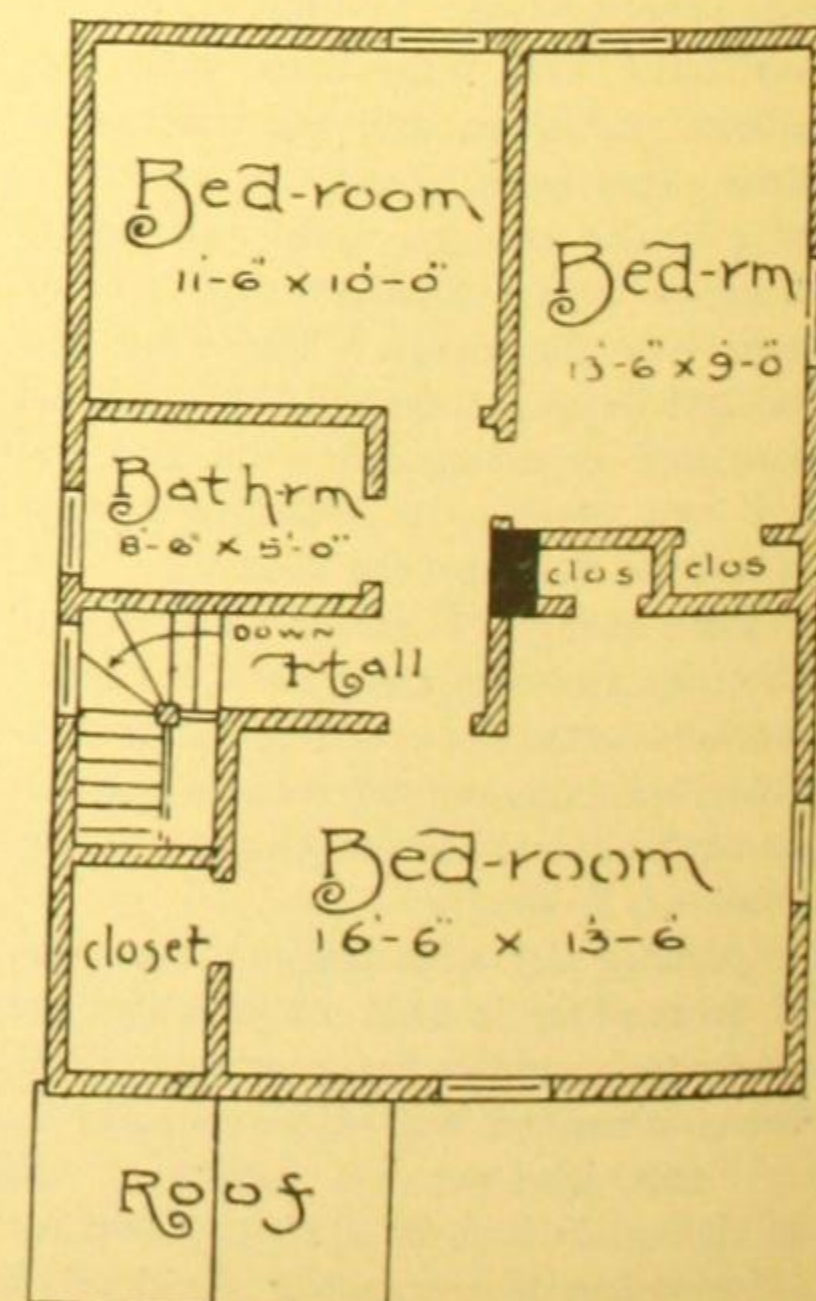
GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: No cellar is provided in order to keep the cost down. A cellar under the whole house, with brick or stone walls, would add to cost about \$100. A small cellar, say under and about the size of the dining-room, would cost \$40.

The small room marked "Bath-room" may be used as a bath-room, sewing-room, a large closet, or as an alcove for the bedroom which it adjoins. No tub, fixtures, or plumbing are specified, nor are they included in the estimate. A tub with cold water supply would cost about \$30. A tub with hot and cold water supply would cost about \$100.

The plans utilize every inch of space to the best advantage. It will be noticed that the front door is accessible from the kitchen, without going through any other room—a convenience not always obtained in a small house.



SECOND FLOOR OF DESIGN NO. 527.



PERSPECTIVE VIEW OF DESIGN NUMBER 528.

DESCRIPTION OF DESIGN NUMBER 528.

SIZE OF STRUCTURE: Front width, 24 ft. Side depth, 24 ft., not including the veranda and the rear porch.

MATERIALS EMPLOYED: Exterior—Foundations, posts; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Trim throughout, including stairway, of white pine.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. No cellar and no attic rooms. Storage-room in the attic.

COST: \$1,200 to \$2,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: A plain, but a quaint and pretty cottage, especially de-

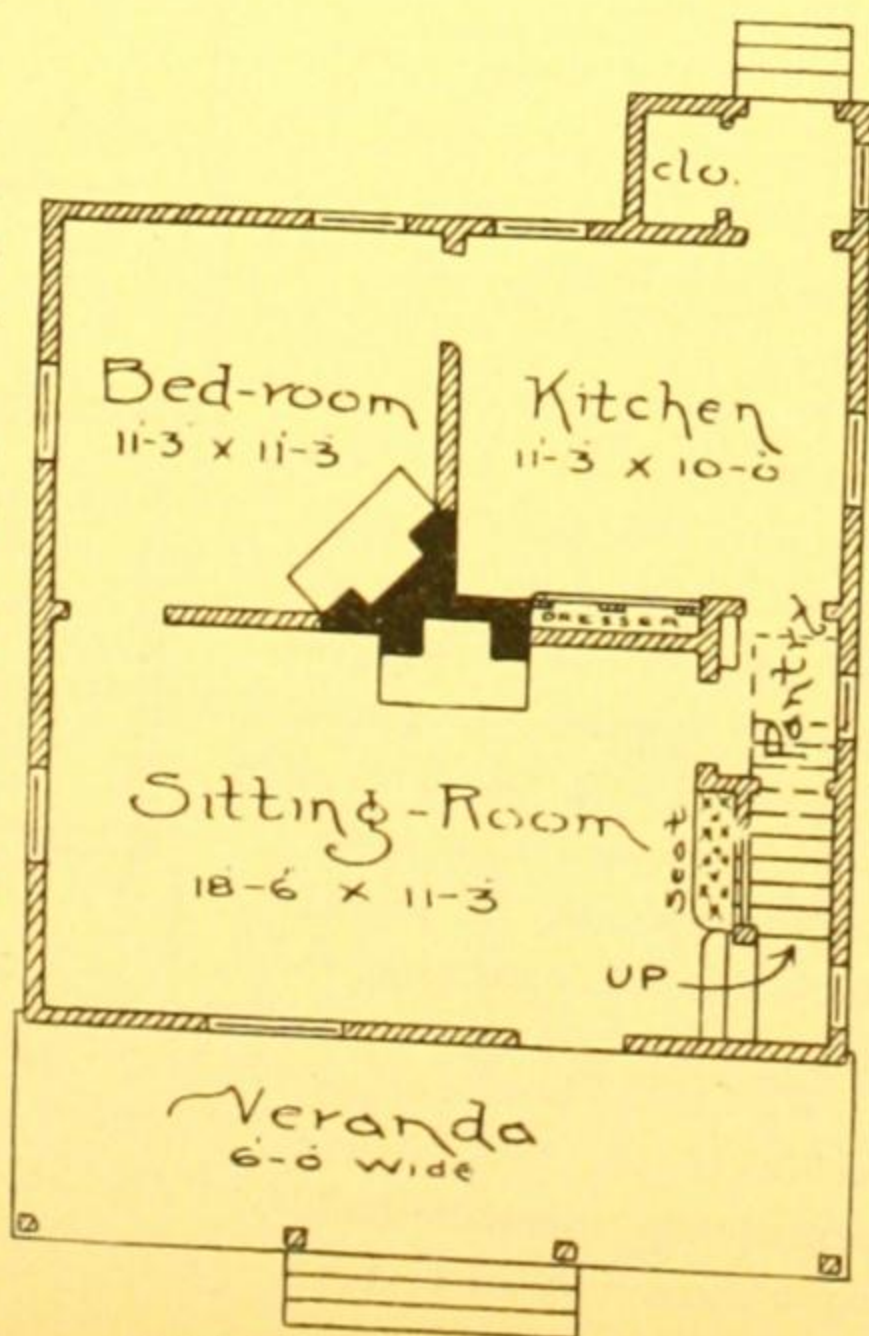
signed for a summer residence. No first floor hall is provided, in order to keep the sitting-room as large as possible. When occupied during severe weather, a "storm door" should protect the front door.

When built for an all-the-year-round residence, it is better to have a lower hall, which would increase the cost \$25; also a cellar, which, under half the house, would increase the cost \$75.

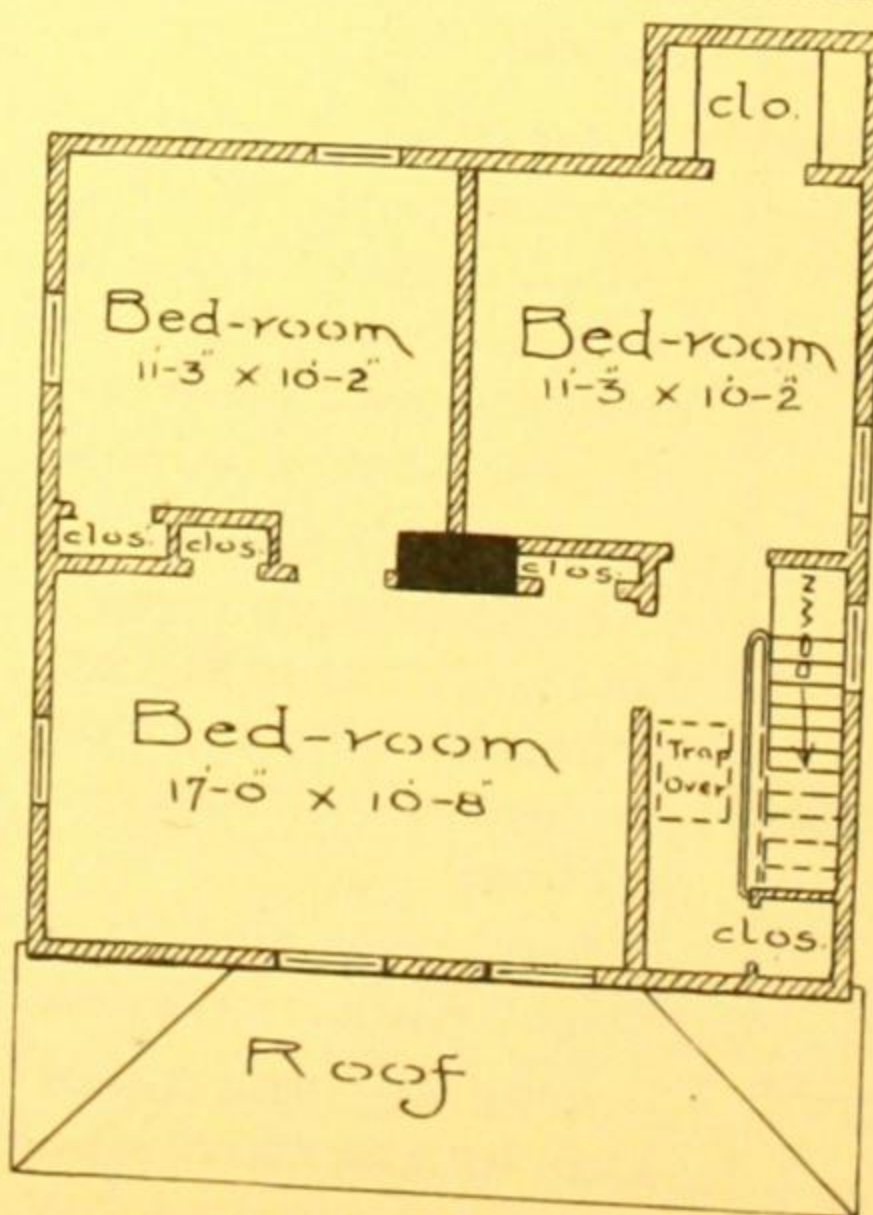
Many a family who pass the summer months in crowded and expensive

hotels, would be much happier in a pretty cottage like this. Beside the greater comfort, the economic advantage is somewhat startling: the expenses for one season of a family at first-class summer hotels, would build this cottage and probably pay for the building plot beside!

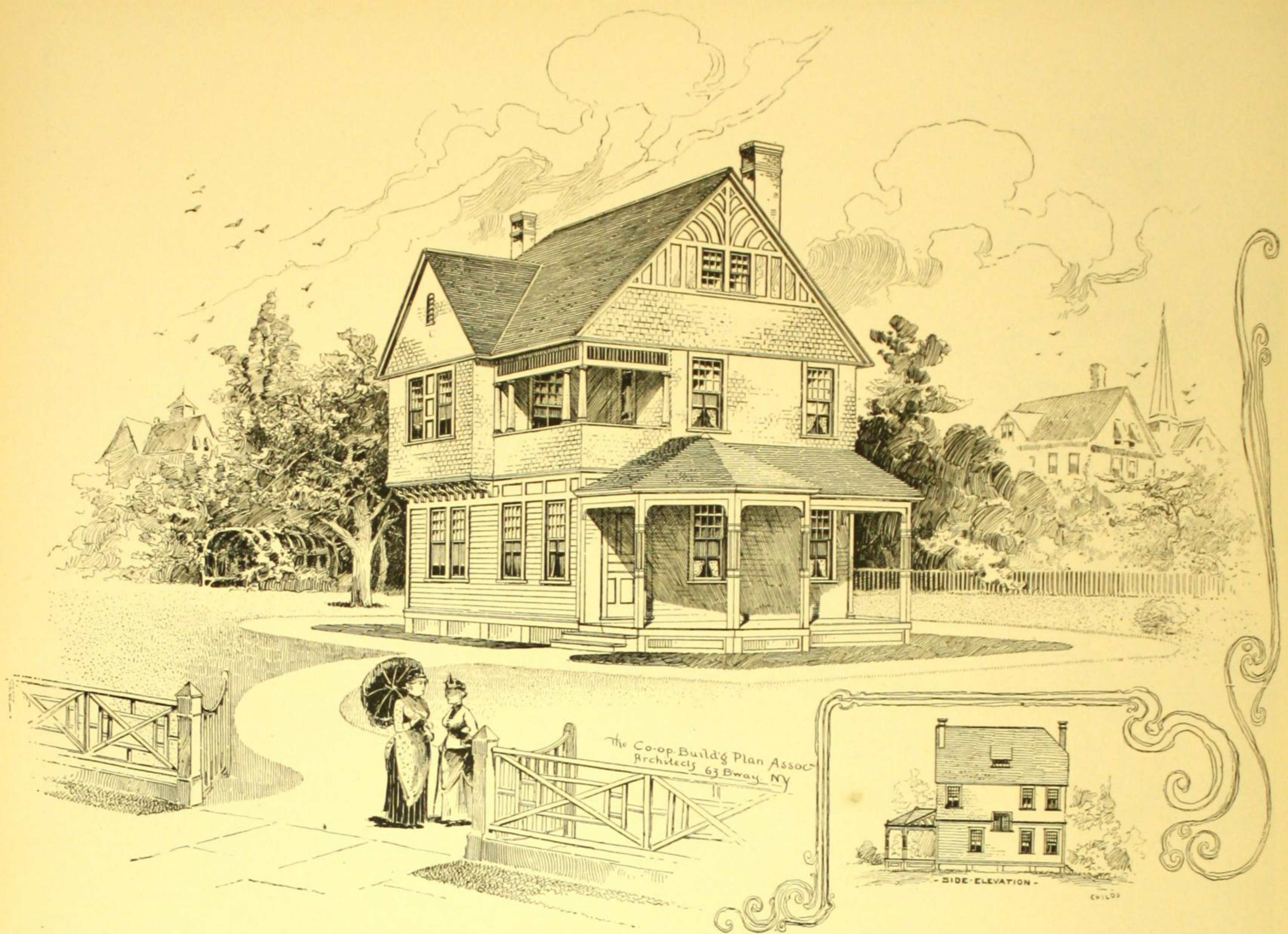
However small the house, if it be well designed, it will have at least a few features that save it from being common-place. The owner must beware when the builder recommends changes, as he is quite sure to attack these features. If the ordinary builder is allowed his choice, he will change every feature to "the usual way," which makes the design common-place.



FIRST FLOOR OF DESIGN NO. 528.



SECOND FLOOR OF DESIGN NO. 528.

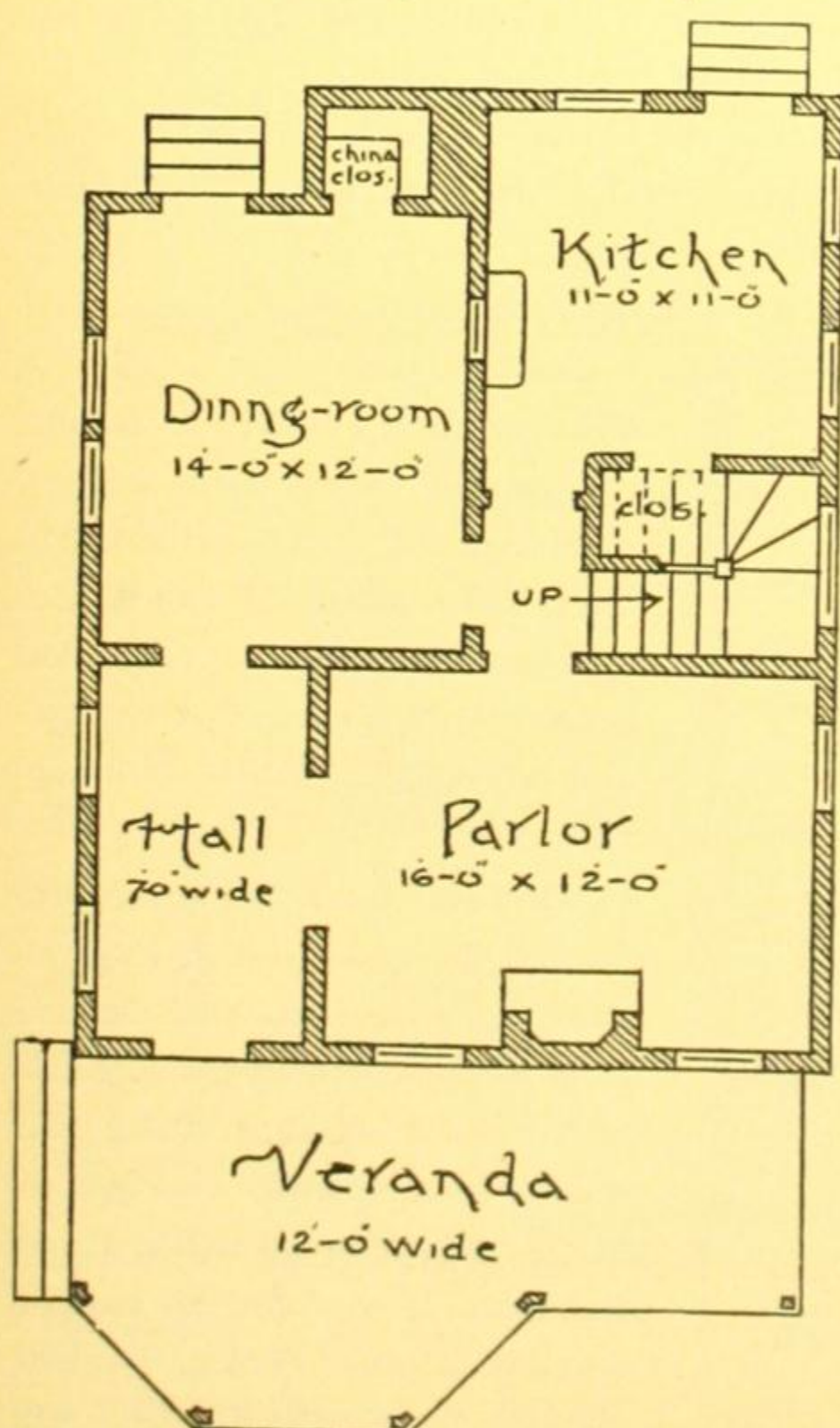


PERSPECTIVE VIEW OF DESIGN NUMBER 529.

DESCRIPTION OF DESIGN NUMBER 529.

SIZE OF STRUCTURE: Front width, 24 ft. 6 in. Side depth, 31 ft., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, piers; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles. Interior—Trim throughout of white pine.



FIRST FLOOR OF DESIGN NO. 529.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. The attic is unfinished, but there is space for two rooms of fair size. No cellar.

COST: \$1,500 to \$2,600, according to the prevailing prices for materials and labor in different localities. All complete, except mantels. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: A cellar, according to size, will add to cost from \$125 to \$175.

The balcony is an attractive feature and is well worth preserving. It can be enclosed with glass for winter use. If preferred, however, the outside walls can be carried up and this balcony space be added, as an alcove, either to the front bedroom or to the larger rear bedroom.

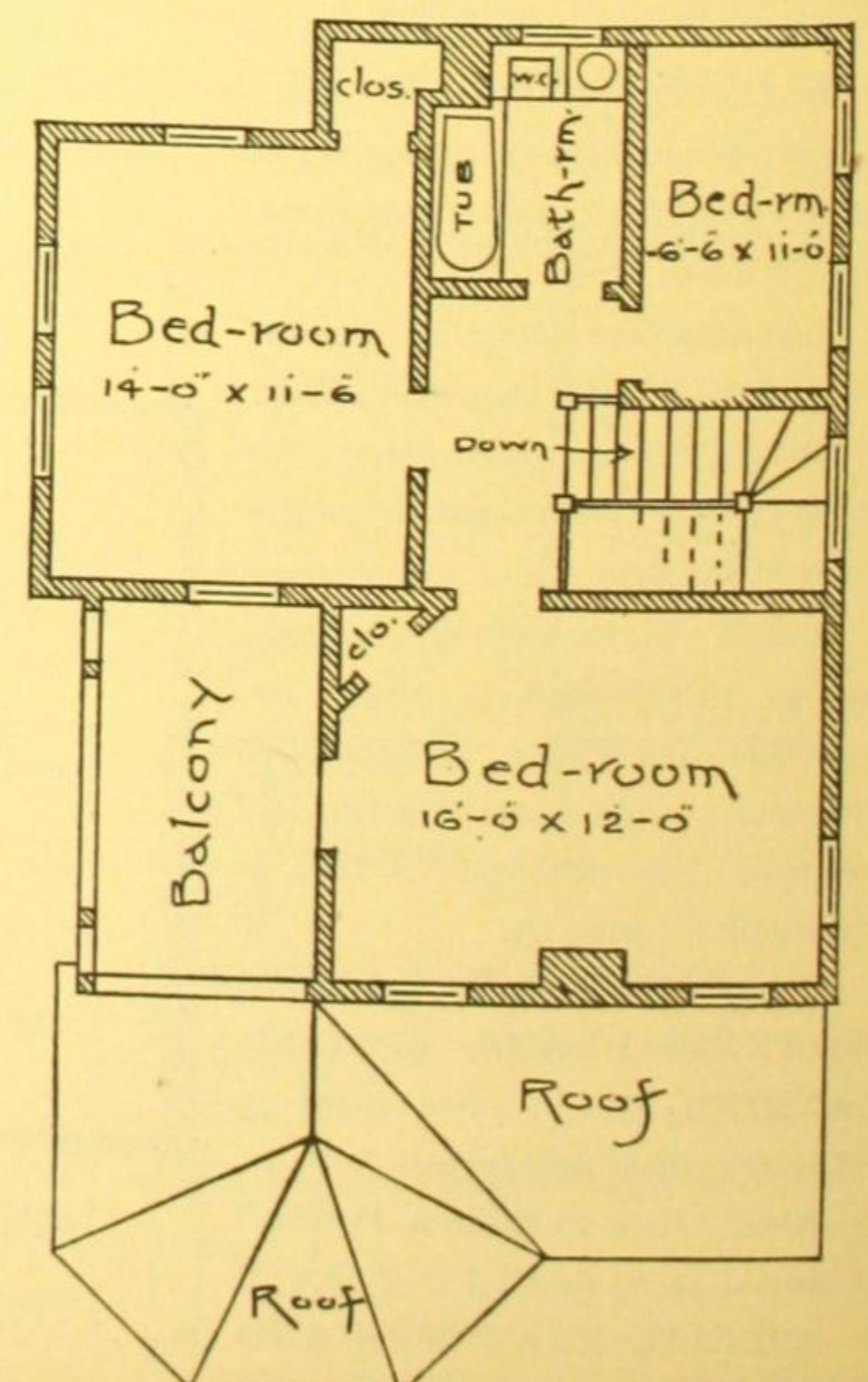
Omitting the bath-room, and thus saving the expense of plumbing, would reduce the cost about \$175; this would also make quite a large bedroom of the present small rear bedroom.

The stairway is so disposed as to be equally convenient for all parts of the house.

The wide veranda is an attractive as well as a very comfortable feature.

In many places in this country attractive houses of this size will sell for about double their cost. The advantages of an investment in the building of salable houses are, first, the investor handles his own money; second, the security is perfect; third, the profits are large.

With the assistance of good architects, the most inexperienced may undertake building without the least apprehension of "trouble."



SECOND FLOOR OF DESIGN NO. 529.



PERSPECTIVE VIEW OF DESIGN NUMBER 530.

DESCRIPTION OF DESIGN
NUMBER 530.

SIZE OF STRUCTURE: Front width, 27 ft. 6 in.; width, including dining-room and staircase bay, 32 ft. 6 in. Side depth, 33 ft., not including veranda or pantry extension.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Cellar has cemented floor; finished throughout with soft woods, except stairway.

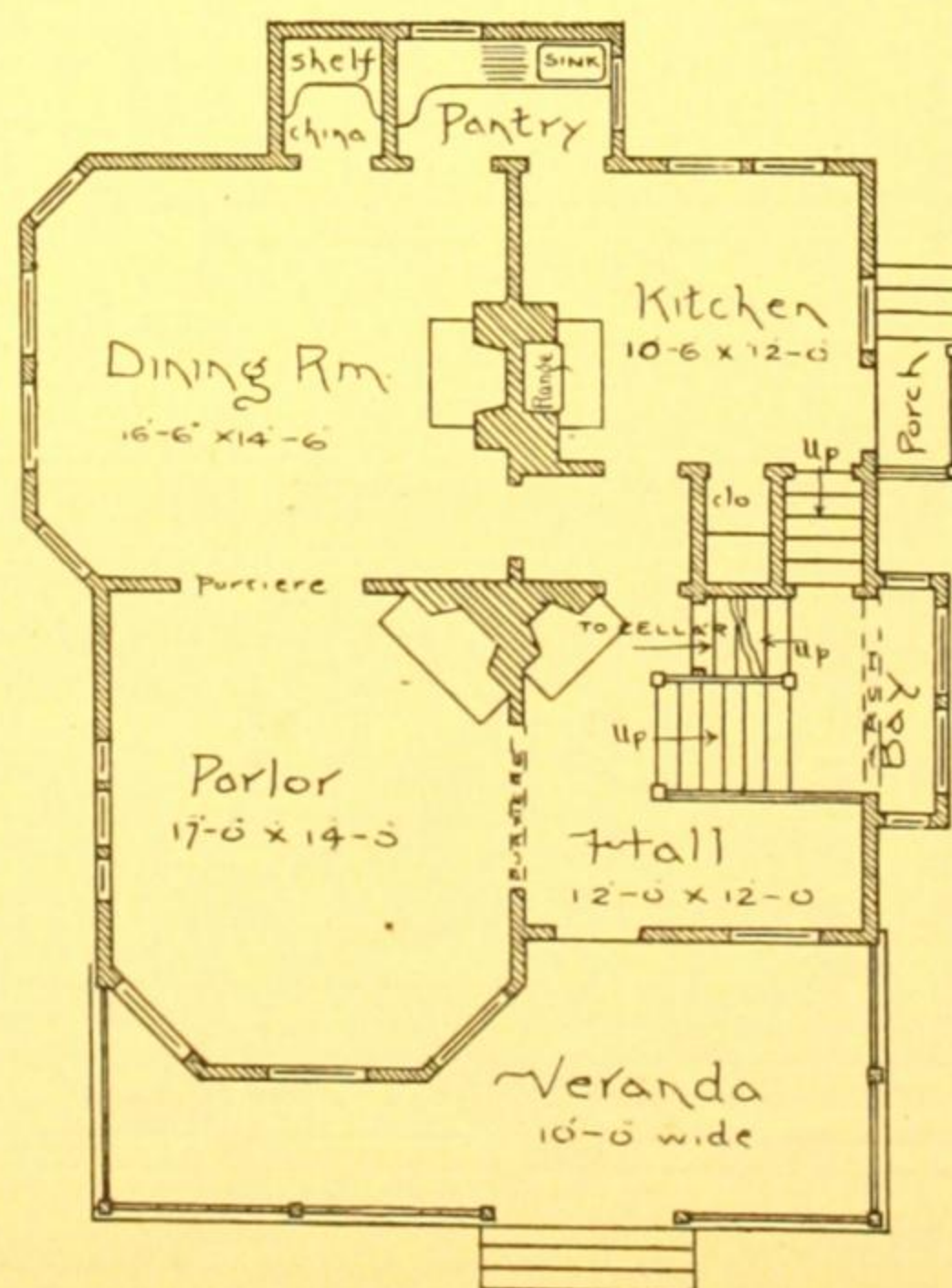
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar 11 ft. by 24 ft. 6 in., in which there is a laundry with stationary tubs, and one room finished in the attic.

COST: \$1,500 to \$2,800, according to the prevailing prices for materials and labor in different localities. All complete, except mantels. The wide difference in cost is explained on page 23.

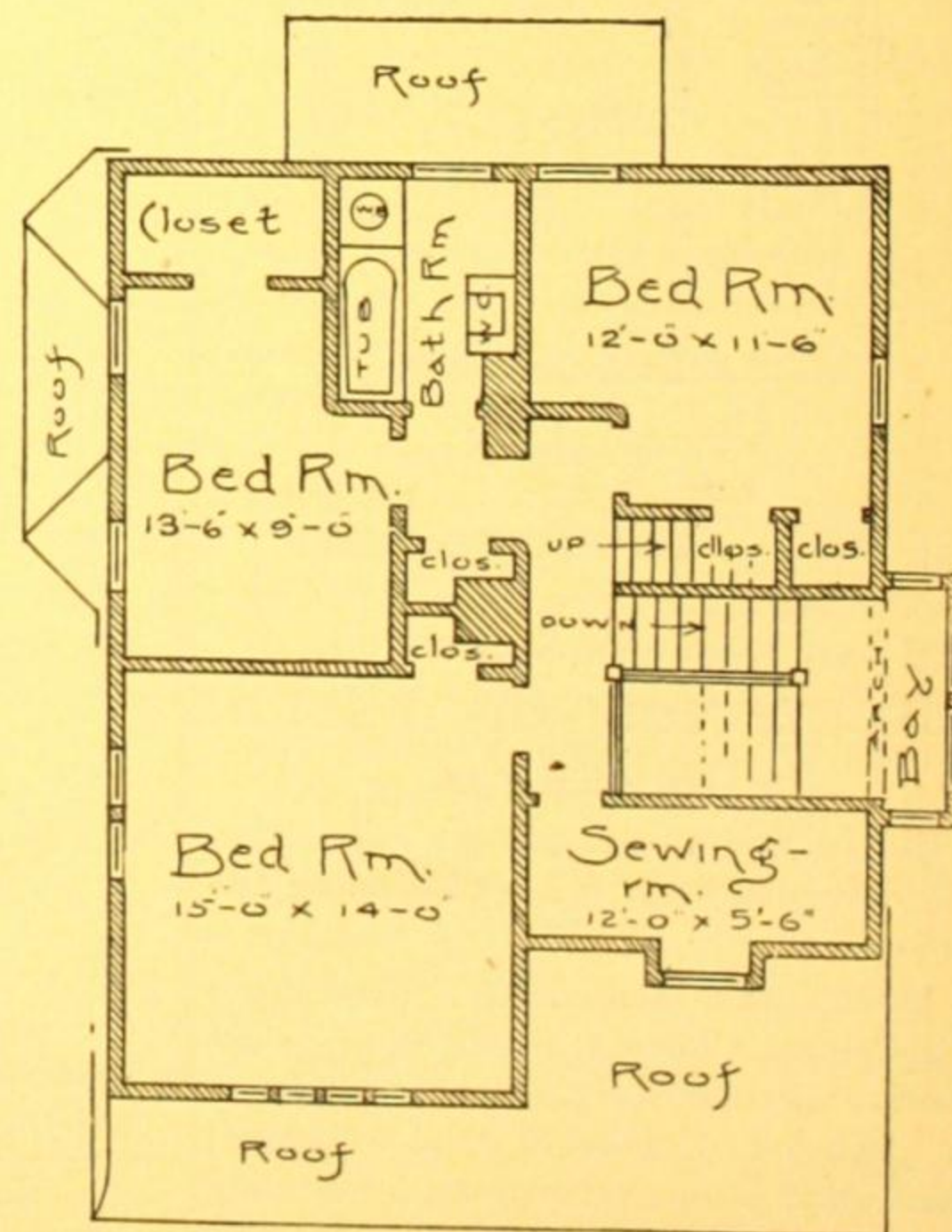
GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

SPECIAL FEATURES AND REMARKS: This design has an attractive hall with an open fire-place. A staircase so arranged as to serve both as a front and a back stairway. The bath-room may be omitted, which would reduce the cost \$125. Any one or all of the fire-places may be omitted, reducing cost about \$25 for each so omitted.



FIRST FLOOR OF DESIGN NO. 530.



SECOND FLOOR OF DESIGN NO. 530.

DESCRIPTION OF DESIGN NUMBER 531.

SIZE OF STRUCTURE: Front width, 18 ft. Side depth, 42 ft., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, brick; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Cement floor in the cellar; soft woods for finish but a hard wood staircase.

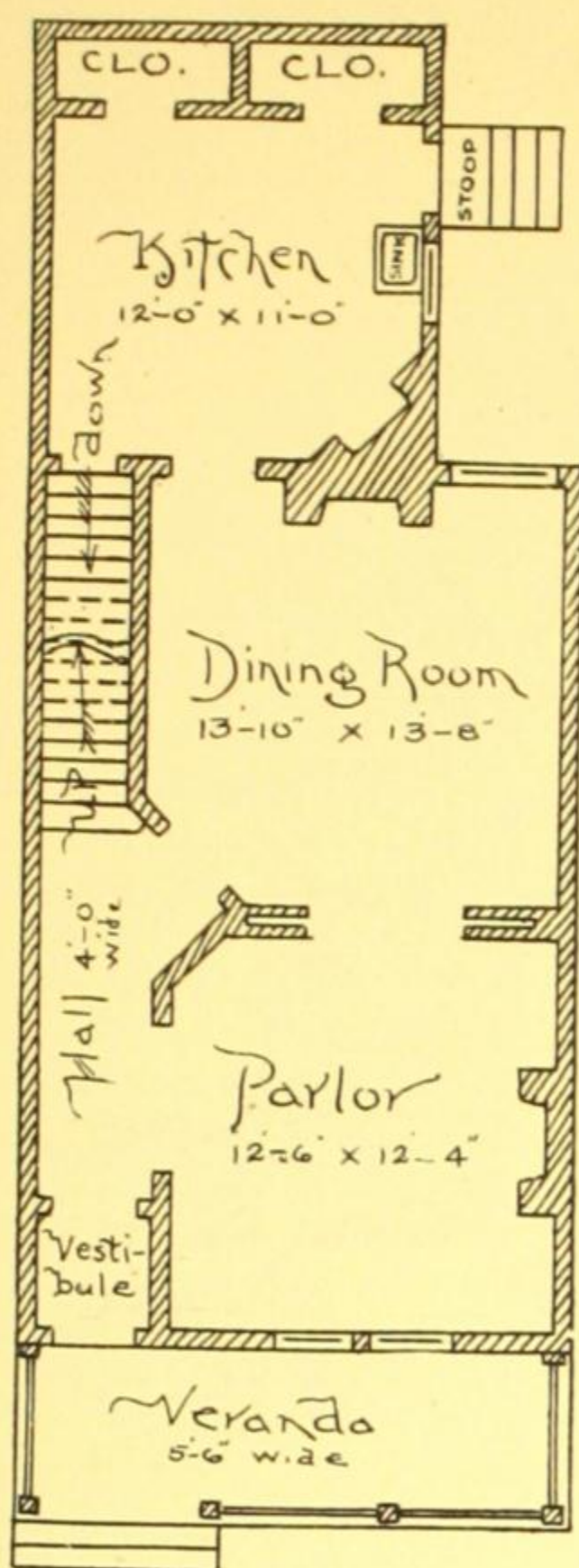
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside

these there is a cellar under main house and storage space in the attic. A compact but roomy low cost house for a narrow lot.

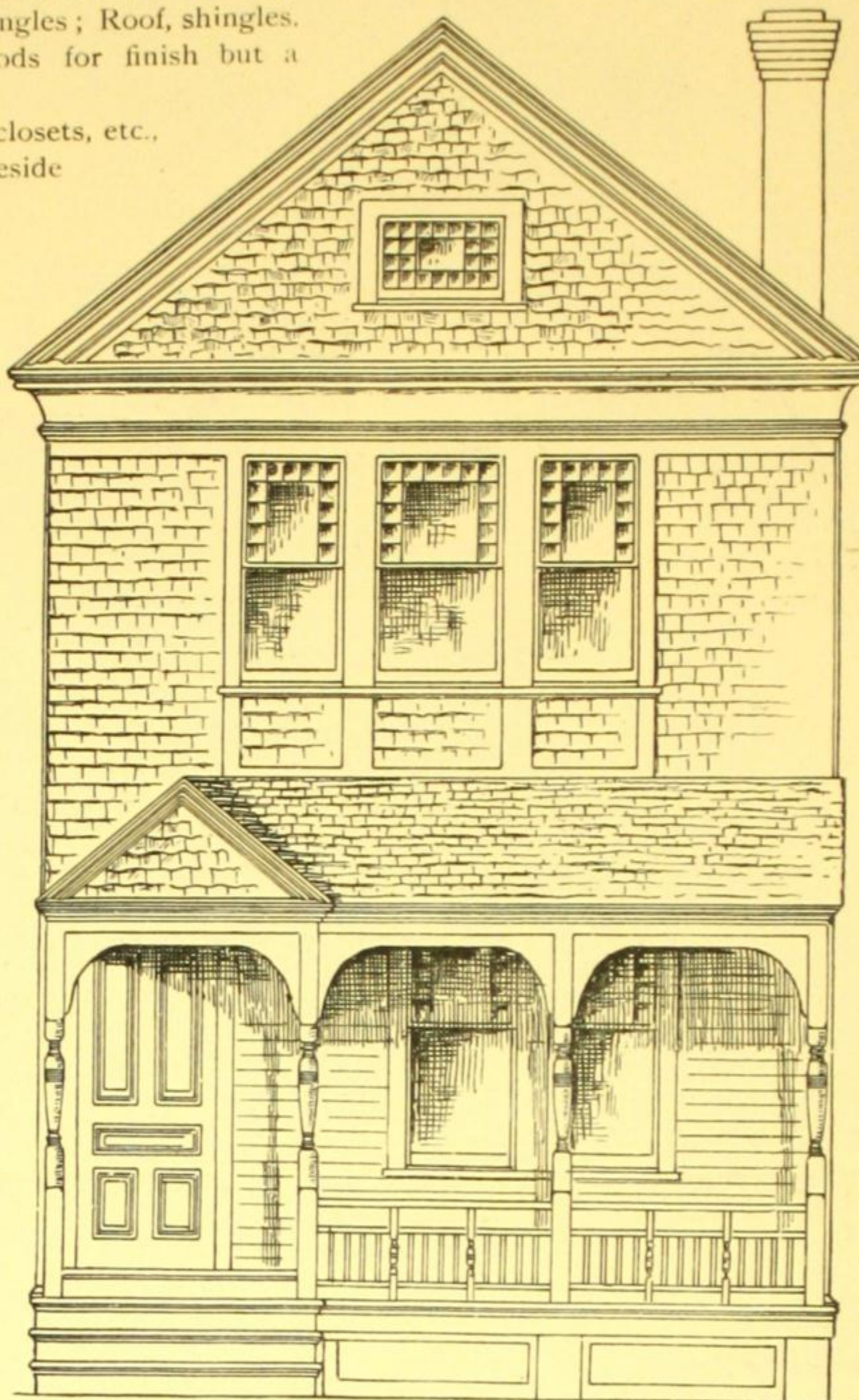
COST: \$1,900 to \$2,800, according to the prevailing prices for materials and labor in different localities. All complete, except mantels and range. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

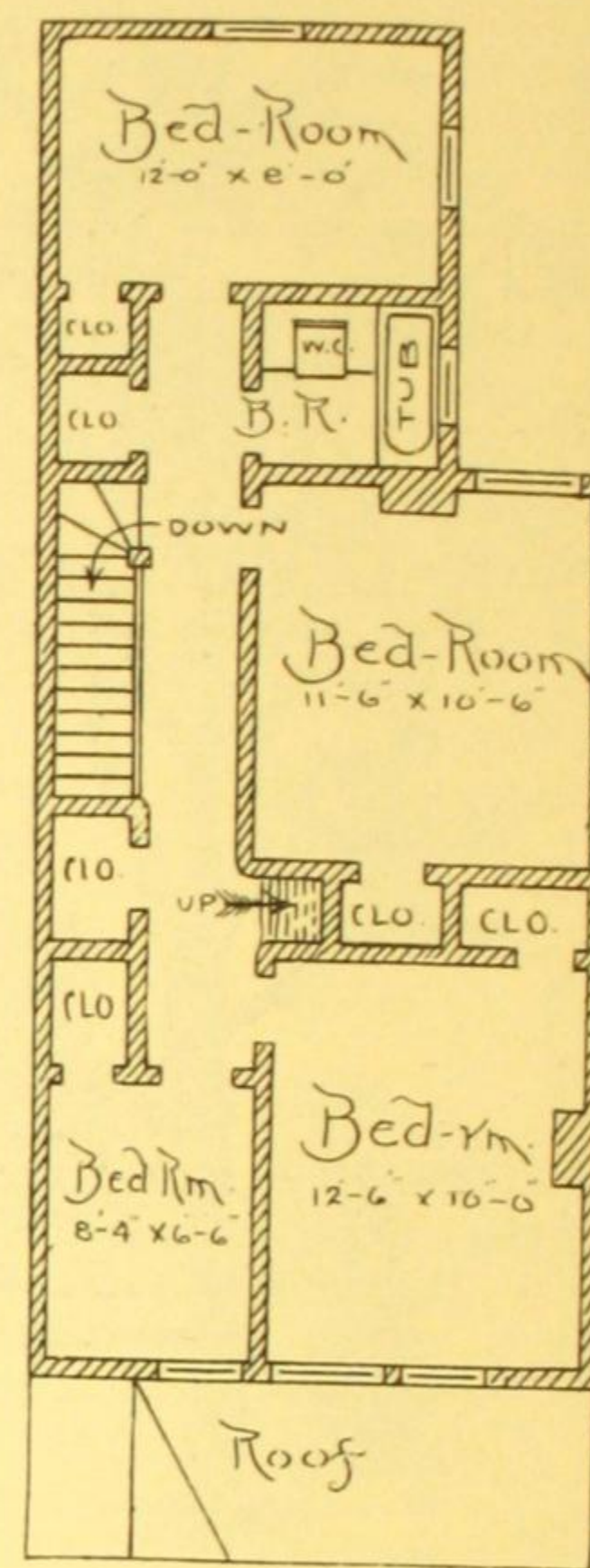
Read "How to Build a House," on pages 22, 23 and 24.



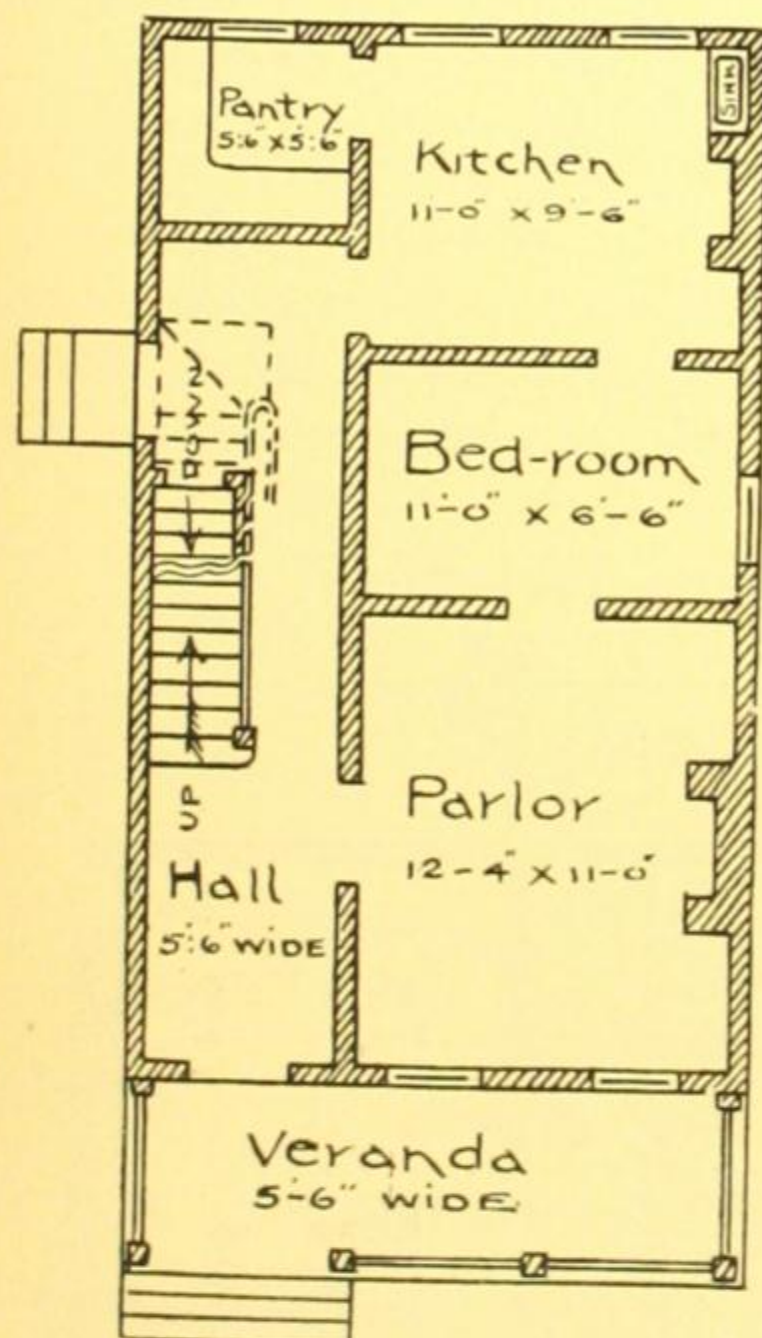
FIRST FLOOR OF DESIGN NO. 531.



FRONT ELEVATION OF DESIGN NUMBER 531.



SECOND FLOOR OF DESIGN NO. 531.



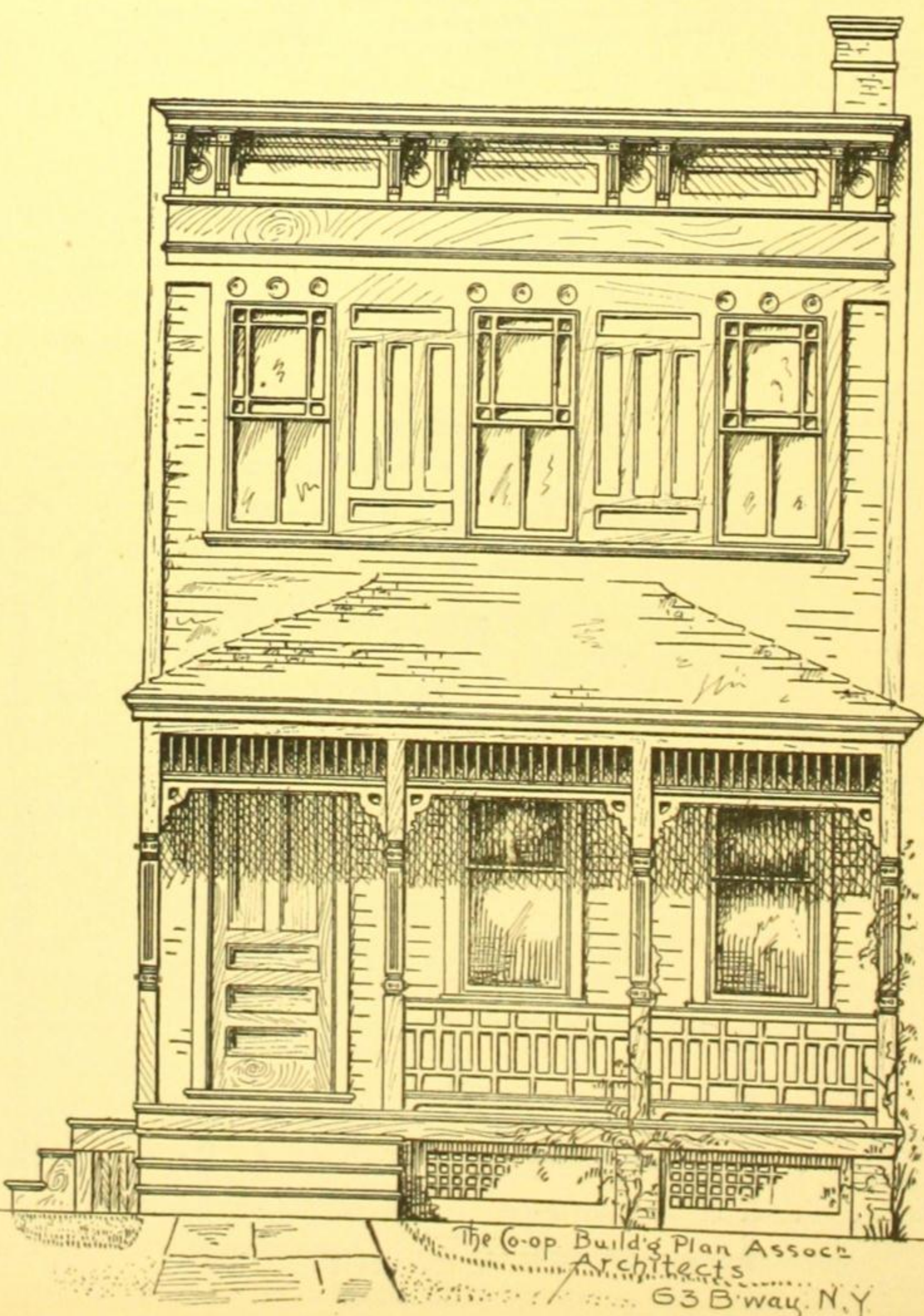
FIRST FLOOR OF DESIGN NO. 532.

DESCRIPTION OF DESIGN NUMBER 532.

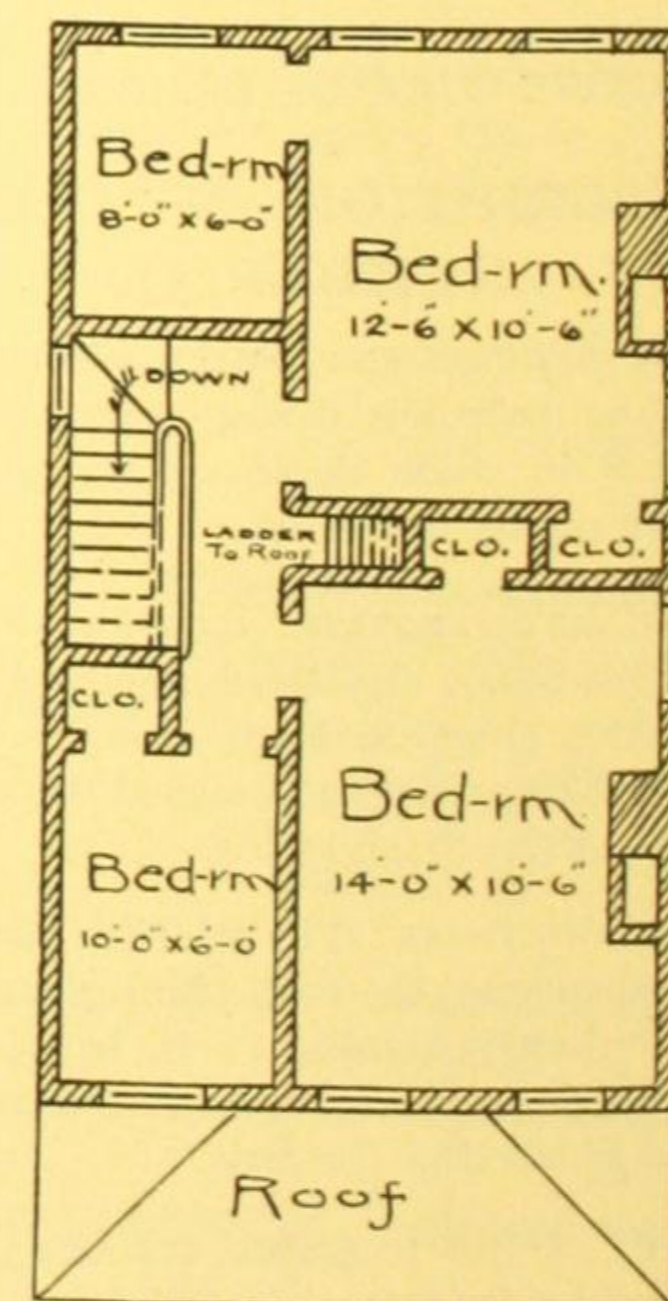
SIZE OF STRUCTURE: Front width, 18 ft. Side depth, 30 ft., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, brick; First Story, clapboards; Second Story, clapboards; Roof, tin. Interior—Cement floor in the cellar; white pine finish throughout, including the stairway.

ACCOMMODATIONS: The principal rooms, closets etc., are shown by the floor



FRONT ELEVATION OF DESIGN NUMBER 532.



SECOND FLOOR OF DESIGN NO. 532.

plans given here. Beside these there is a cellar under whole house. A suitable house for a narrow lot.

COST: \$1,000 to \$1,700, according to the prevailing prices for materials and labor in different localities. All complete, except mantels and range. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

DESCRIPTION OF DESIGN NUMBER 533.

SIZE OF STRUCTURE: Front width, 25 ft. Side depth, 42 ft., not including the front bay, the veranda, nor the pantry at the rear.

MATERIALS EMPLOYED: Exterior—Foundations, stone and brick; First Story, clapboards; Second Story, clapboards; Mansard Roof, slate and tin. Interior—Cemented cellar floor; finish throughout with soft woods, except stairway which is cherry.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under the whole house, and the third floor has four rooms, a store-room and a large hall.

COST: \$2,500 to \$4,000, according to the prevailing prices for materials and labor in different localities. All complete, except heating and mantels. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

THE "OLD WAY" AND THE NEW.

The "old way" of proceeding to build was to go to a carpenter or builder and in some imperfect manner come to an understanding with him about what kind of a structure it should be, make a contract with him and order him to go ahead. From beginning to end there was trouble. The owner had to fight for good materials and workmanship, and for his understanding of this, that, and the other thing, during the whole progress of the work, unless, indeed, he did not know his rights, or was so meek-spirited that he would not assert them. With this way of doing business there could be but one result—dissatisfaction. Even if the owner succeeded in getting the best materials and workmanship, and in having his understanding carried out, there would remain the faults of arrangement and the common-place appearance which seem to be characteristics of every house built by the "old way."

The "new way," and by far the better way, is for the owner to supply himself first with accurate Working Plans, Specifications, etc., prepared by competent architects. These aids serve five important purposes: First, the arrangement of rooms, the exterior appearance and every part of the design are the results of professional skill; second, these aids thoroughly acquaint the owner with all the requirements before the work is undertaken; third, they enable the owner to invite competition and thus to secure the lowest contract; fourth, they are made the basis of the contract between the owner and contractor and, being full and explicit, they will settle every dispute and misunderstanding that may arise; fifth, they guide the workmen at every step in the construction of the house.

Why any intelligent man will undertake the building of a house, however small, without these aids is hard to understand. They certainly save money as well as secure peace of mind. In times past, when competent architectural services cost from 4 to 5 per cent. of the cost of the structure, there was some excuse, but that objection is now met by The Co-operative Building

Plan Association, whose charges are about 1 per cent. Another and serious objection was the owner's fears that he could not contract at the architect's estimate and that the result would be the loss of the amount paid for Plans, etc., or the expenditure of a larger sum for building than he intended. This objection is most effectually met by the guaranteed estimates of the Association.

BATH-ROOMS AND FIRE-PLACES IN HOUSES OF LOW AND MODERATE COST.

Now and then an extremely practical man exclaims, "Why, there are too many bath-rooms and fire-places in your designs. They cost money and are unnecessary."

Our answer is, omit them if you prefer; make closets out of the bath-room, or enlarge it and make it a bedroom, or add it to the space of an adjoining room; build up the chimneys, leaving only stove-pipe holes.

But we advise against these omissions. Plumbing is not the mysterious and expensive matter that it was years ago. It is simpler, better, stronger, and the materials are cheaper. So simple, indeed, is some of the best designed plumbing, that it scarcely requires expert labor to put it in place.

It is not necessary to have a plumber and two or three helpers standing around in each other's way, prolonging the job at \$10 to \$15 a day.

The owner should study the plumbing design—it is easily understood—then go and have a look at the materials required and learn their cost. He can then estimate closely the labor required, and he will probably not allow himself to be victimized.

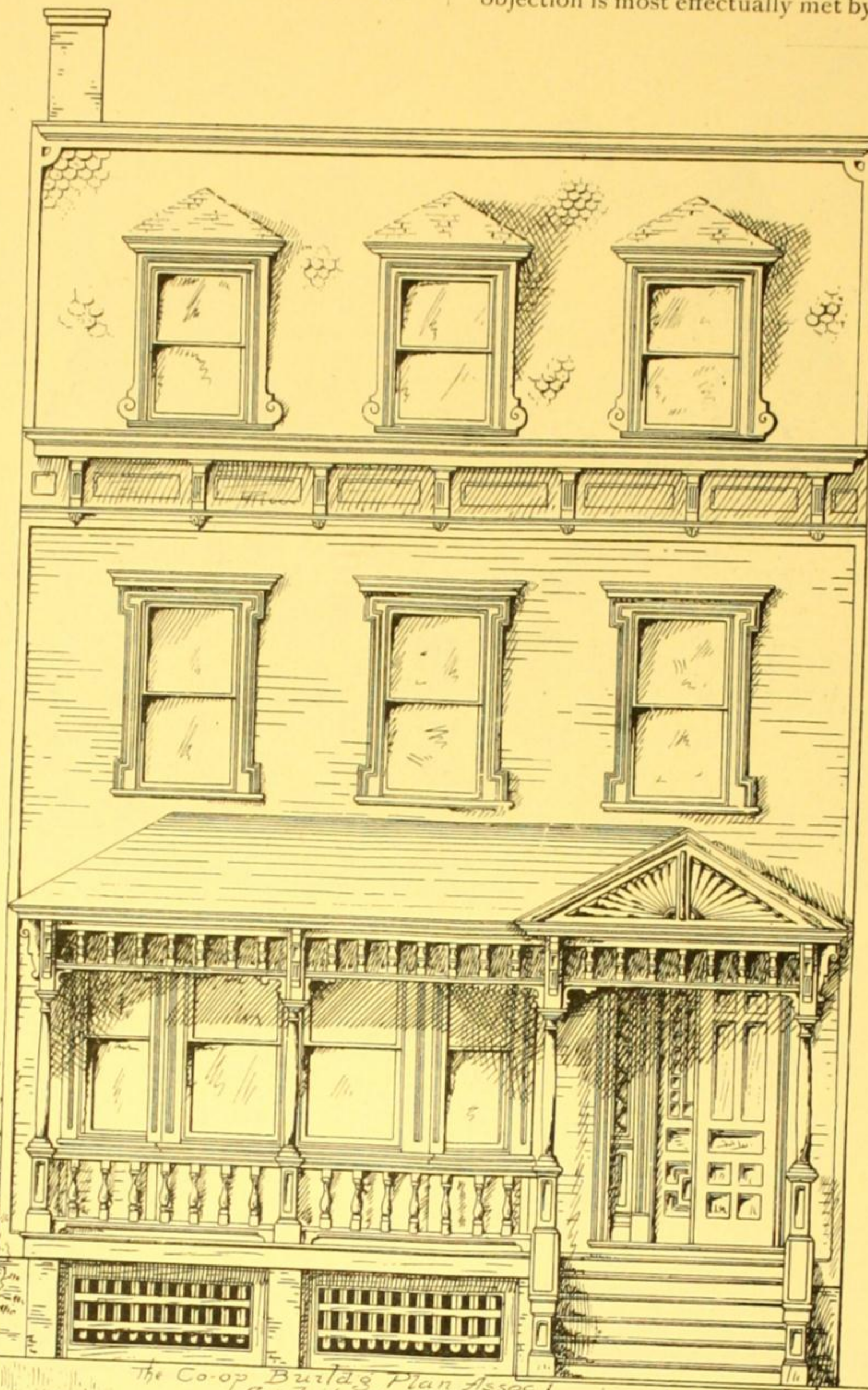
Regarding fire-places, they are called for in our designs, not so much for heating purposes as for ventilating. They are the least effective for heating, seventy to eighty per cent. of the heat going up the chimney; but they are the best and most economical of ventilating arrangements. Beside they help to furnish the room: nothing is more cheerful than a fire-place and nothing prettier than a well-designed mantel. In building an ordinary fire-place instead of a flue, the cost of extra labor and bricks required does not exceed \$5. The grate, including setting, and the fender will cost from \$10 to \$30, according to style wanted; the mantel from \$8 to \$75. The lowest prices named secure good materials, not lacking in ornamental features. Especially is this the case regarding mantels. Some of the cheapest are among the prettiest.

Do not omit the bath-room and the fire-places, for they are essential to good health, and therefore conducive of good looks, cheerfulness of spirits, vigorous work and absence of doctors' bills.

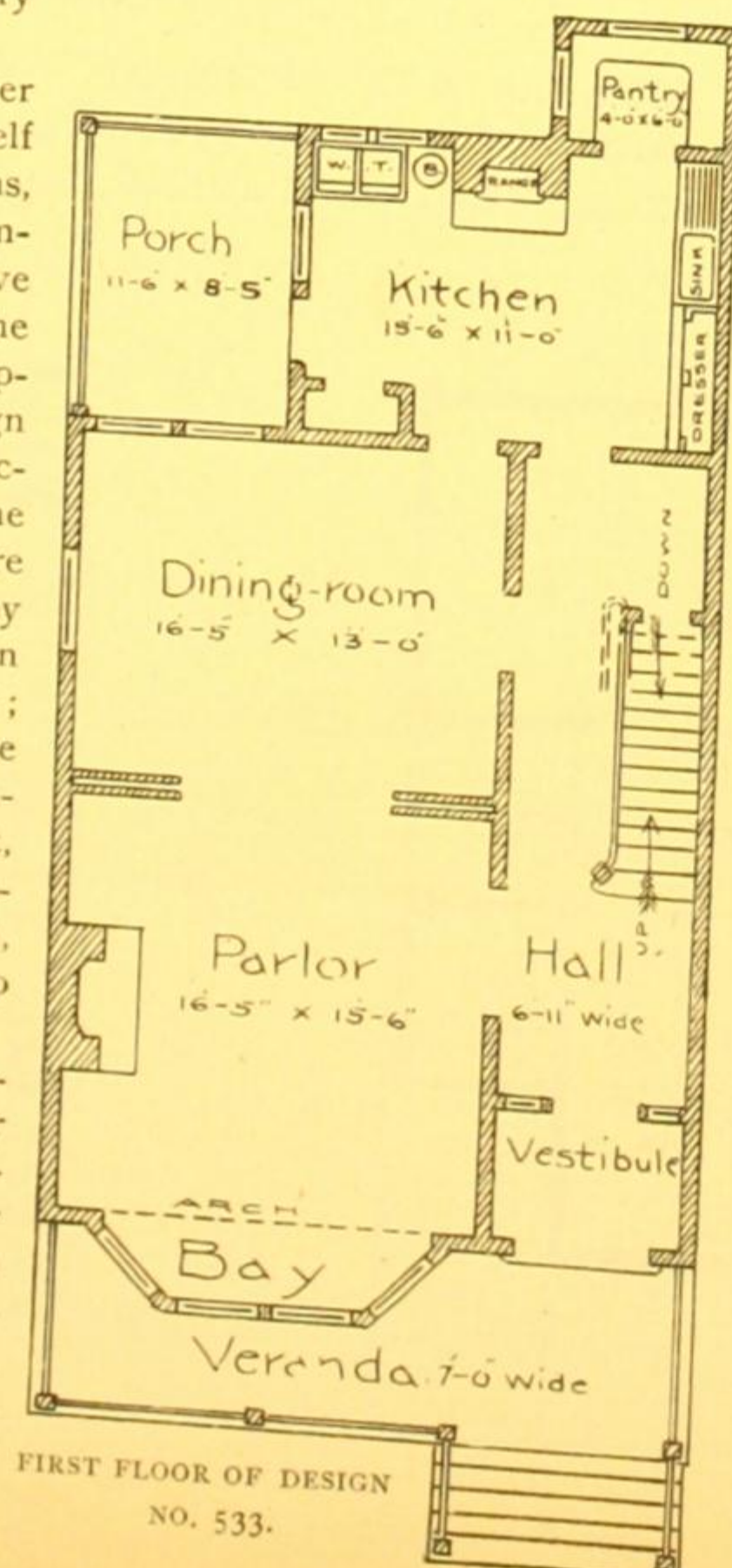
Speculative builders—those who build houses to rent or to sell—are naturally desirous of keeping the cost down, but they certainly make a mistake when they omit the requirements demanded by health and comfort. Ordinarily, larger rentals are produced by houses which have "modern improvements."

George H. Bonte, Esq., Cincinnati, Ohio, says:

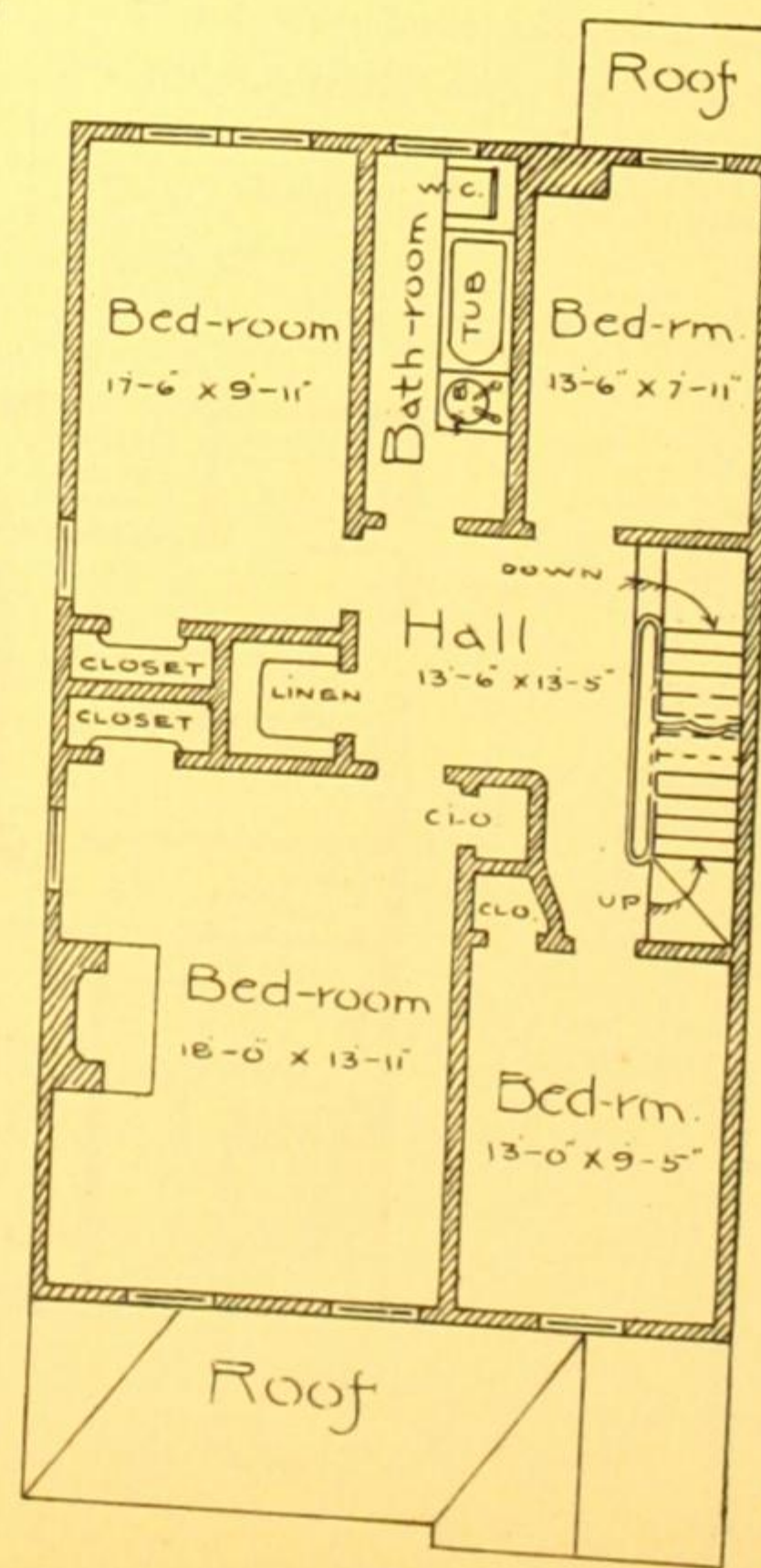
"The Plans were satisfactory in all respects. Your estimate of cost was very close. I have the finest, prettiest and best built house in South Norwood, and many parties say within many miles of it, and that is saying a great deal; it is acknowledged to be the finest and best of the three or four hundred houses that are in the neighborhood."



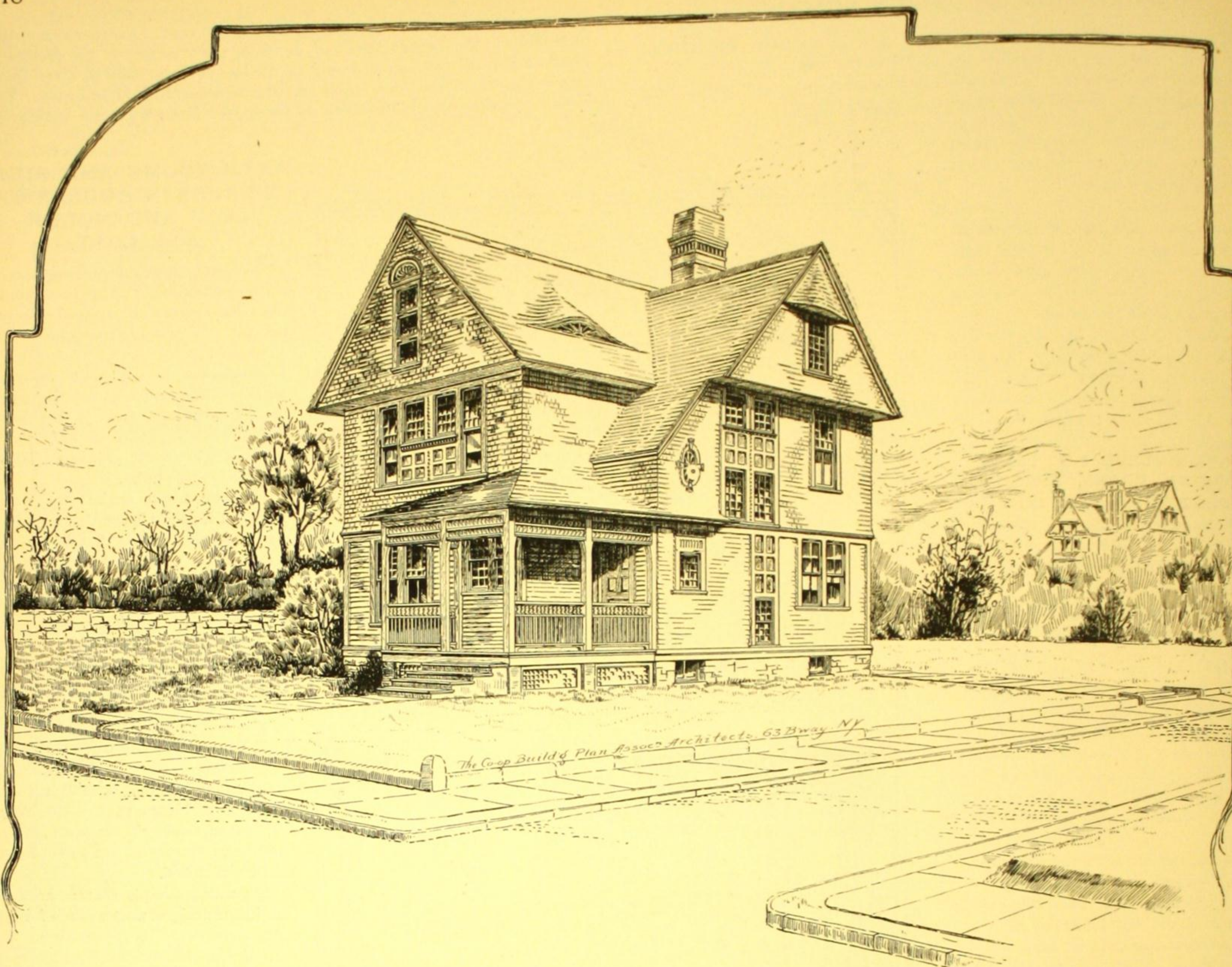
FRONT ELEVATION OF DESIGN NUMBER 533.



FIRST FLOOR OF DESIGN NO. 533.



SECOND FLOOR OF DESIGN NO. 533.



PERSPECTIVE VIEW OF DESIGN NUMBER 534.

DESCRIPTION OF DESIGN NUMBER 534.

SIZE OF STRUCTURE: Front width, 27 ft. 6 in. Side depth, 32 ft. 6 in., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, clapboards; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Cellar floor cemented; hardwood staircase; all other finish soft woods.

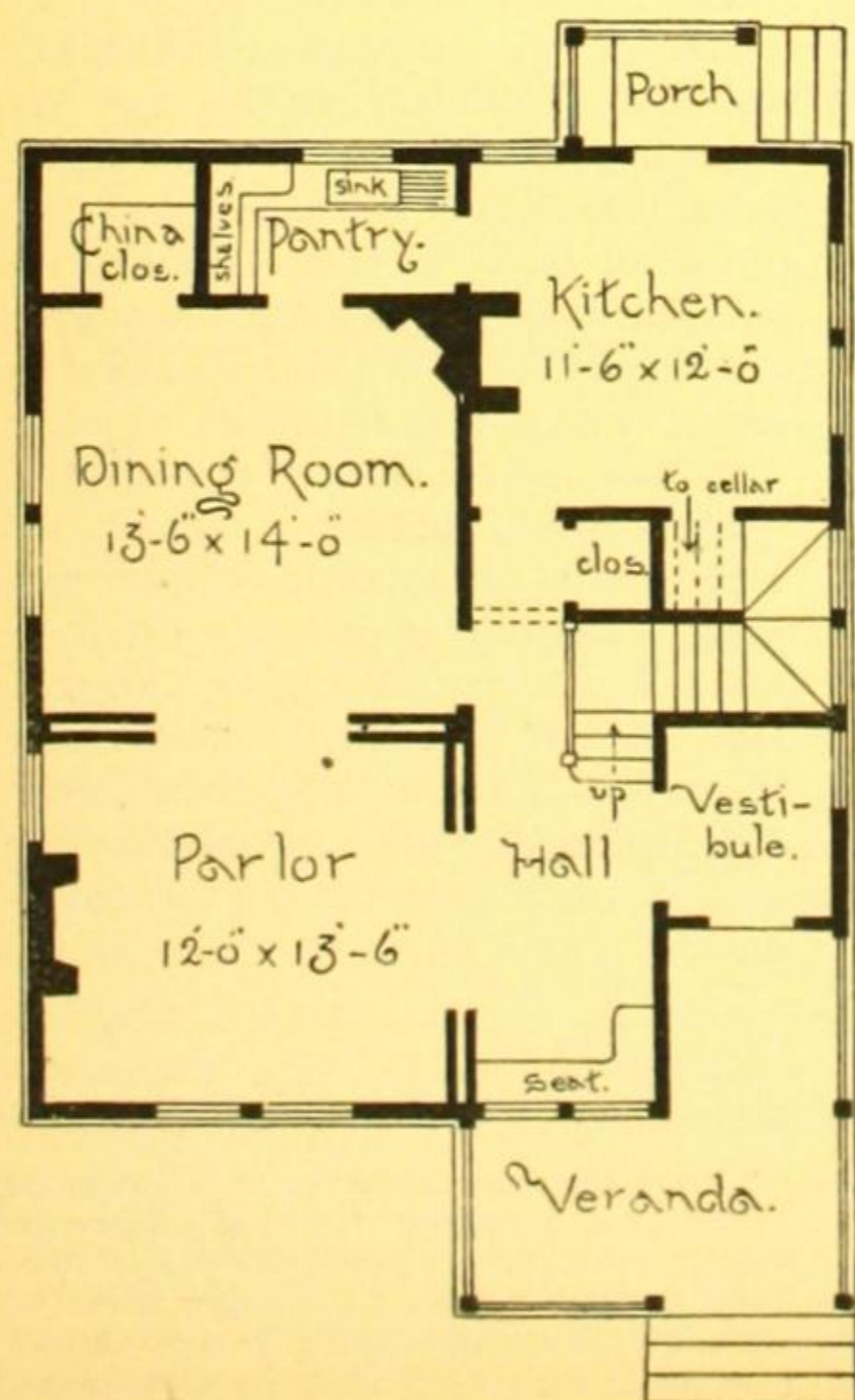
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the

floor plans given here. Beside these there is a cellar under whole house, and two rooms and a hall finished in the attic.

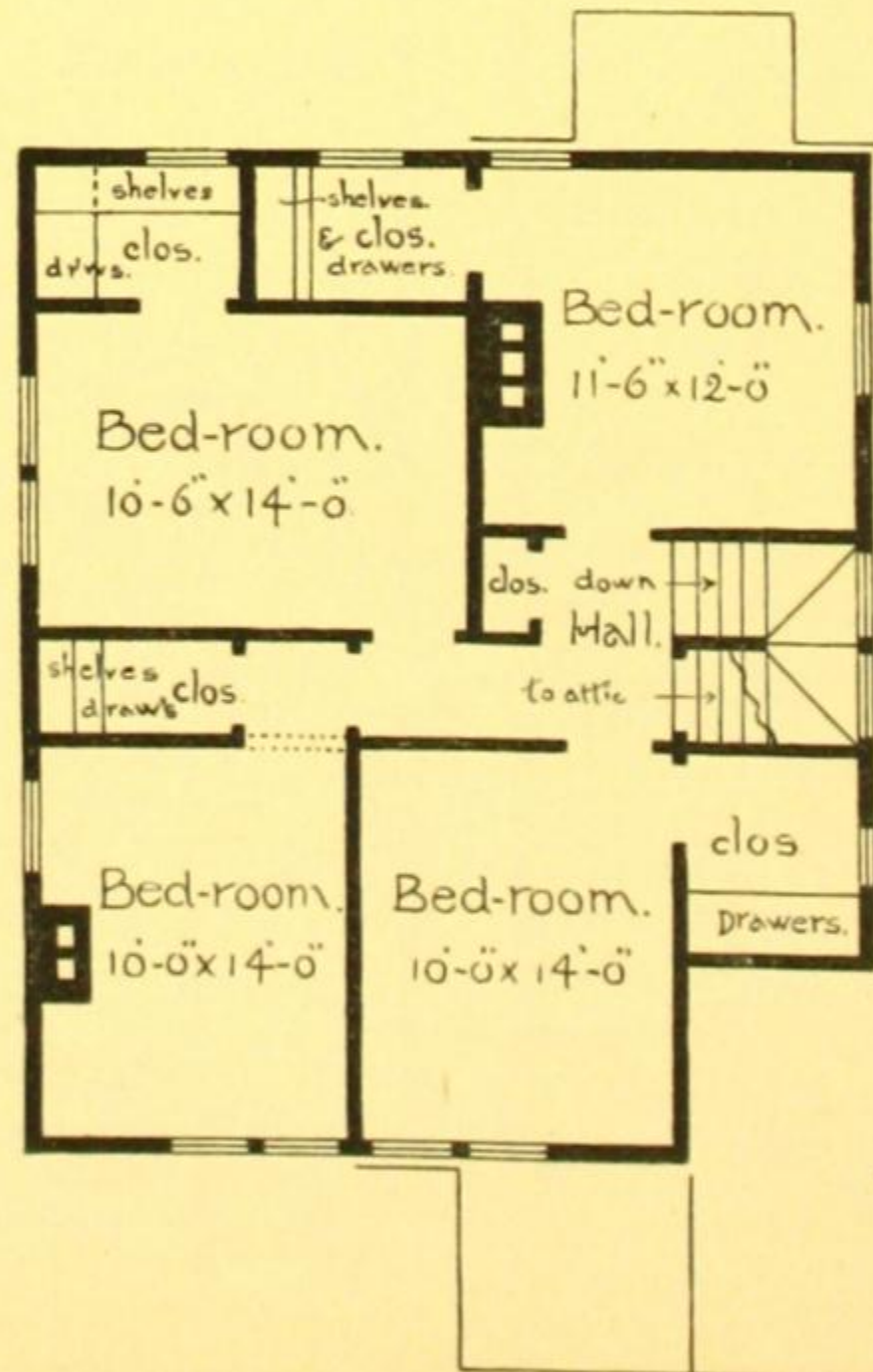
COST: \$1,800 to \$3,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

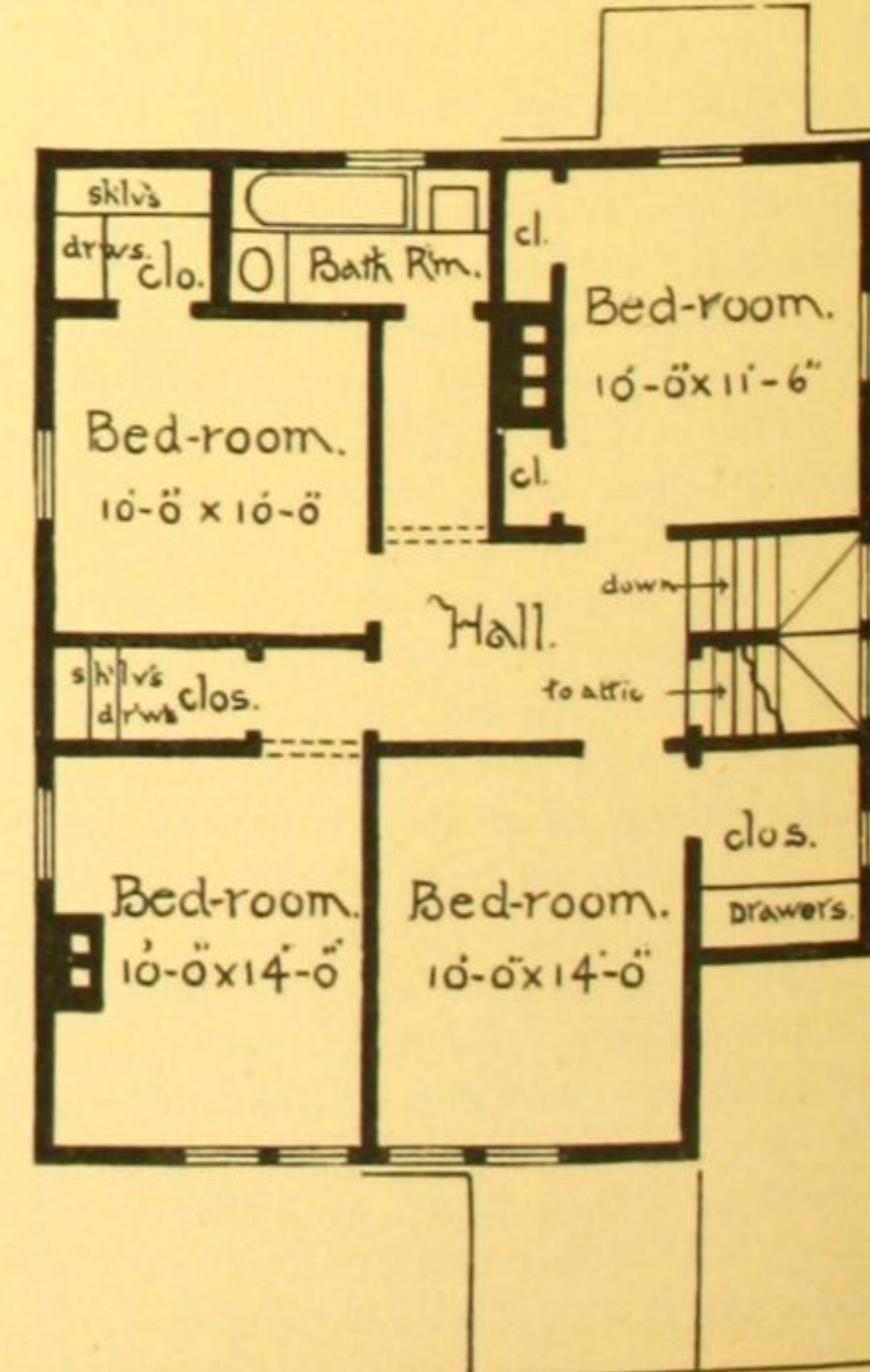
Read "How to Build a House," on pages 22, 23 and 24.



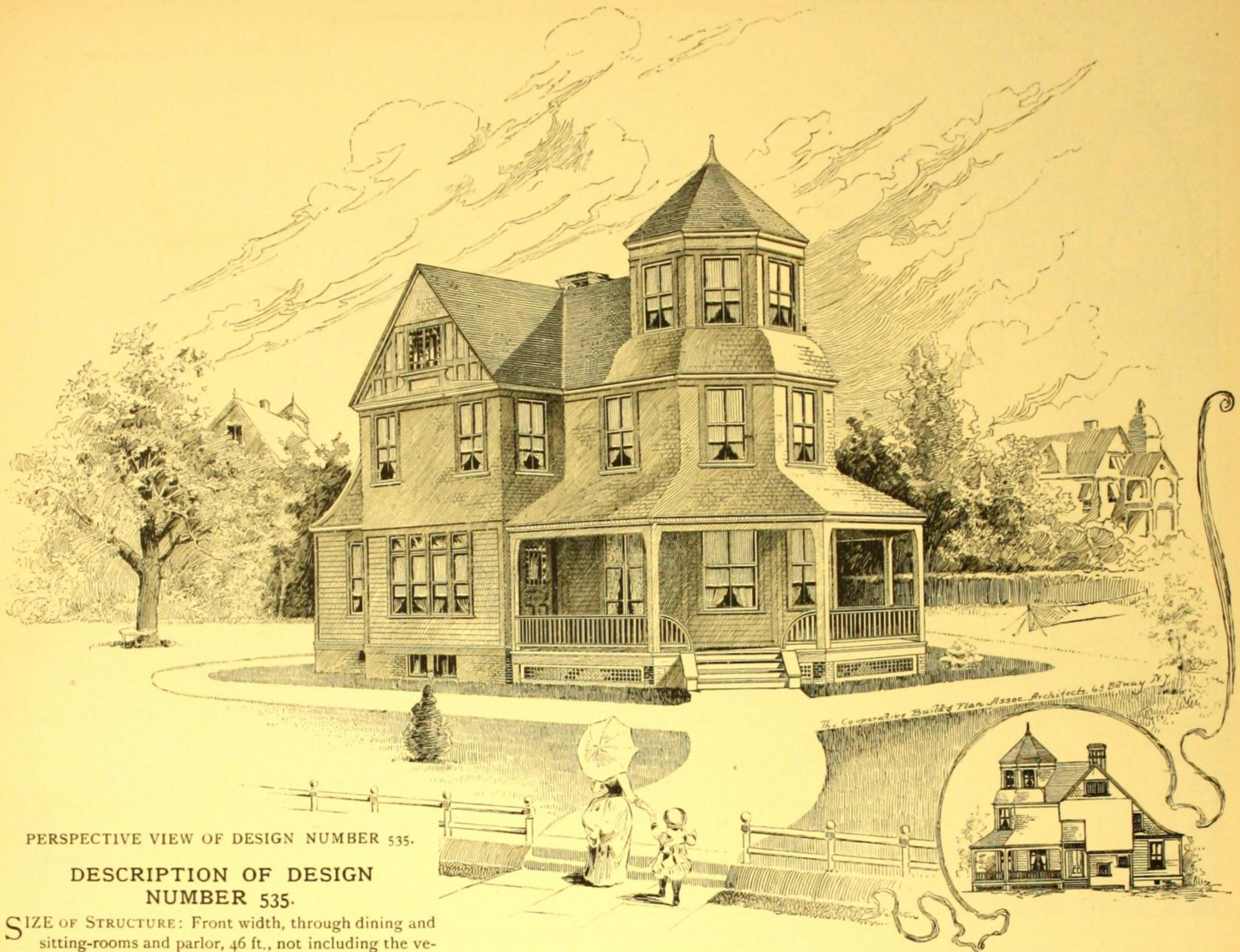
FIRST FLOOR OF DESIGN NO. 534.



SECOND FLOOR OF DESIGN NO. 534.



ANOTHER PLAN WITH BATH FOR SECOND FLOOR.



PERSPECTIVE VIEW OF DESIGN NUMBER 535.

DESCRIPTION OF DESIGN
NUMBER 535.

SIZE OF STRUCTURE: Front width, through dining and sitting-rooms and parlor, 46 ft., not including the veranda. Side depth, 32 ft. 6 in.; including the wood-shed, 48 ft. 6 in.

MATERIALS EMPLOYED: Exterior—Foundations, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles. Interior—No hardwood; all finish white pine or white wood.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar 15 ft. 6 in. x 31 ft., and three bedrooms of fair size in the attic. The tower room makes a good "study."

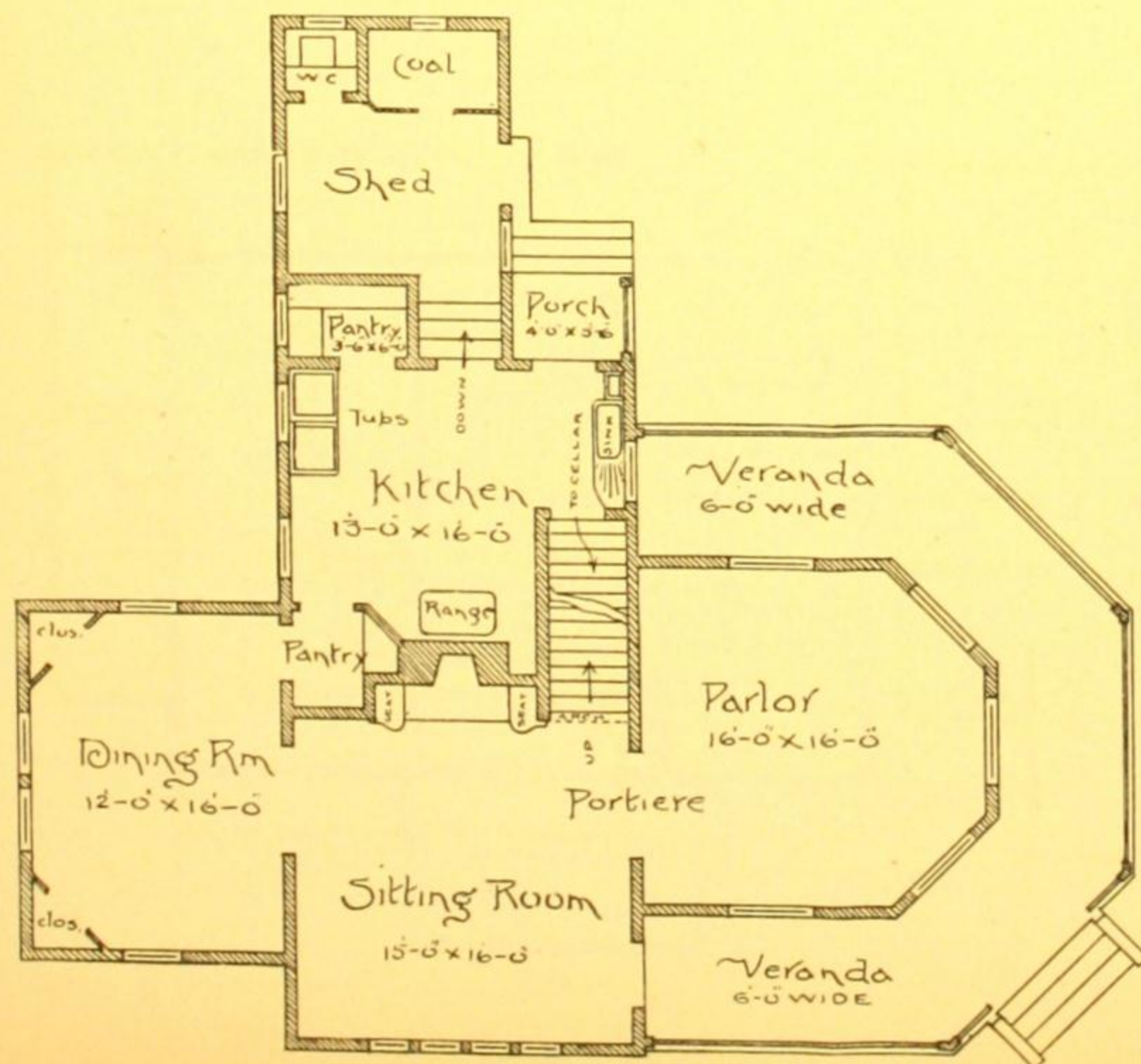
COST: \$1,700 to \$3,000, according to the prevailing prices for materials

and labor in different localities. All complete, except mantels, range and heater. The wide difference in cost is explained on page 23.

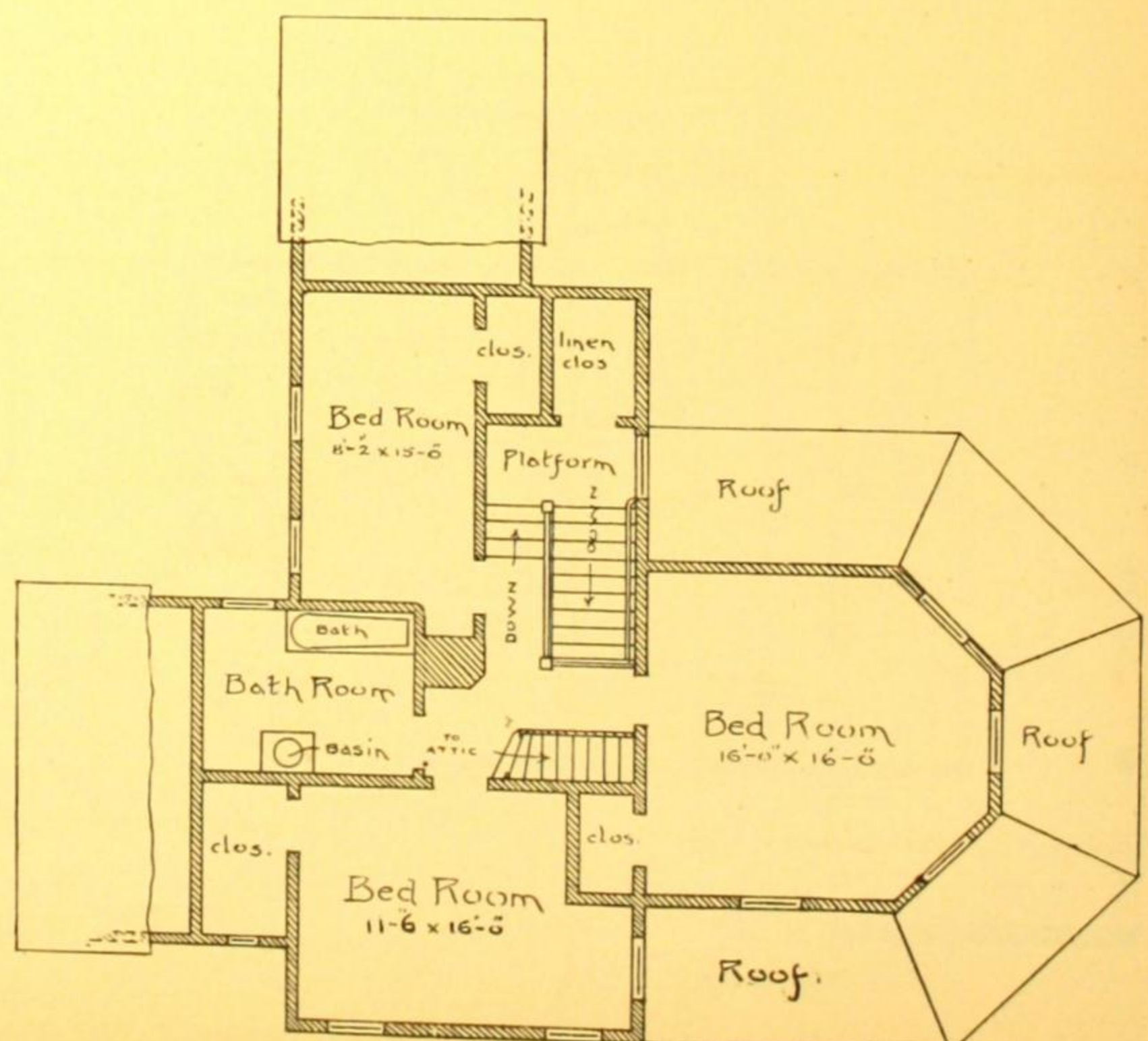
GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

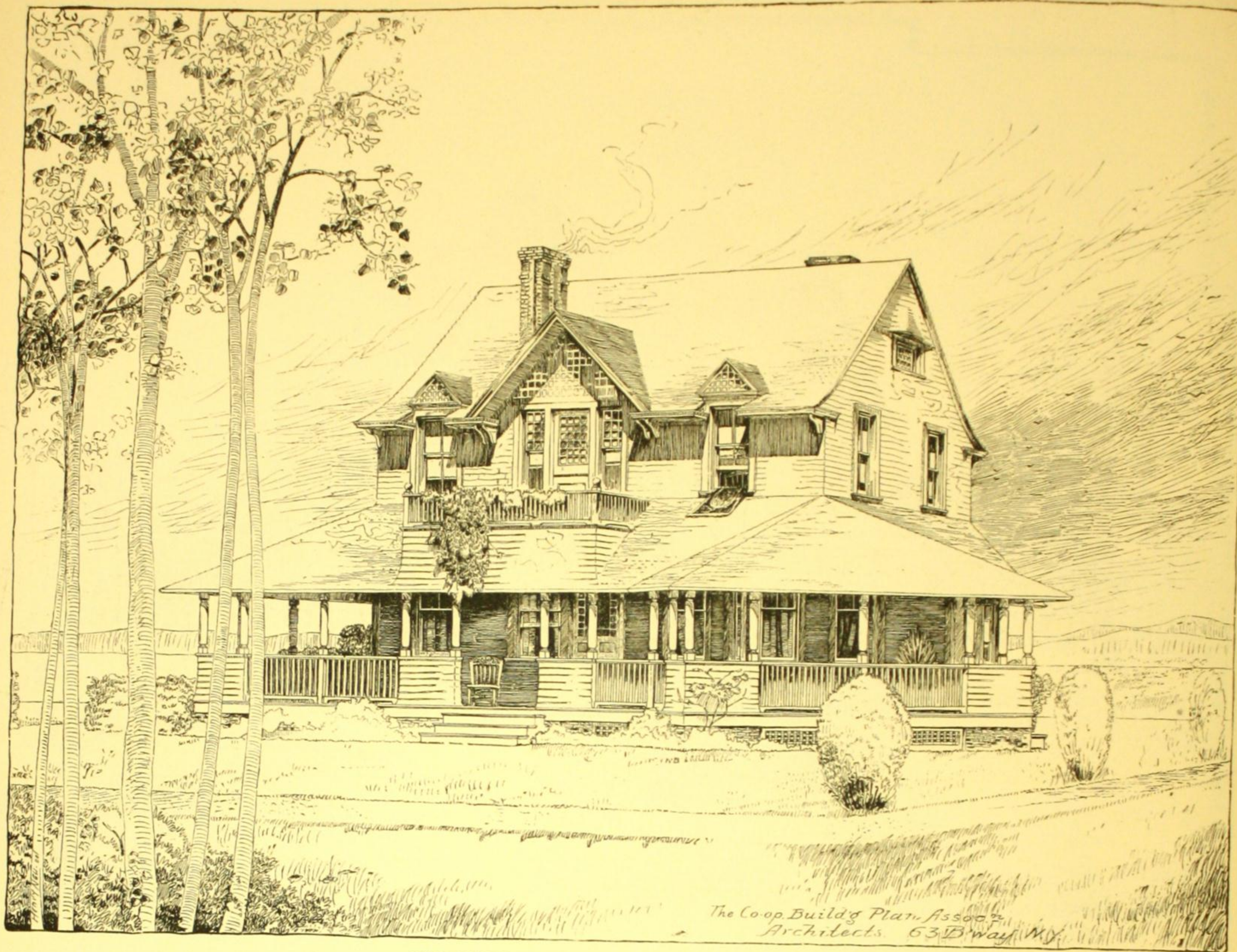
SPECIAL FEATURES AND REMARKS: All the rooms are large, making an exceedingly comfortable house at low cost. The parlor, sitting-room and dining-room being in a line and being connected by wide openings, there is a long vista very pleasing to the eye.



FIRST FLOOR OF DESIGN NO. 535.



SECOND FLOOR OF DESIGN NO. 535.



PERSPECTIVE VIEW OF DESIGN NUMBER 536.

DESCRIPTION OF DESIGN NUMBER 536.

SIZE OF STRUCTURE: Front width, 33 ft., not including the verandas; width, including the pantry, 37 ft. 6 in. Side depth, 24 ft. 6 in., not including the veranda or the rear porches.

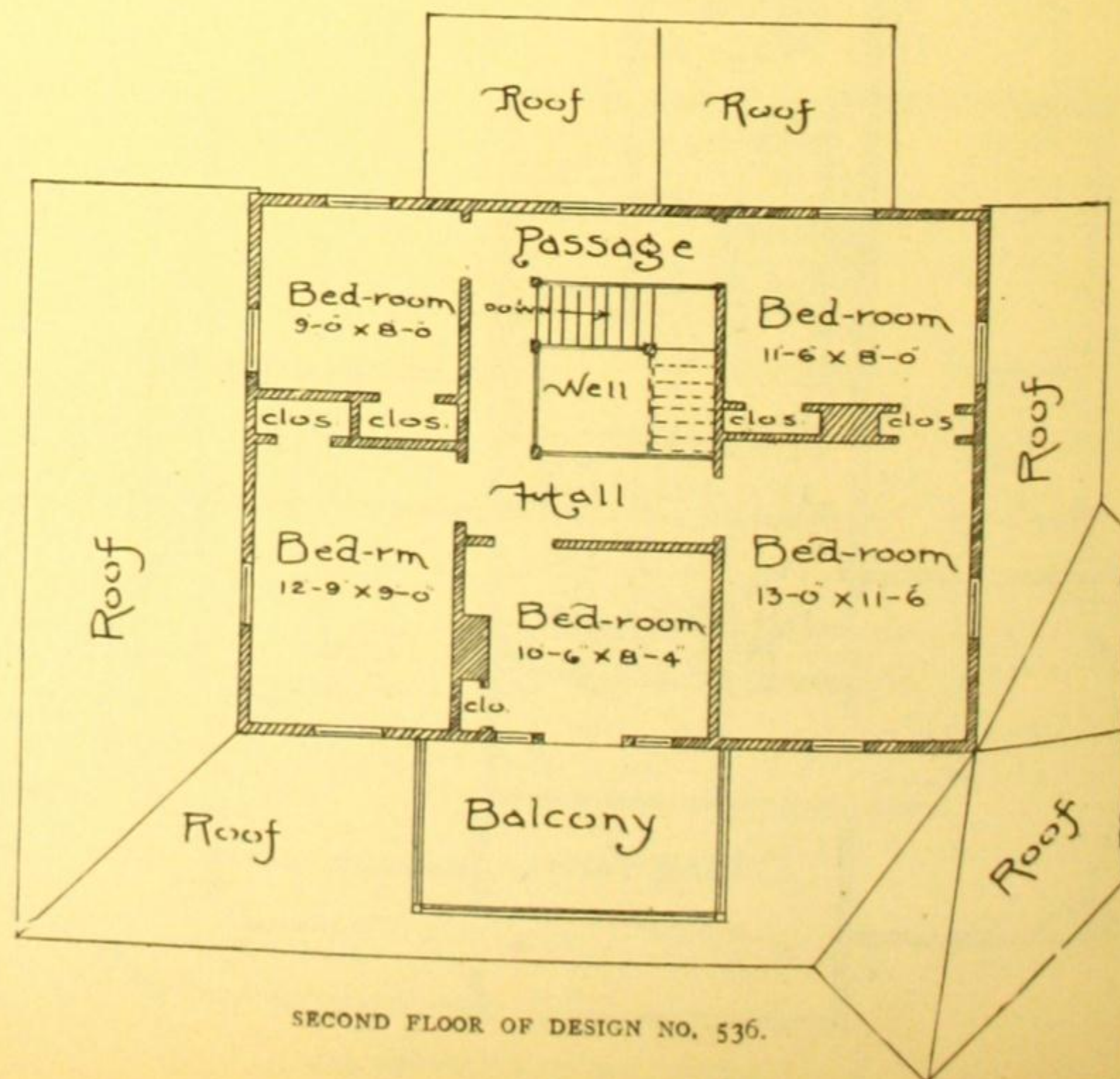
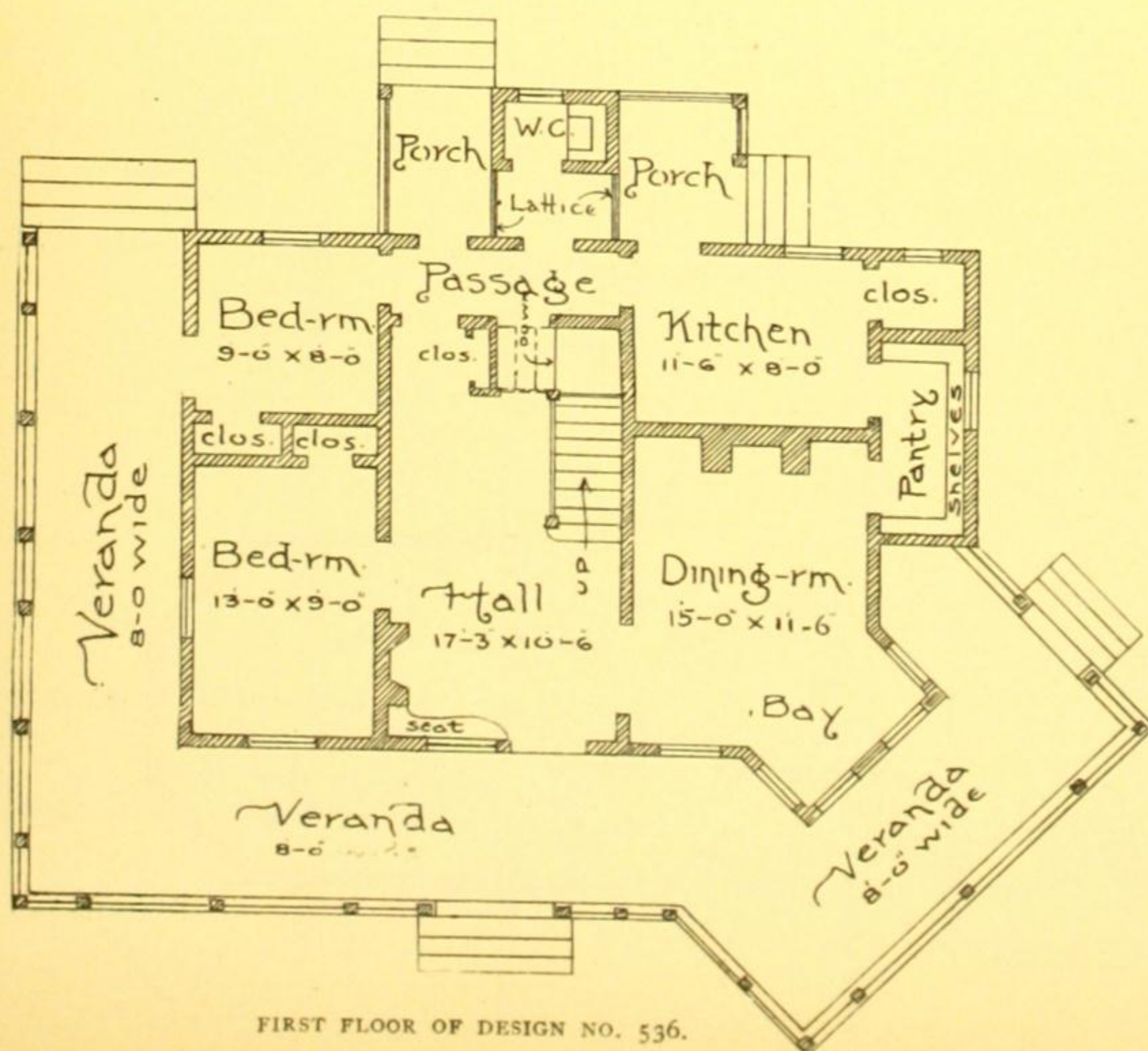
MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles. Interior—All walls covered with plaster boards; white pine trim; hardwood stairway.

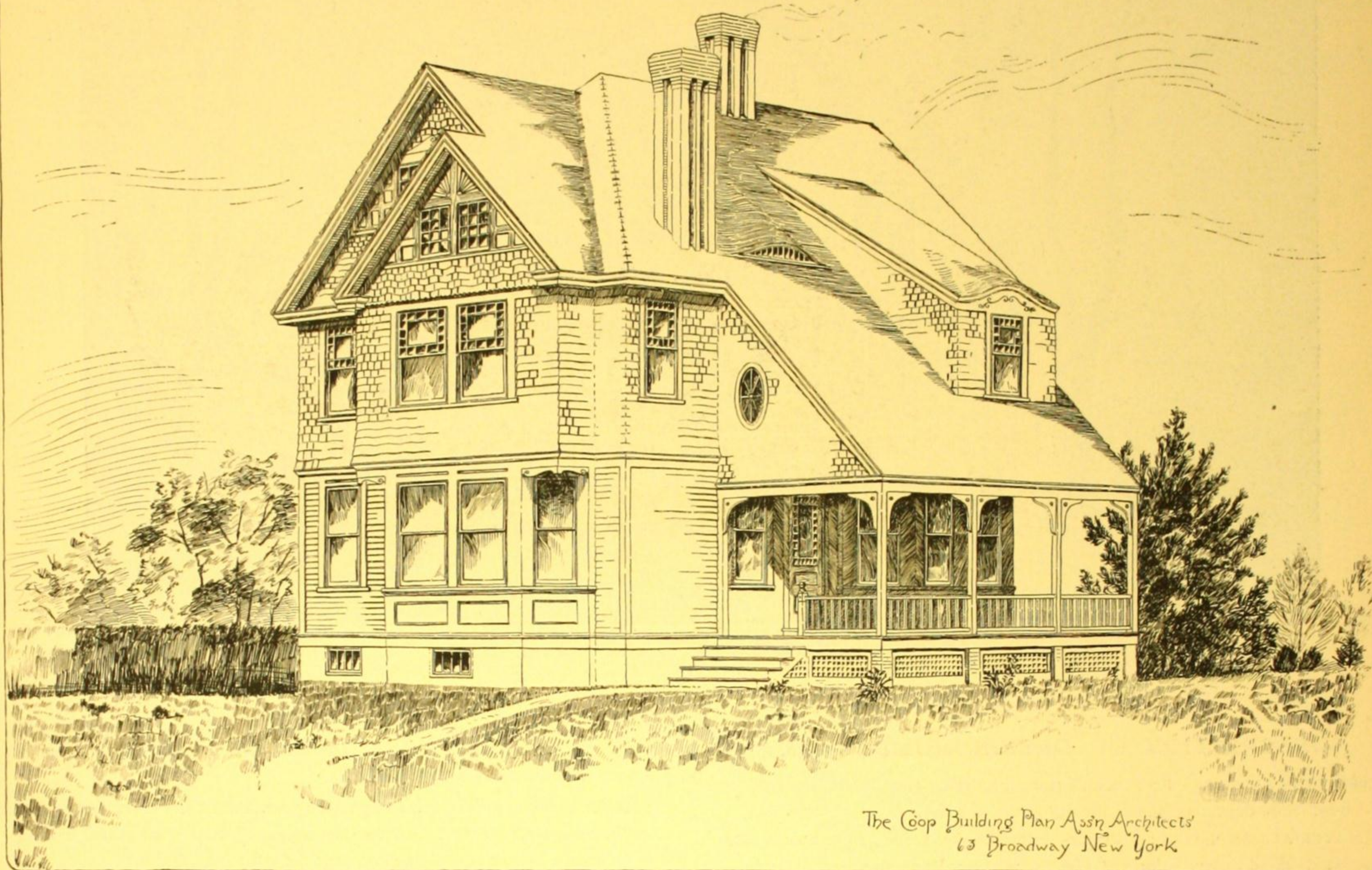
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar 18 ft. by 21 ft. Storage room in the attic.

COST: \$1,900 to \$3,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The wide difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.





PERSPECTIVE VIEW OF DESIGN NUMBER 537.

DESCRIPTION OF DESIGN NUMBER 537.

SIZE OF STRUCTURE: Front width, 23 ft. 2 in.; width through the dining-room and kitchen, 27 ft. 2 in., not including the veranda. Side depth, 38 ft. 6 in., not including the parlor bay nor the kitchen porch and pantry.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles. Interior—Trim throughout is hard pine, except the stairway which is cherry.

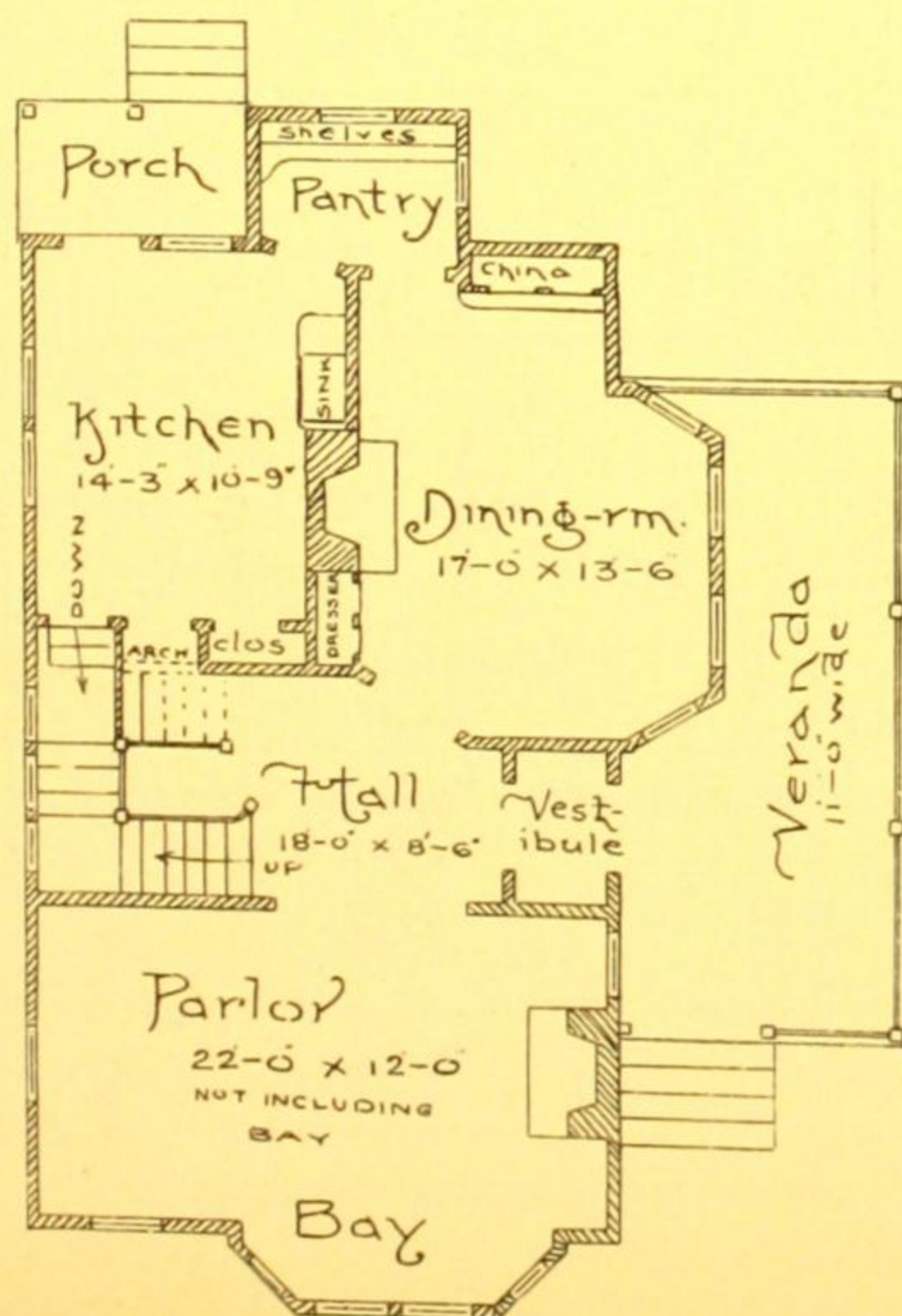
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under whole house. No

rooms are finished in the attic, but there is space for two rooms of fair size, if desired. A specially convenient and well planned house.

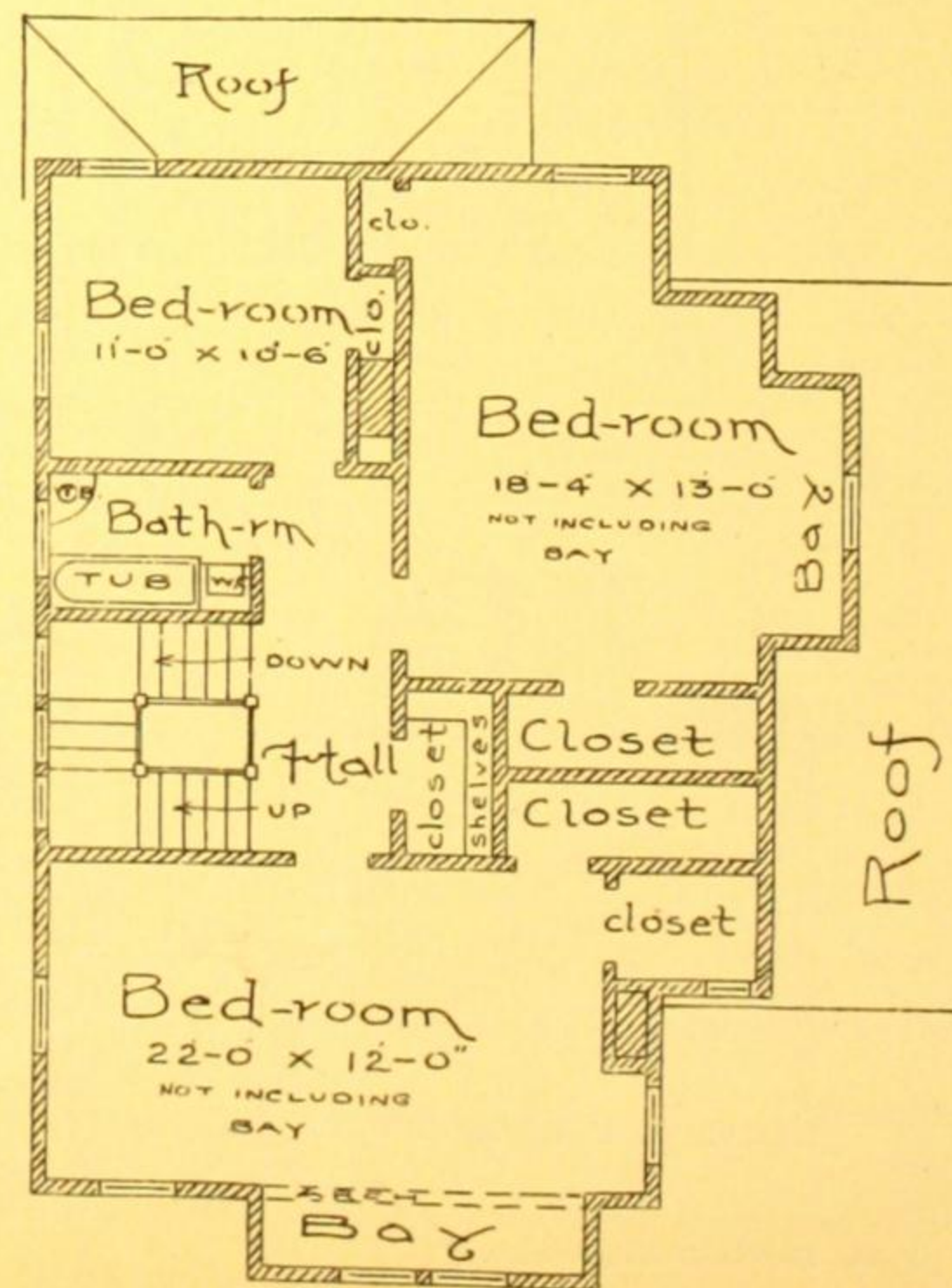
COST: \$2,300 to \$3,300, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

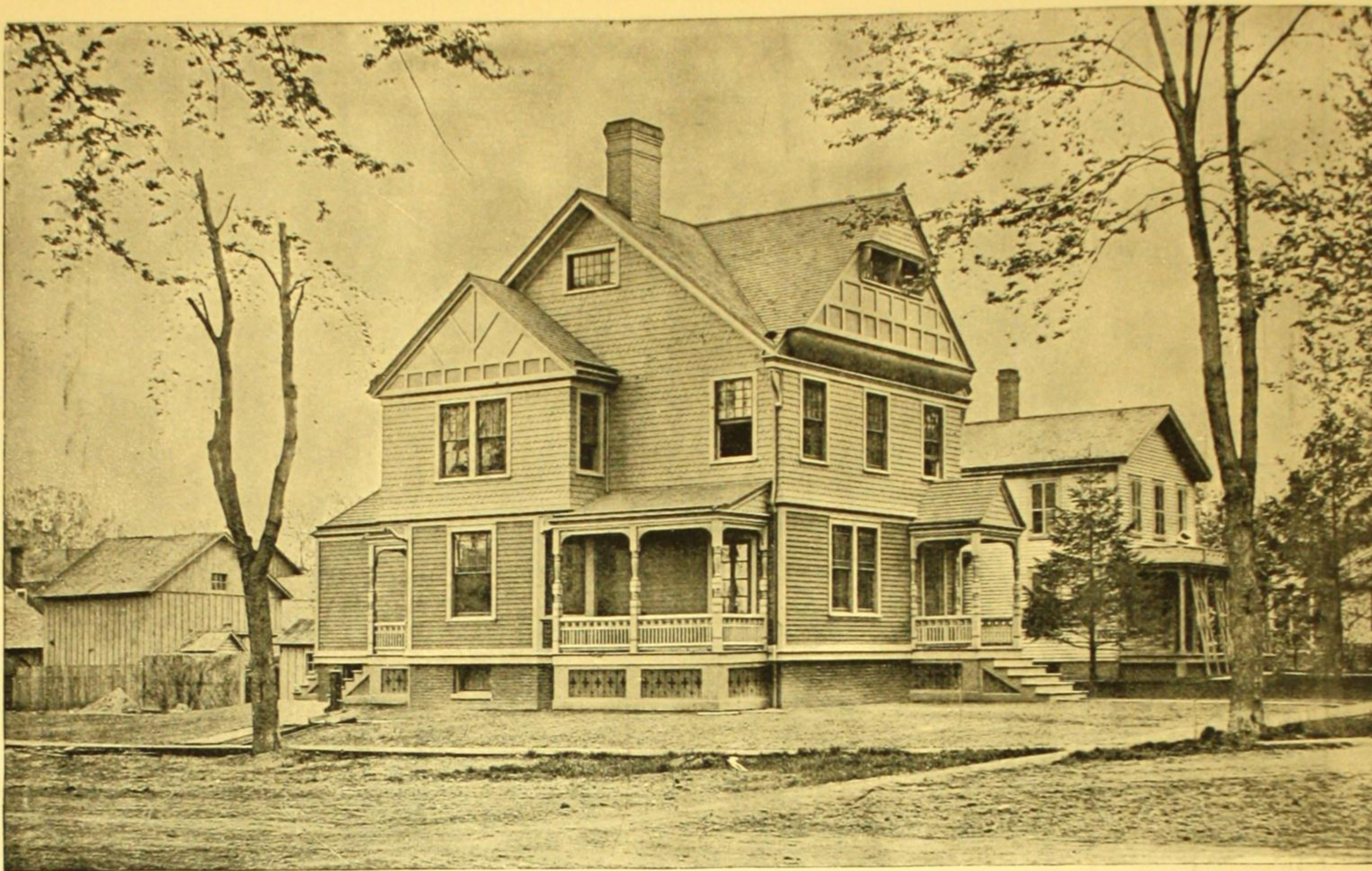
Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 537.



SECOND FLOOR OF DESIGN NO. 537.



PERSPECTIVE VIEW OF DESIGN NUMBER 538.

DESCRIPTION OF DESIGN NUMBER 538.

SIZE OF STRUCTURE: Front width (through dining-room and library), 31 ft. 6 in. Side depth, 43 ft., not including the porches.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, clapboards; Second Story, shingles; Gables, panels; Roof, shingles. Interior—Cellar floor cemented; trim throughout white pine; main stairway, hardwood.

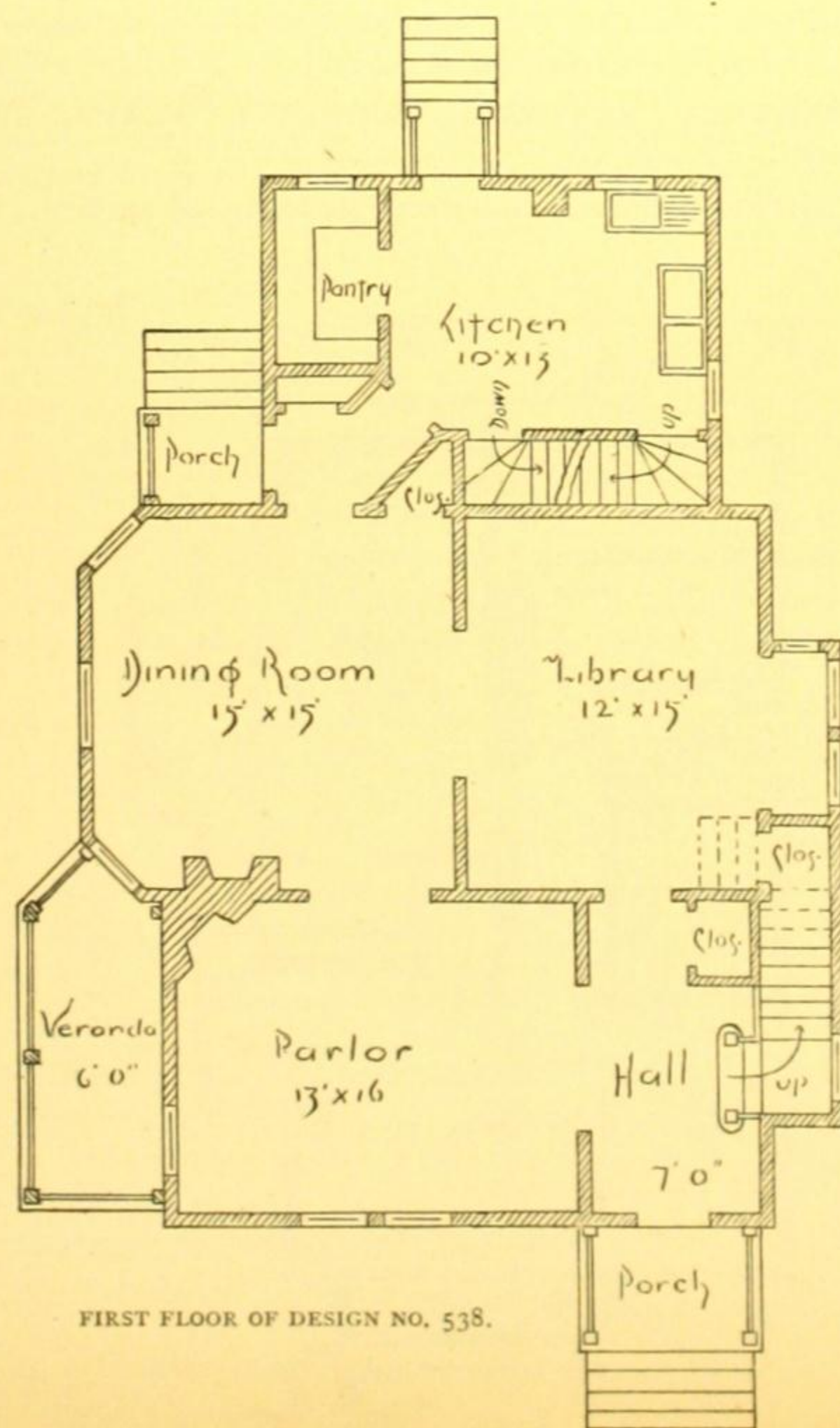
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under whole house and

space for two good rooms in attic. The side window in the parlor opens to the floor, affording access to the veranda.

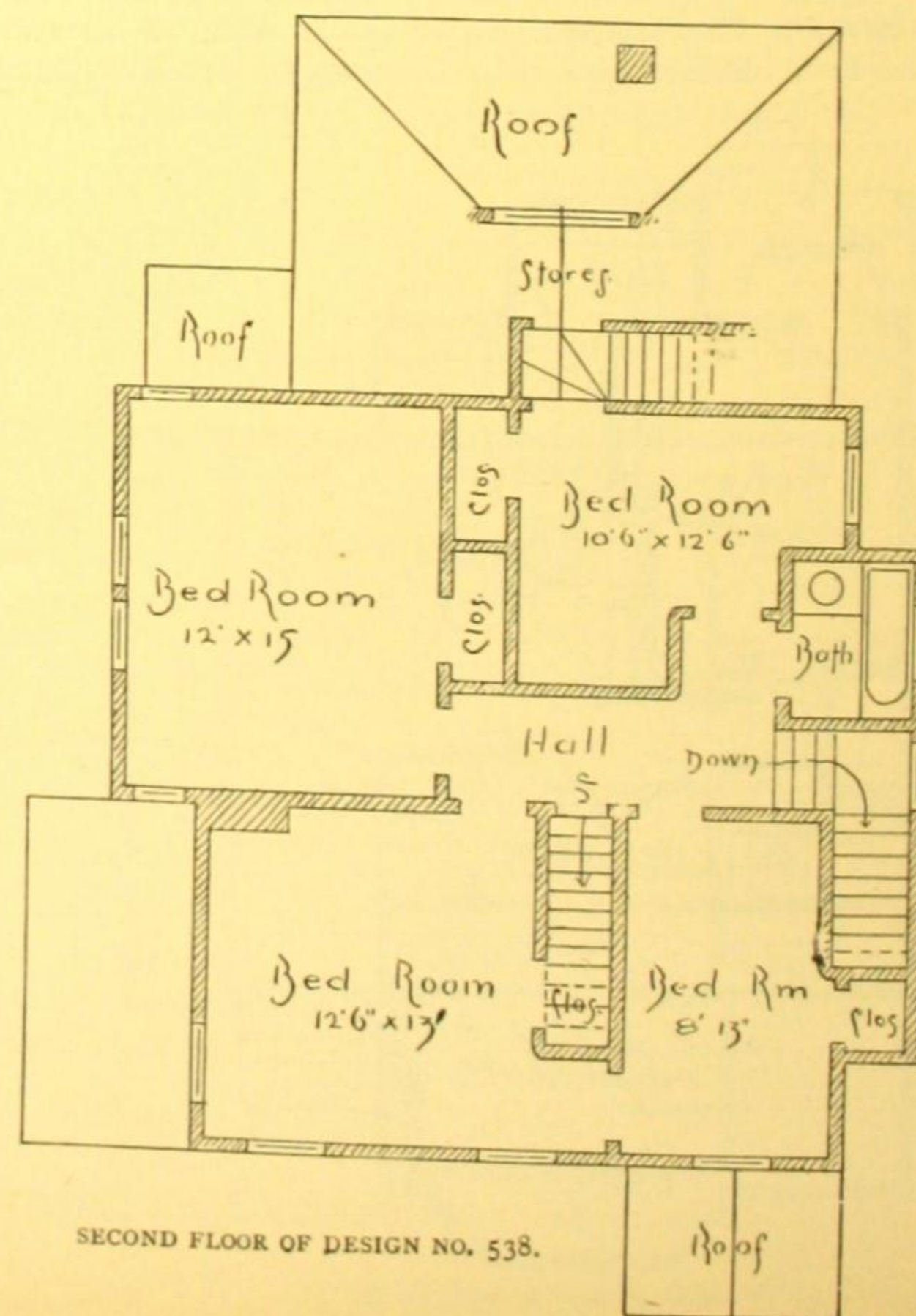
COST: \$2,800 to \$3,800, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 538.



SECOND FLOOR OF DESIGN NO. 538.



PERSPECTIVE VIEW OF DESIGN NUMBER 539.

DESCRIPTION OF DESIGN NUMBER 539.

SIZE OF STRUCTURE: Front width, 29 ft., not including the veranda or bay; width through the dining-room and library, 35 ft. Side depth, 47 ft. 6 in., not including the veranda.

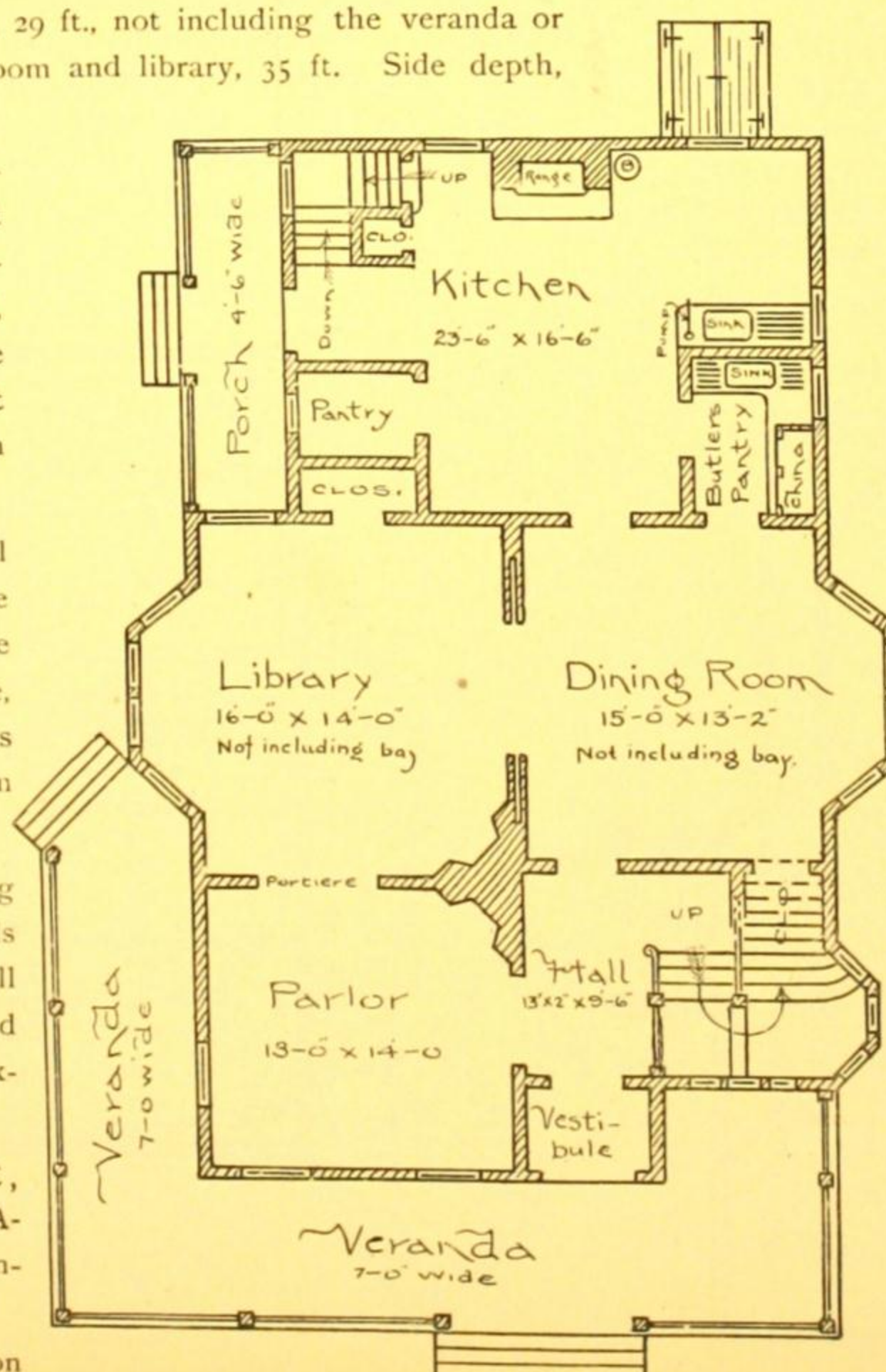
MATERIALS EMPLOYED: Exterior—Foundations, stone and brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, slate. Interior—Cement floor in the laundry, which is in the basement; soft wood finish throughout, except the main stairway.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under the whole house, and a passage and two large rooms finished in the attic. Also storage-room in the attic.

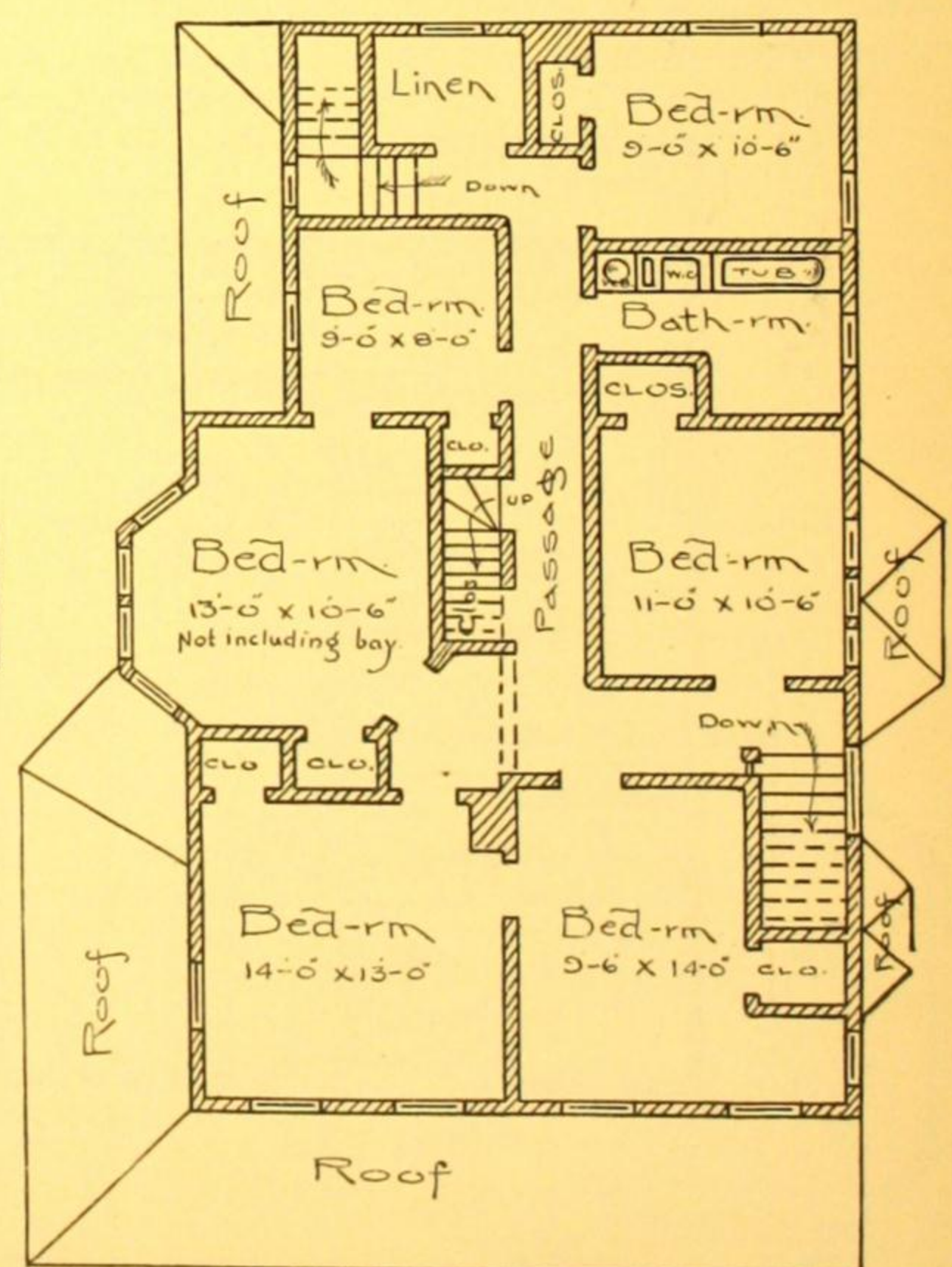
COST: \$2,800 to \$4,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

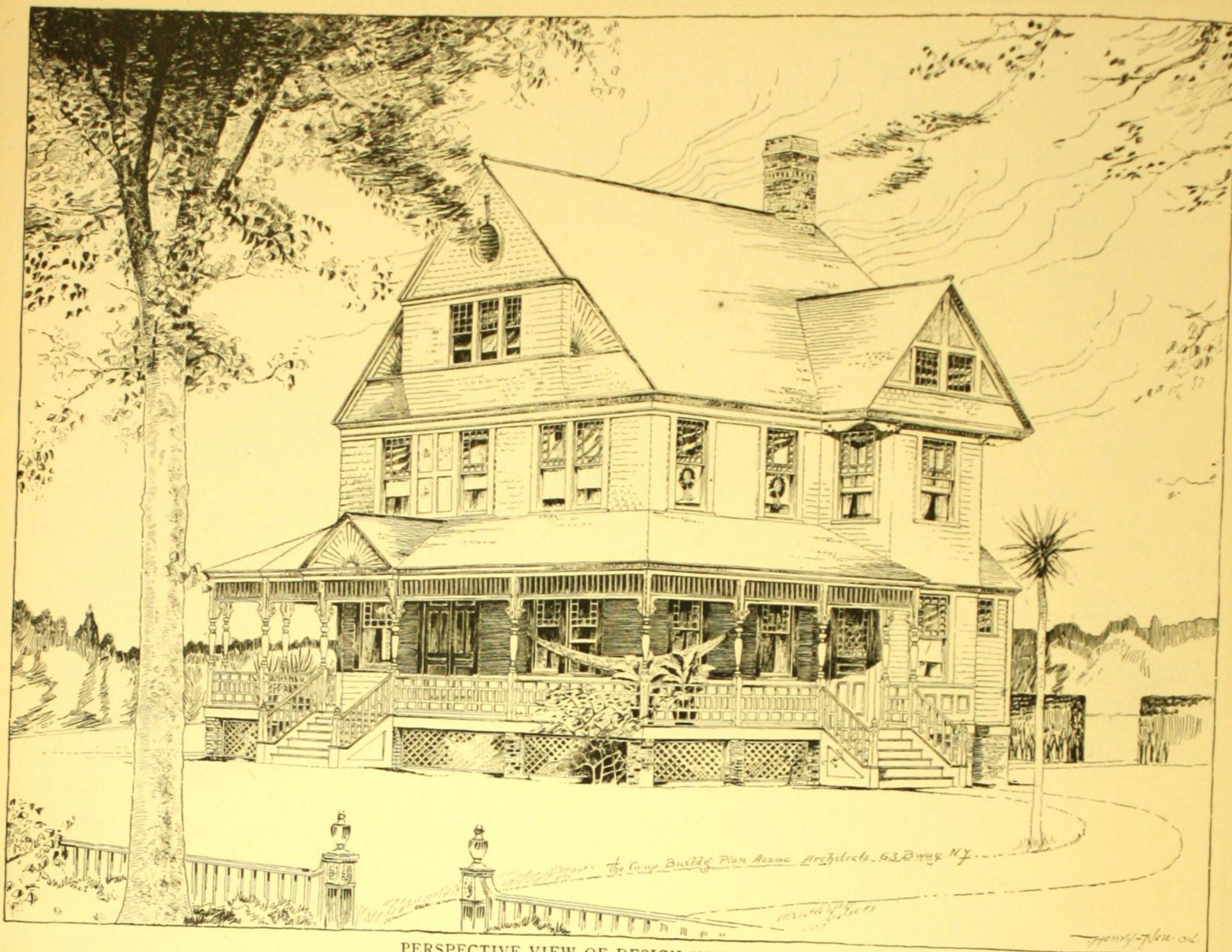
Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 539.



SECOND FLOOR OF DESIGN NO. 539.



PERSPECTIVE VIEW OF DESIGN NUMBER 540.

DESCRIPTION OF DESIGN NUMBER 540.

SIZE OF STRUCTURE: Front width, 30 ft. 10 in.; width through the dining-room bay, 34 ft. 8 in., not including the veranda. Side depth, 36 ft. 10 in., not including the veranda nor the kitchen porch.

MATERIALS EMPLOYED: Exterior—Foundations, brick; First Story, clapboards; Second Story, shingles; Gables, shingles and panels; Roof, shingles. Interior—Cellar floor cemented; hardwood staircase; trim, soft woods, stained in imitation of hard woods.

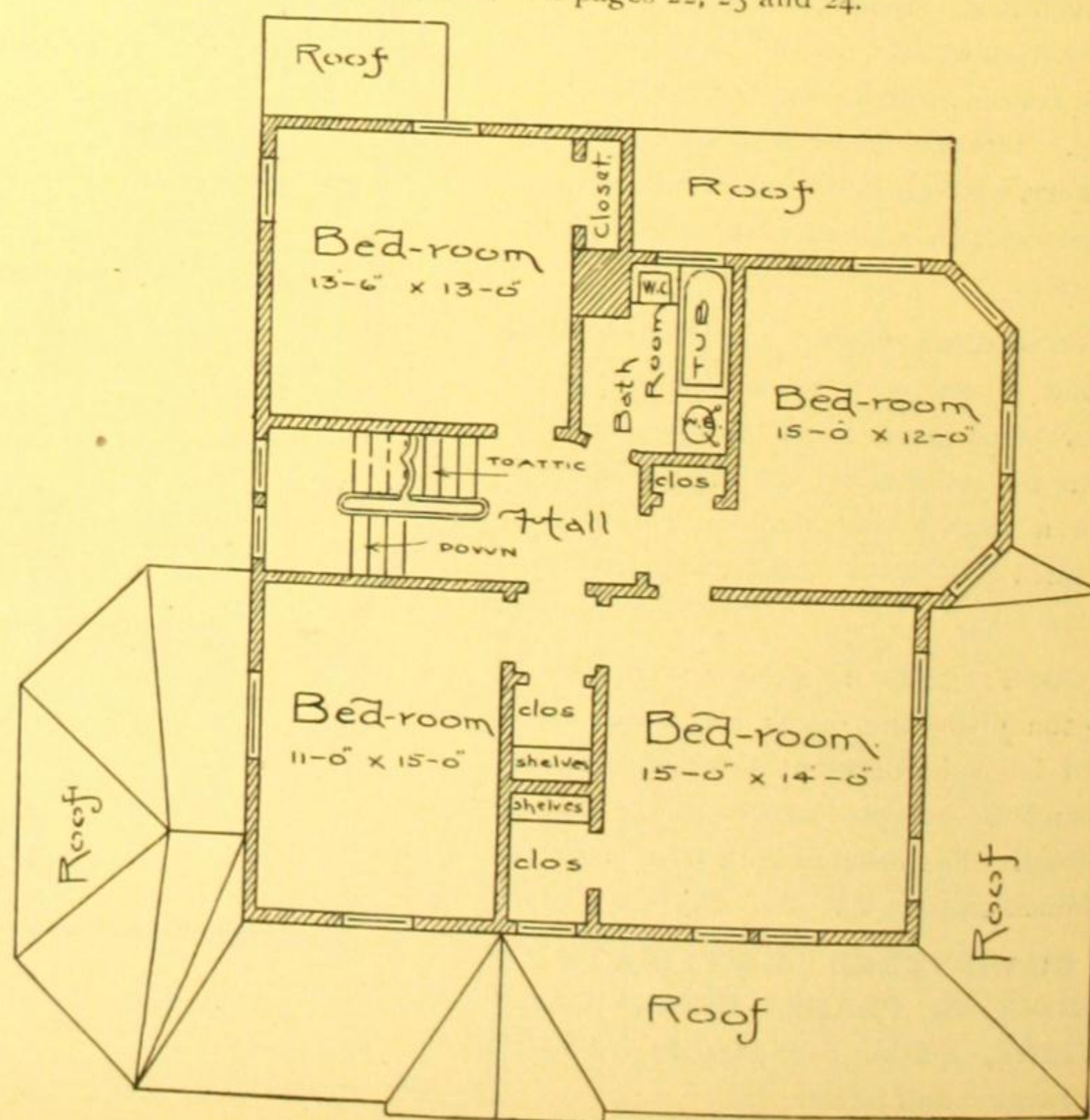
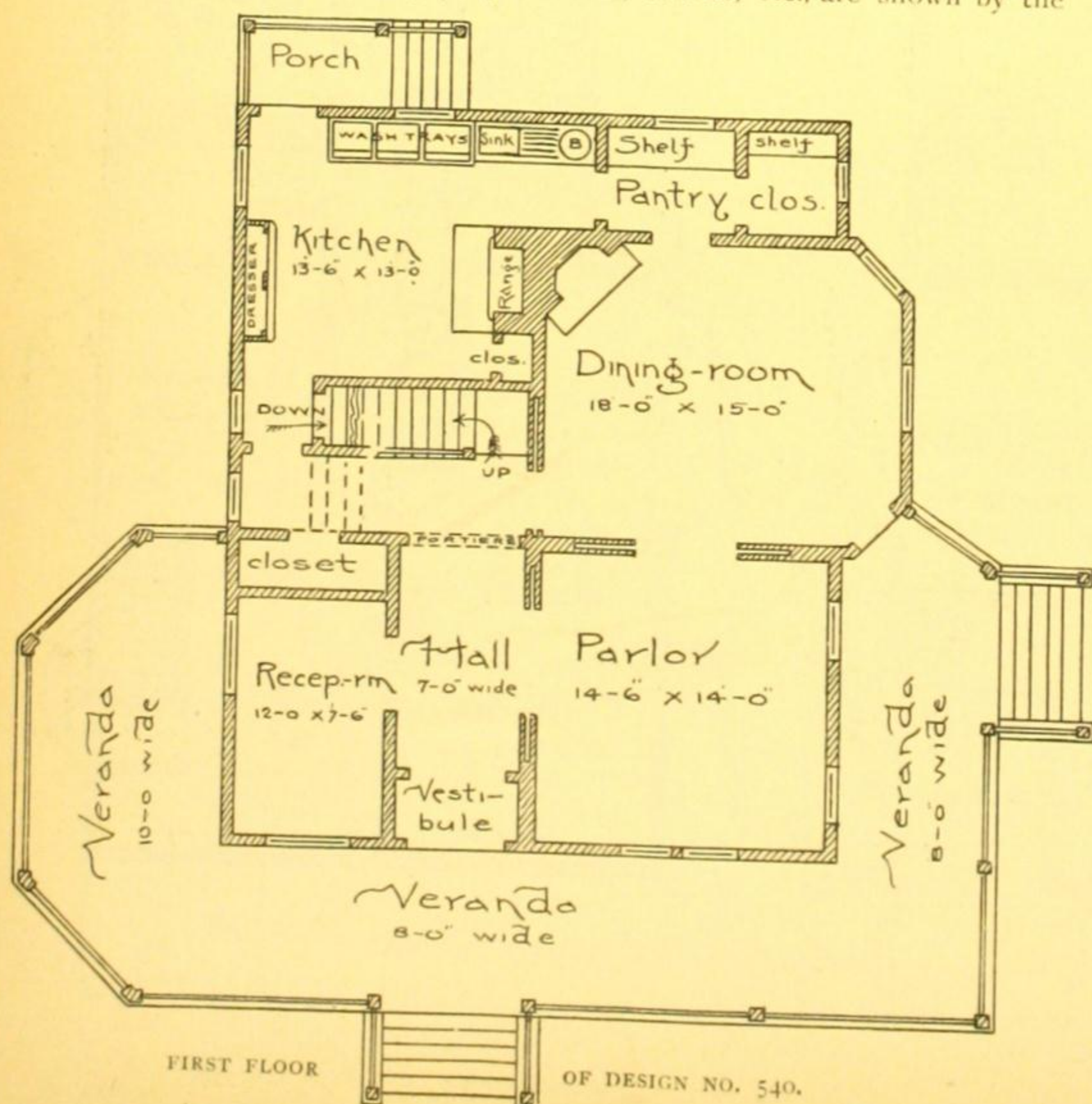
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the

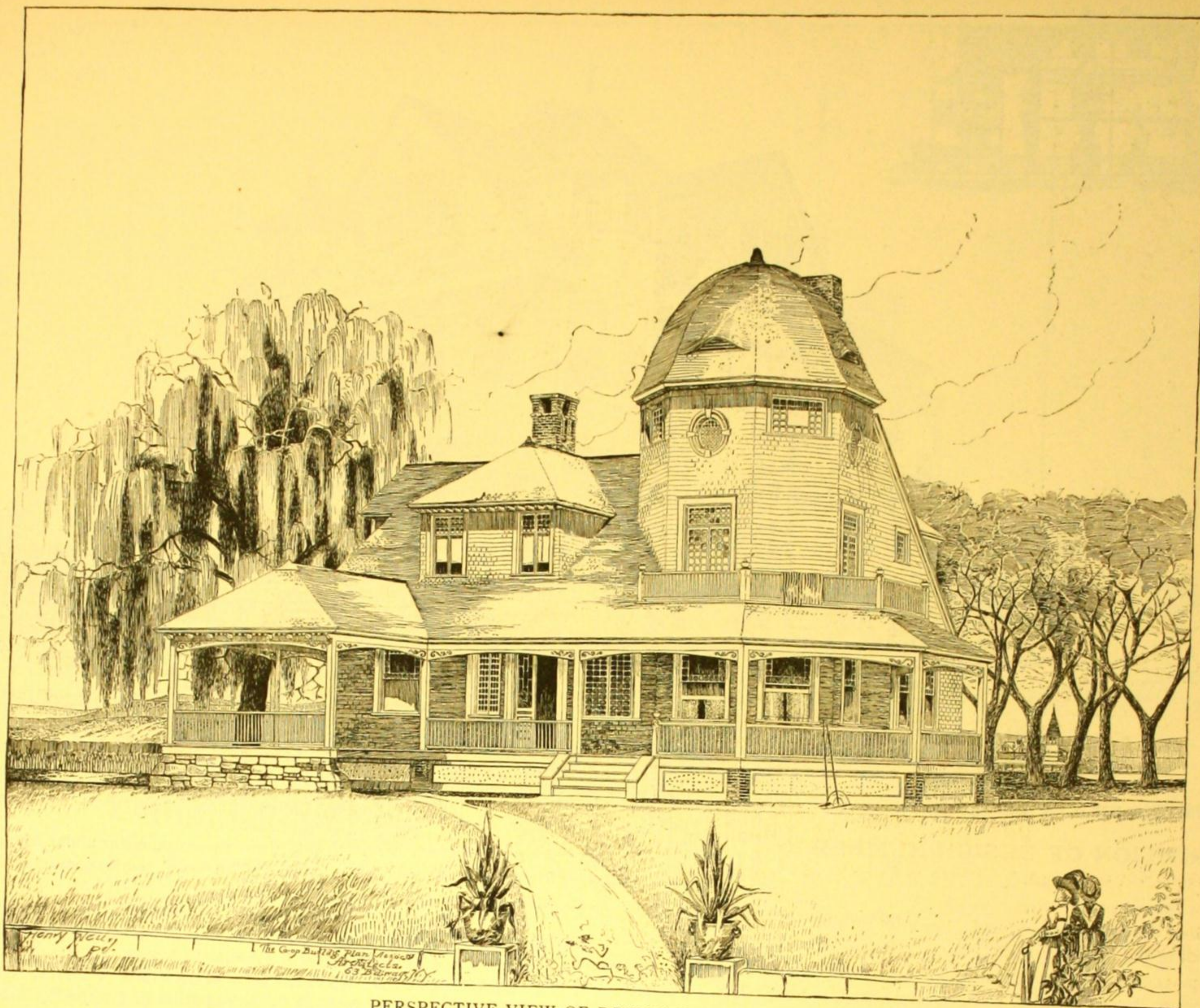
floor plans given here. Beside these there is a cellar under whole house, and one finished room in attic, with space for another. An attractive exterior and a very convenient interior.

COST: \$3,500 to \$5,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.





PERSPECTIVE VIEW OF DESIGN NUMBER 541.

DESCRIPTION OF DESIGN NUMBER 541.

SIZE OF STRUCTURE: Front width, 42 ft. 4 in., not including the veranda nor the dining-room bay. Side depth, 35 ft. 6 in., not including the veranda.

MATERIALS EMPLOYED: Exterior—Foundations, stone and brick; First Story, shingles; Second Story, shingles; Gables, shingles; Roof, shingles. Interior—Cemented cellar bottom; double floors in the First and Second Stories; hardwood finish in the hall, parlor and library.

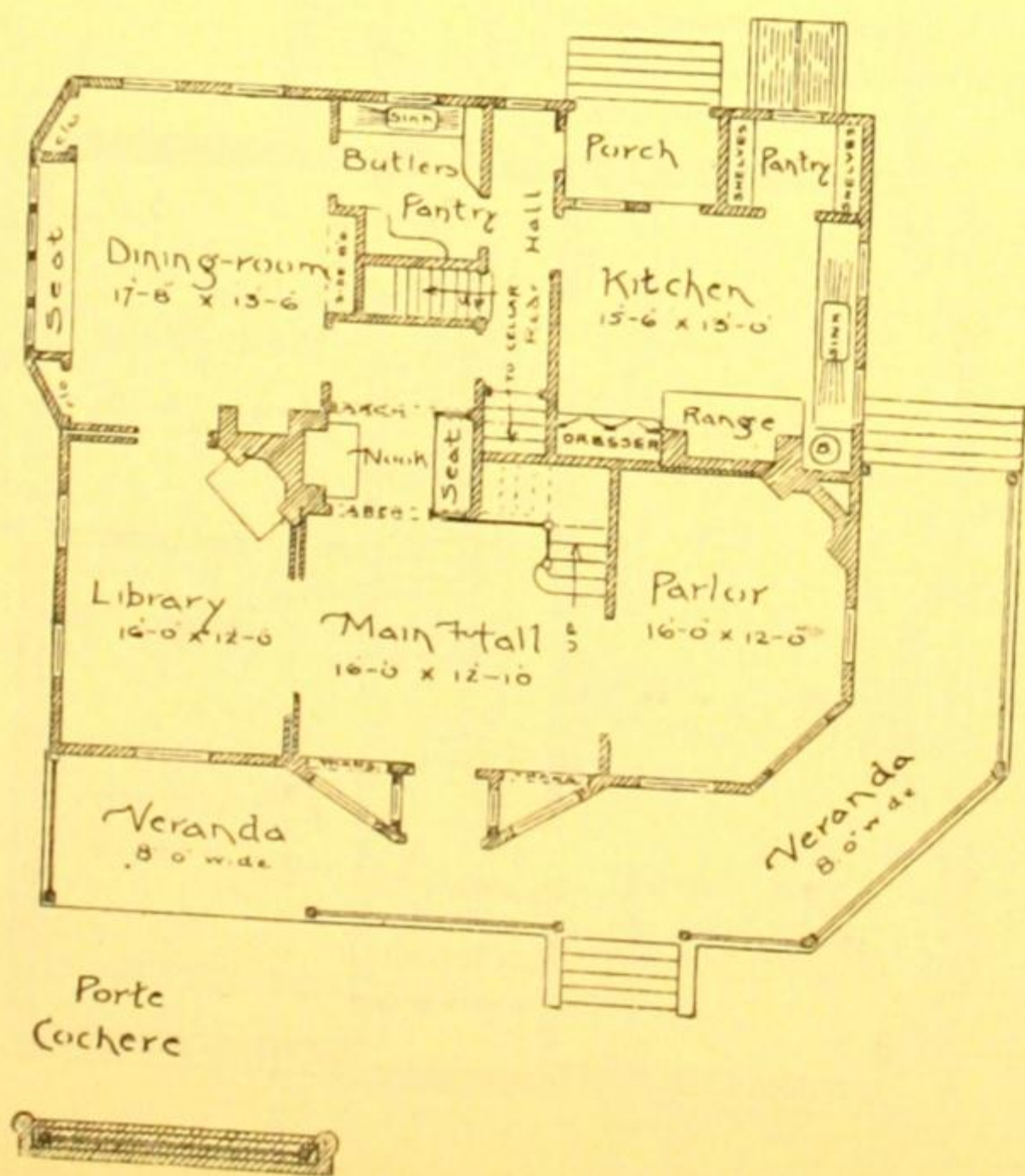
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under whole house and a studio in the tower. Laundry and servants' W. C. in the basement.

A picturesque and conveniently arranged house, originally designed for an artist.

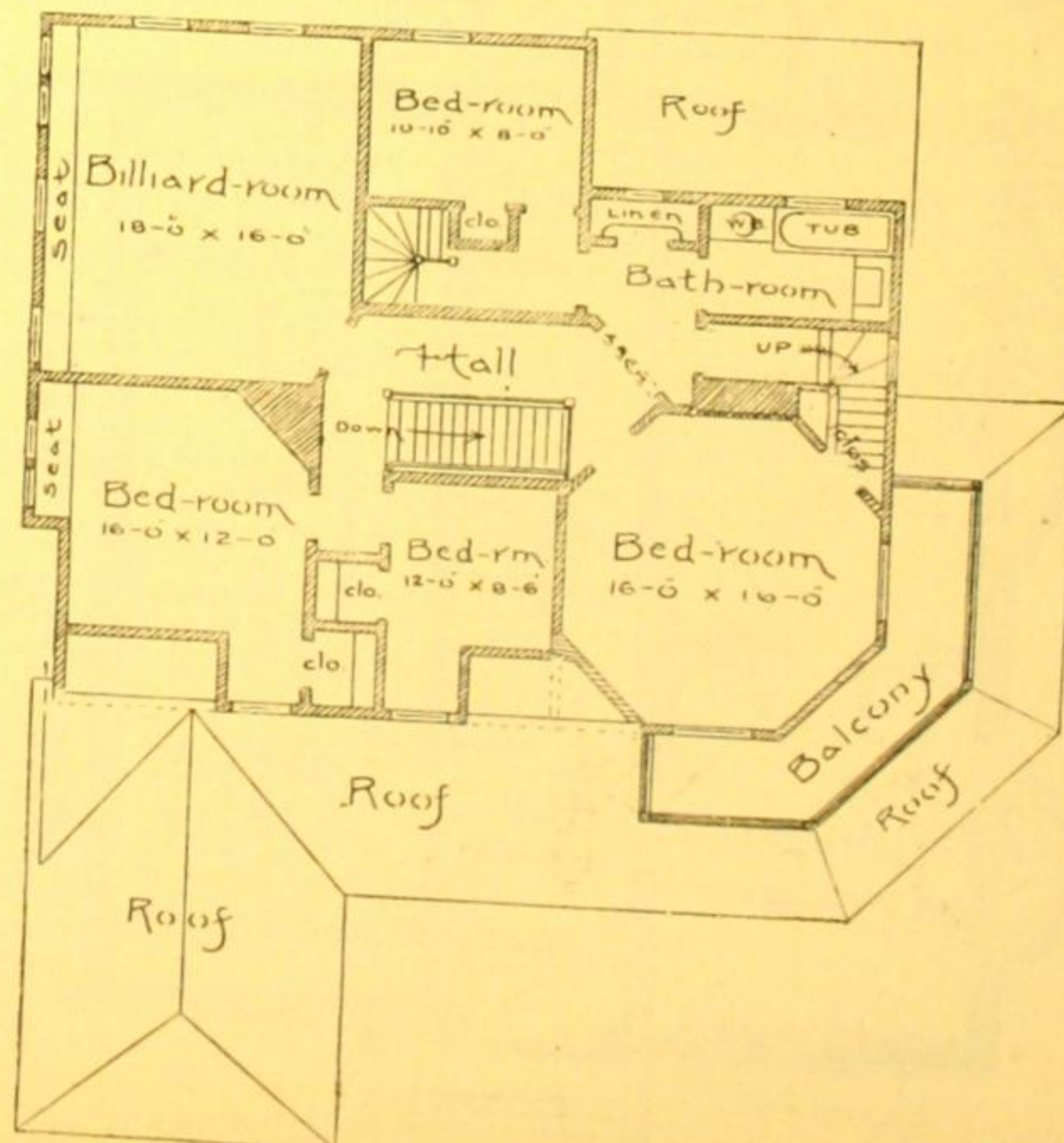
COST: \$4,800 to \$7,500, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

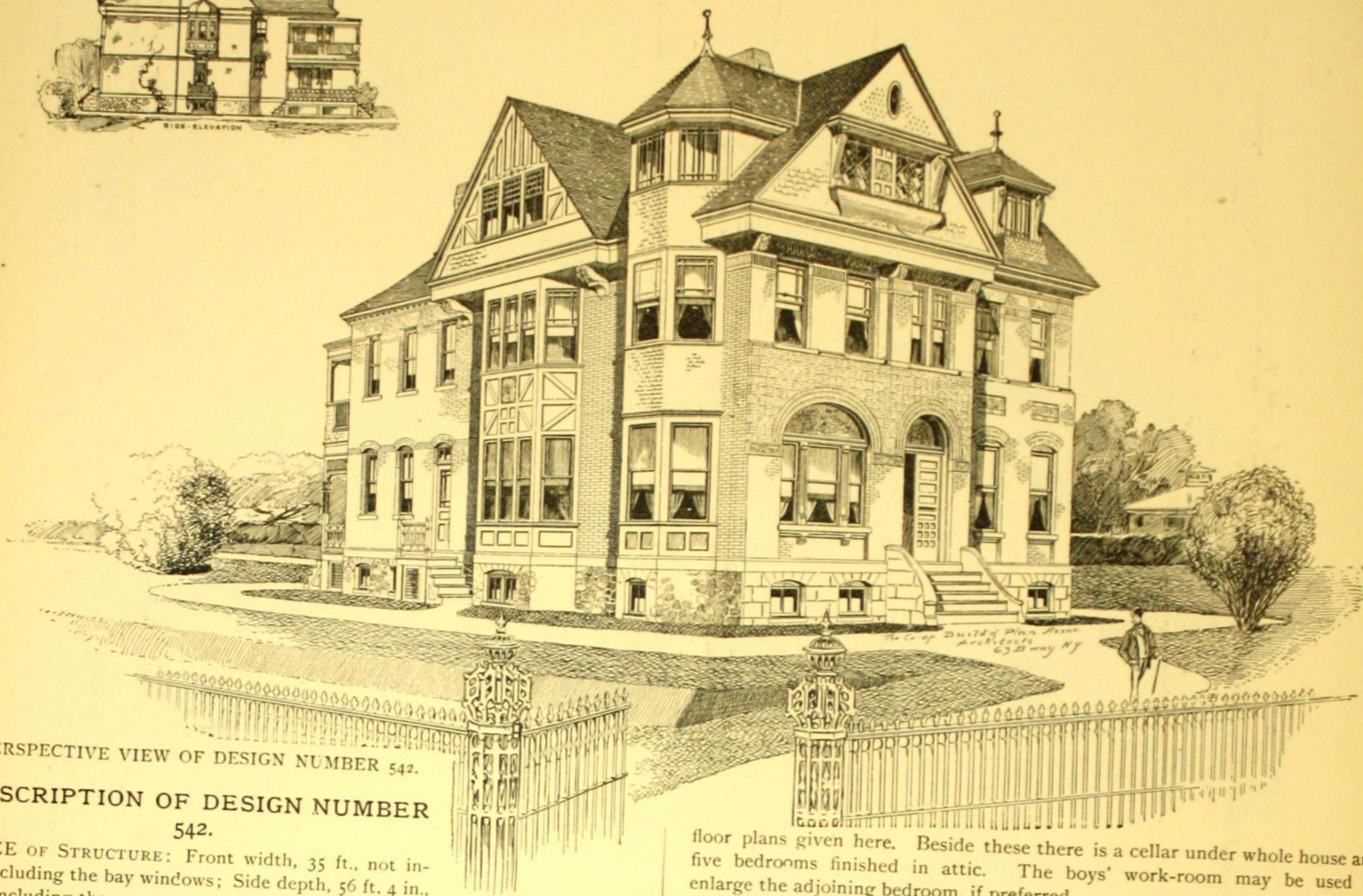
Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 541.



SECOND FLOOR OF DESIGN NO. 541.



PERSPECTIVE VIEW OF DESIGN NUMBER 542.

DESCRIPTION OF DESIGN NUMBER 542.

SIZE OF STRUCTURE: Front width, 35 ft., not including the bay windows; Side depth, 56 ft. 4 in., not including the rear veranda.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, brick; Second Story, brick; Gables, shingles and panels; Roof, slate. Interior—Cellar bottom cemented; hardwood finish in parlor, hall, library and main stairs.

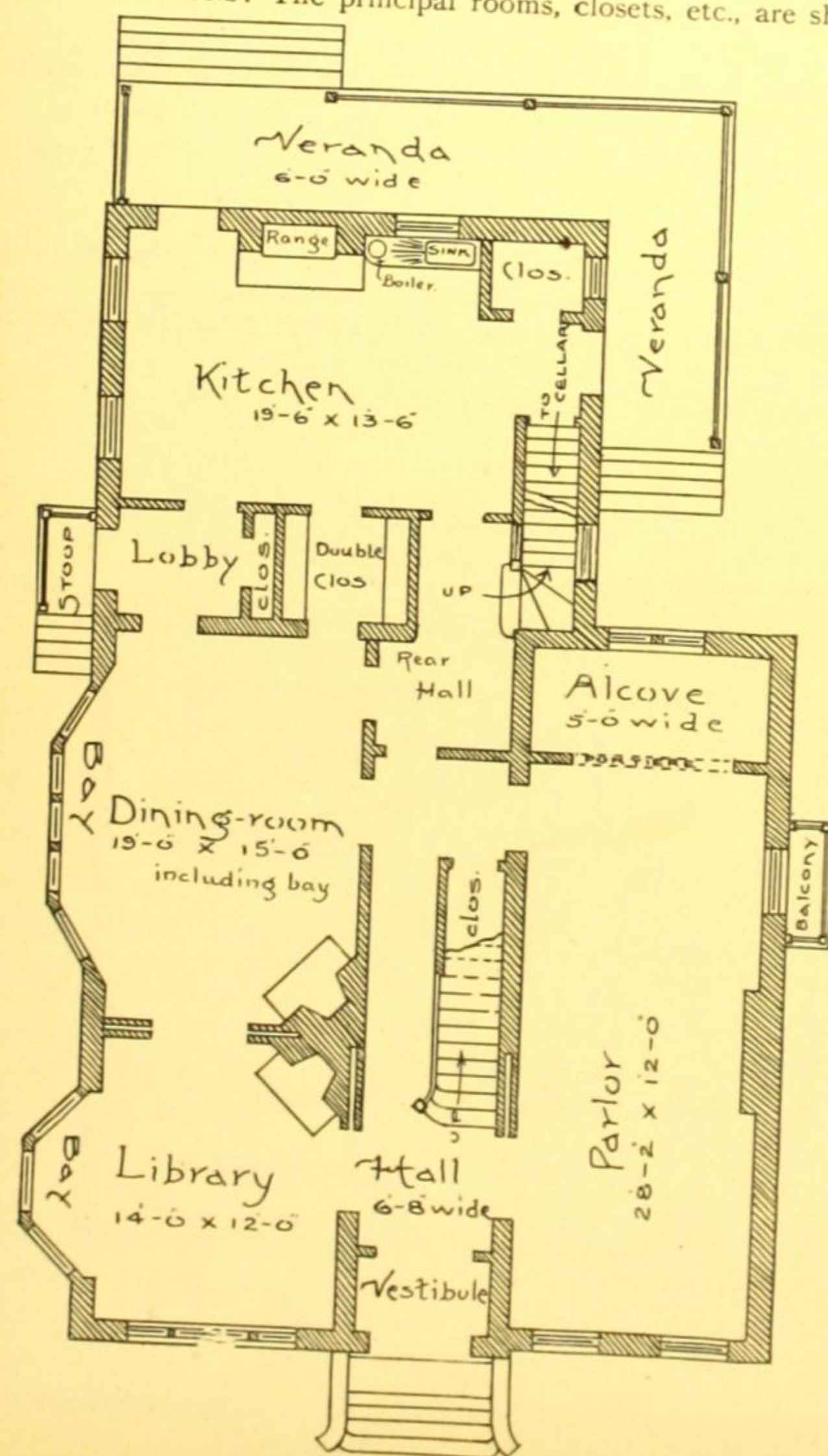
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the

floor plans given here. Beside these there is a cellar under whole house and five bedrooms finished in attic. The boys' work-room may be used to enlarge the adjoining bedroom, if preferred.

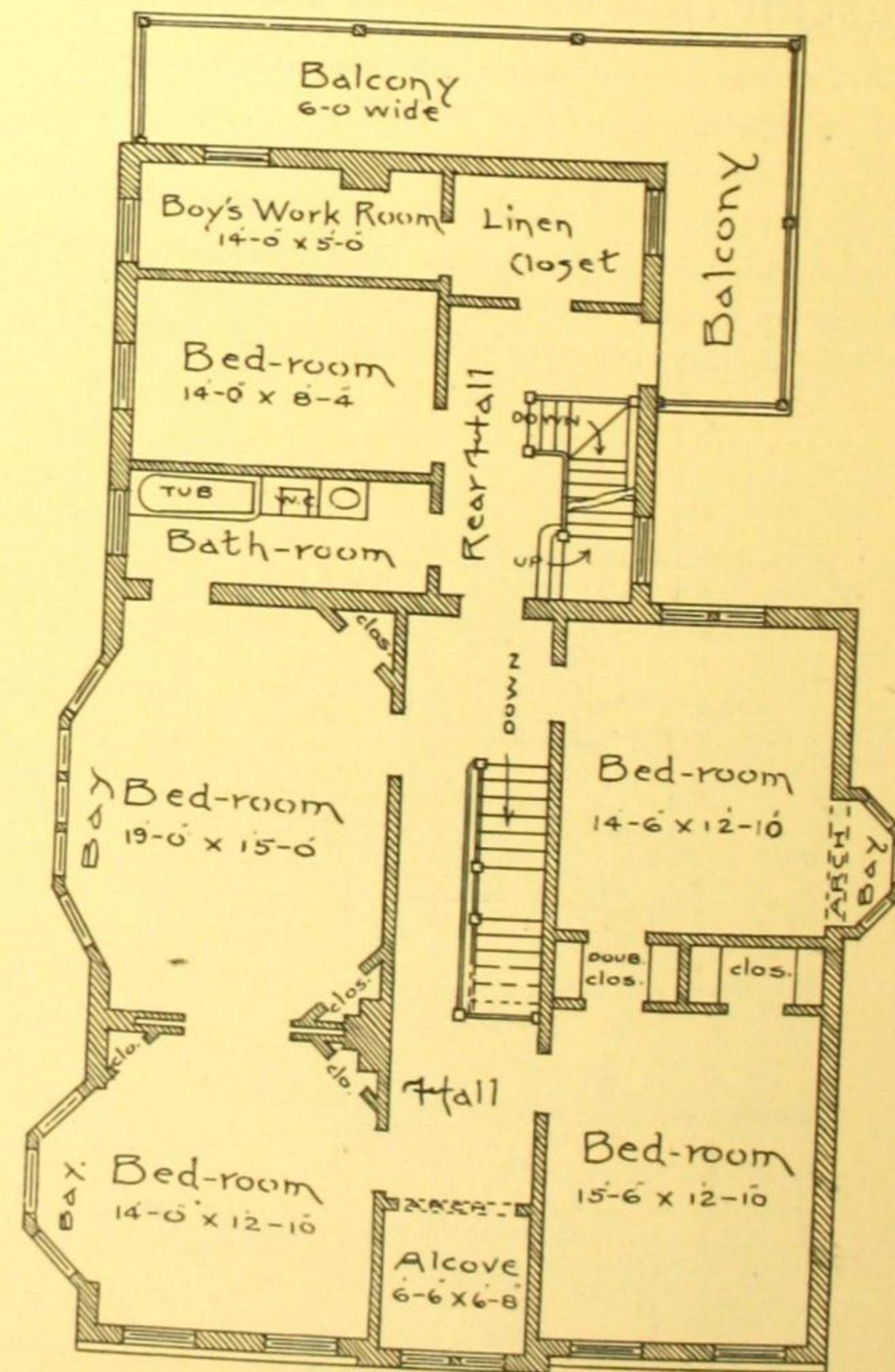
COST: \$5,500 to \$8,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

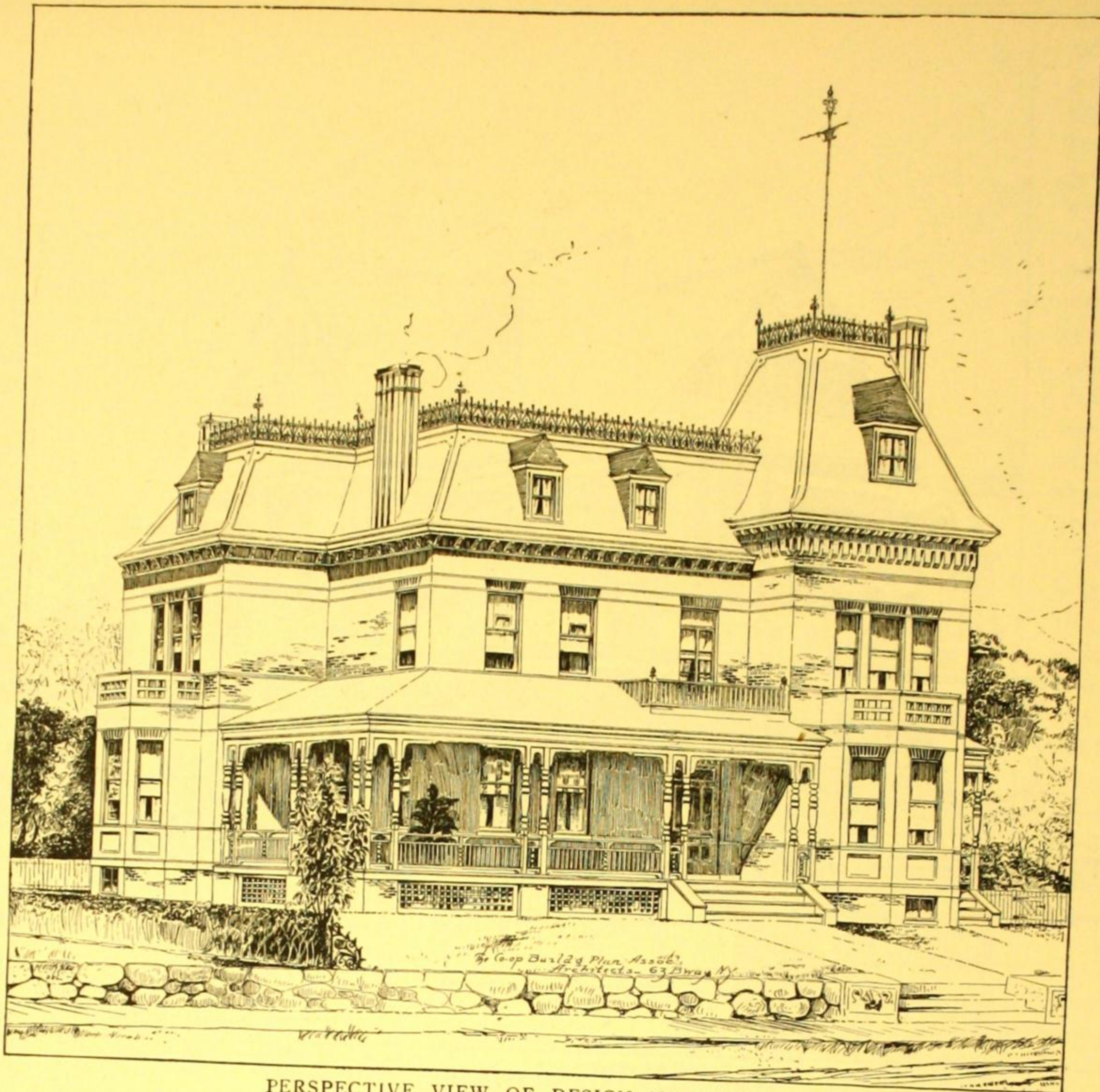
Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 542.



SECOND FLOOR OF DESIGN NO. 542.



PERSPECTIVE VIEW OF DESIGN NUMBER 543.

DESCRIPTION OF DESIGN NUMBER 543.

SIZE OF STRUCTURE: Front width, 48 ft., not including the verandas; width through dining-room, hall, nursery and chamber, 57 ft. 6 in., not including the bay or veranda. Side depth, 69 ft. 4 in., not including the parlor bay.

MATERIALS EMPLOYED: Exterior—Foundations, brick; First Story, brick. Second Story, brick; Roof, slate and tin. Interior—First and Second Stories finished with yellow pine; the main stairway is oak.

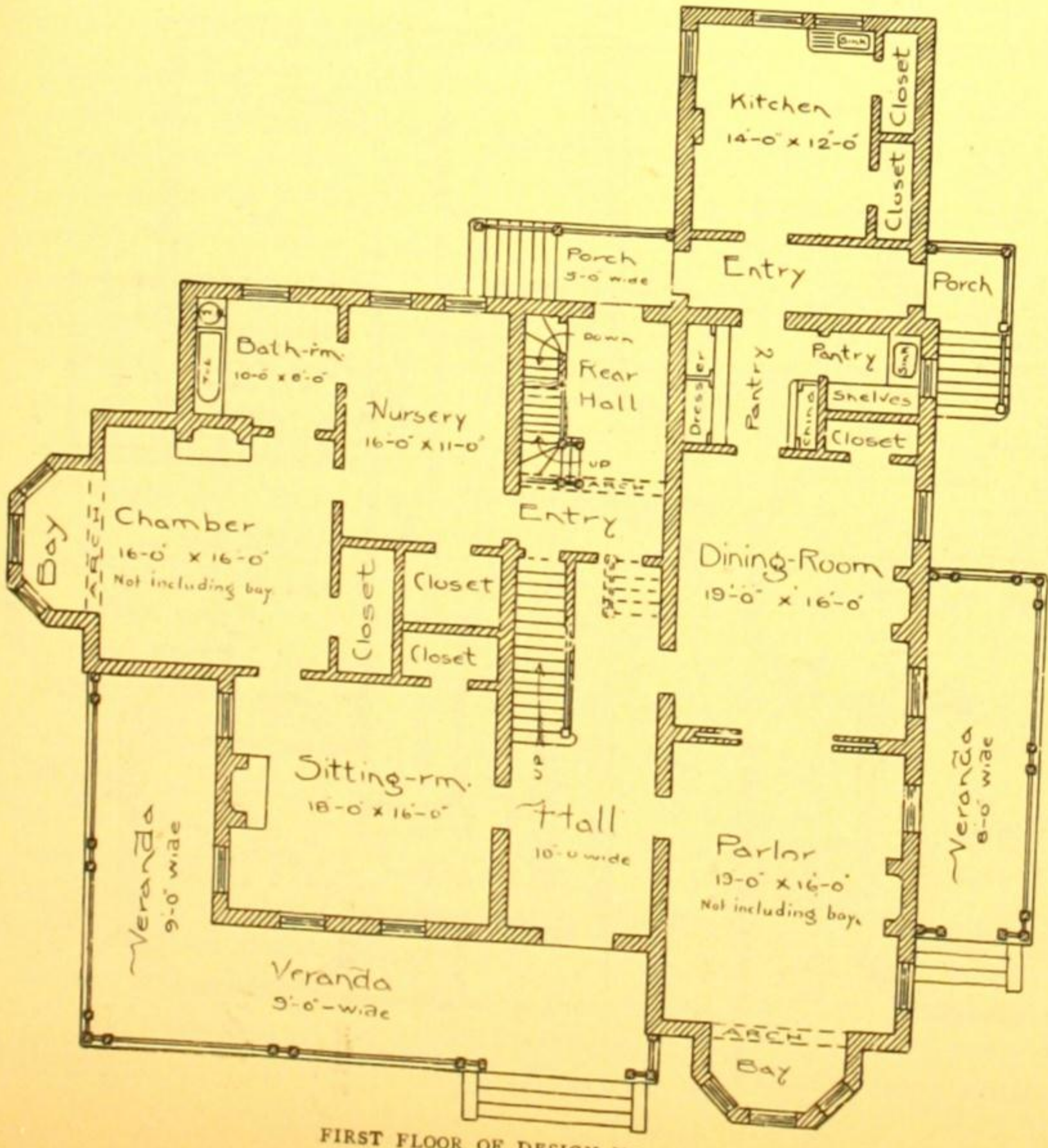
ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the

floor plans given here. Beside these there is a cellar under whole house, laundry and work-shop in the basement, and space for five or six bedrooms on the third floor.

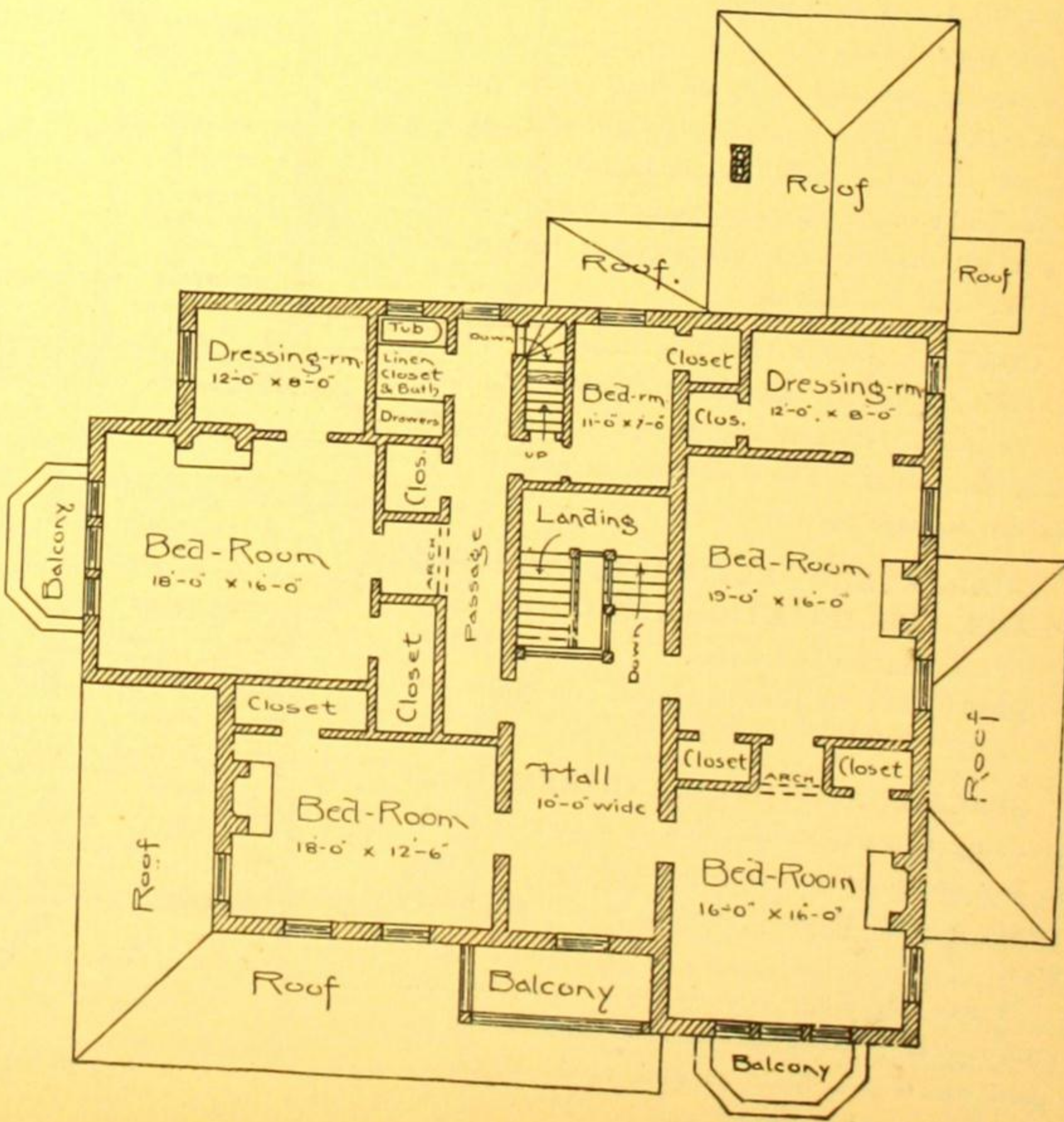
COST: \$7,500 to \$10,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels, range and heater. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

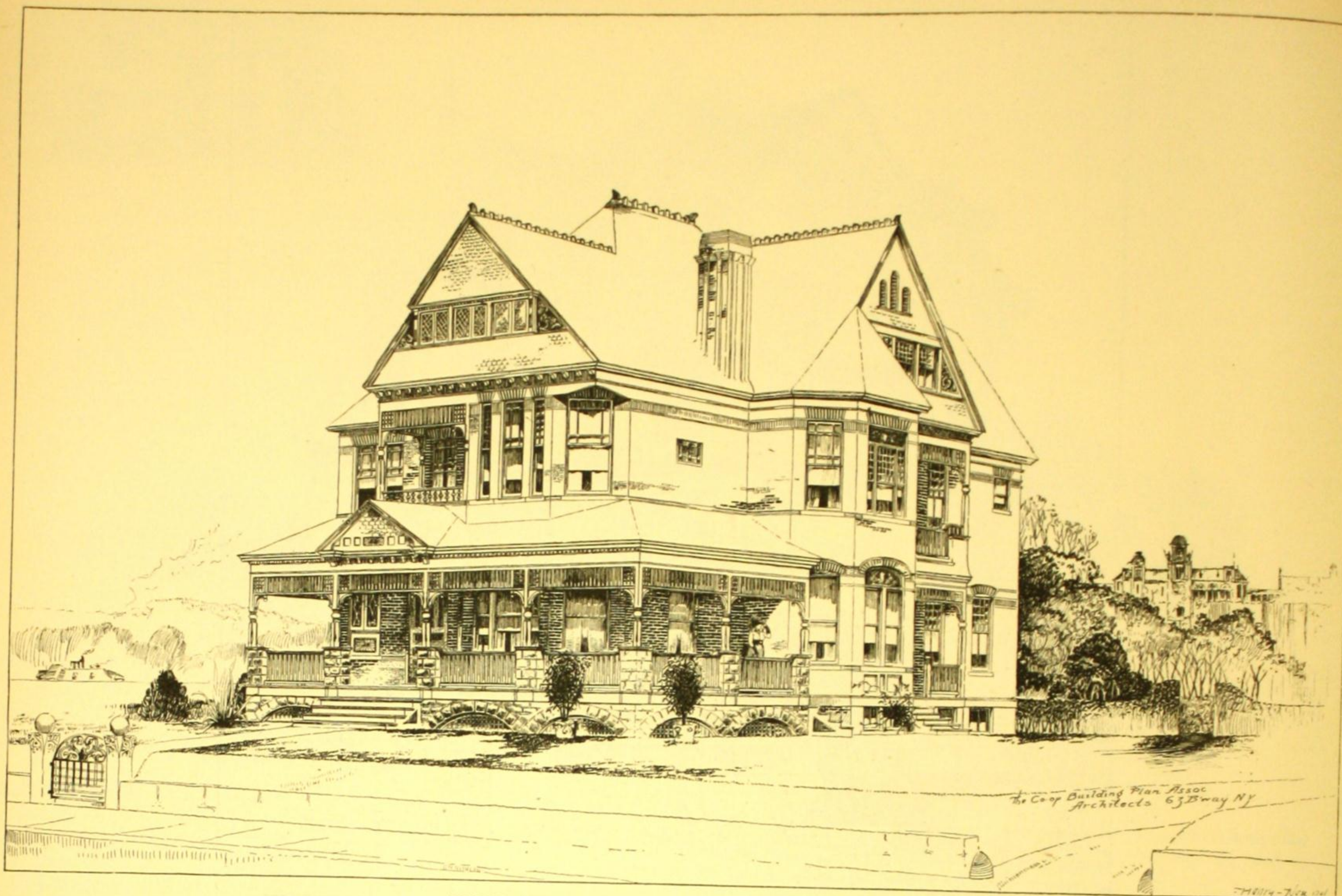
Read "How to Build a House," on pages 22, 23 and 24.



FIRST FLOOR OF DESIGN NO. 543.



SECOND FLOOR OF DESIGN NO. 543.



PERSPECTIVE VIEW OF DESIGN NUMBER 544.

DESCRIPTION OF DESIGN NUMBER 544.

SIZE OF STRUCTURE: Front width, 33 ft., 6 in., not including the veranda; width through the dining and sitting rooms, 47 ft. Side depth, 65 ft. 6 in., not including the veranda and porch.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, brick; Second Story, brick; Gables, tiles; Roof, slate. Interior—Cement floor in cellar; house finished throughout with hard woods.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there are accommodations as follows—A cellar under whole house; four bedrooms and storage and trunk rooms in attic; store closet, laundry with set tubs, servants' bath-room and W. C. in the basement.

COST: \$10,000 to \$18,000, according to the prevailing prices for materials and labor in different localities. All complete, except heating apparatus and range. The difference in cost is explained on page 23.

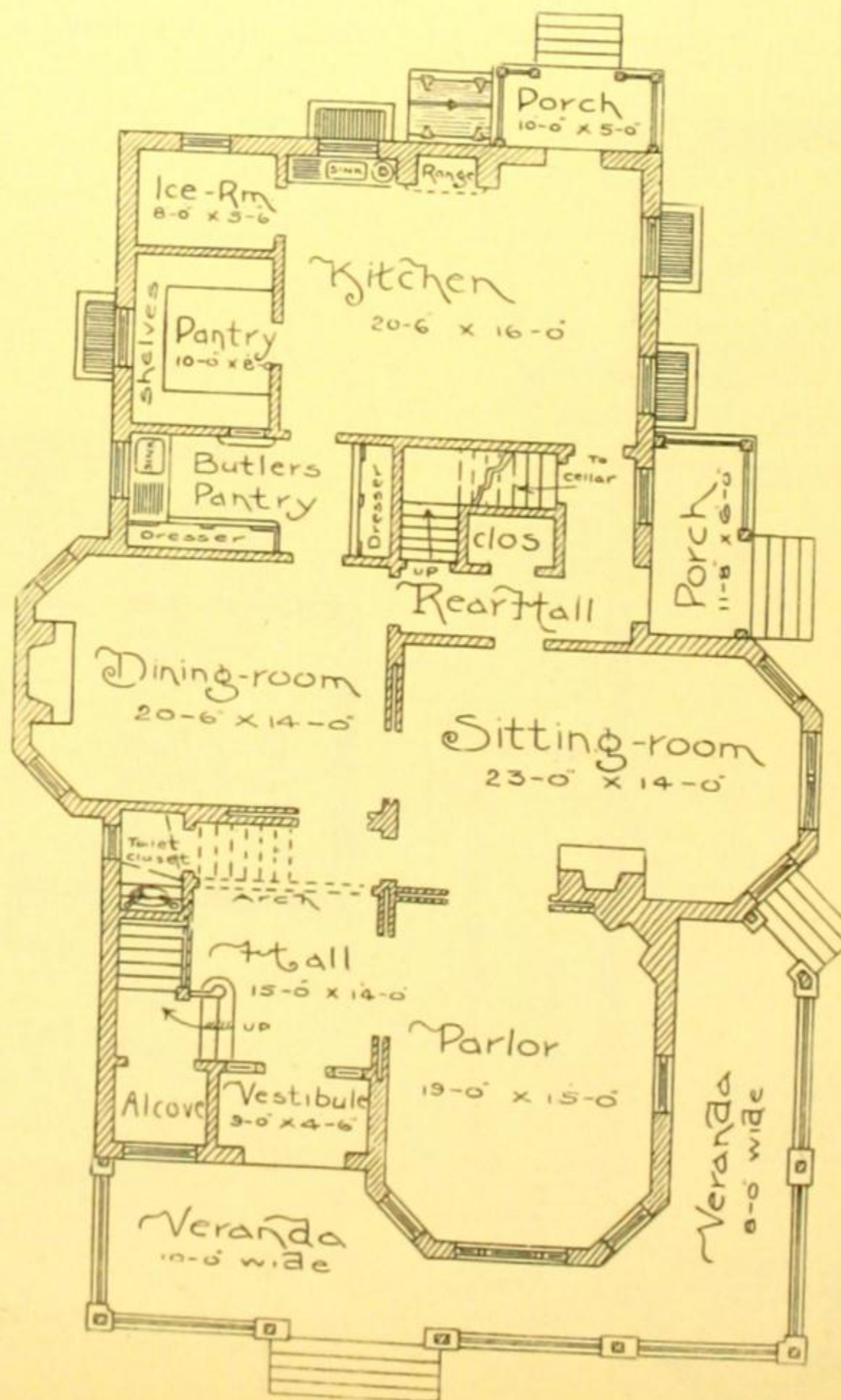
GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.

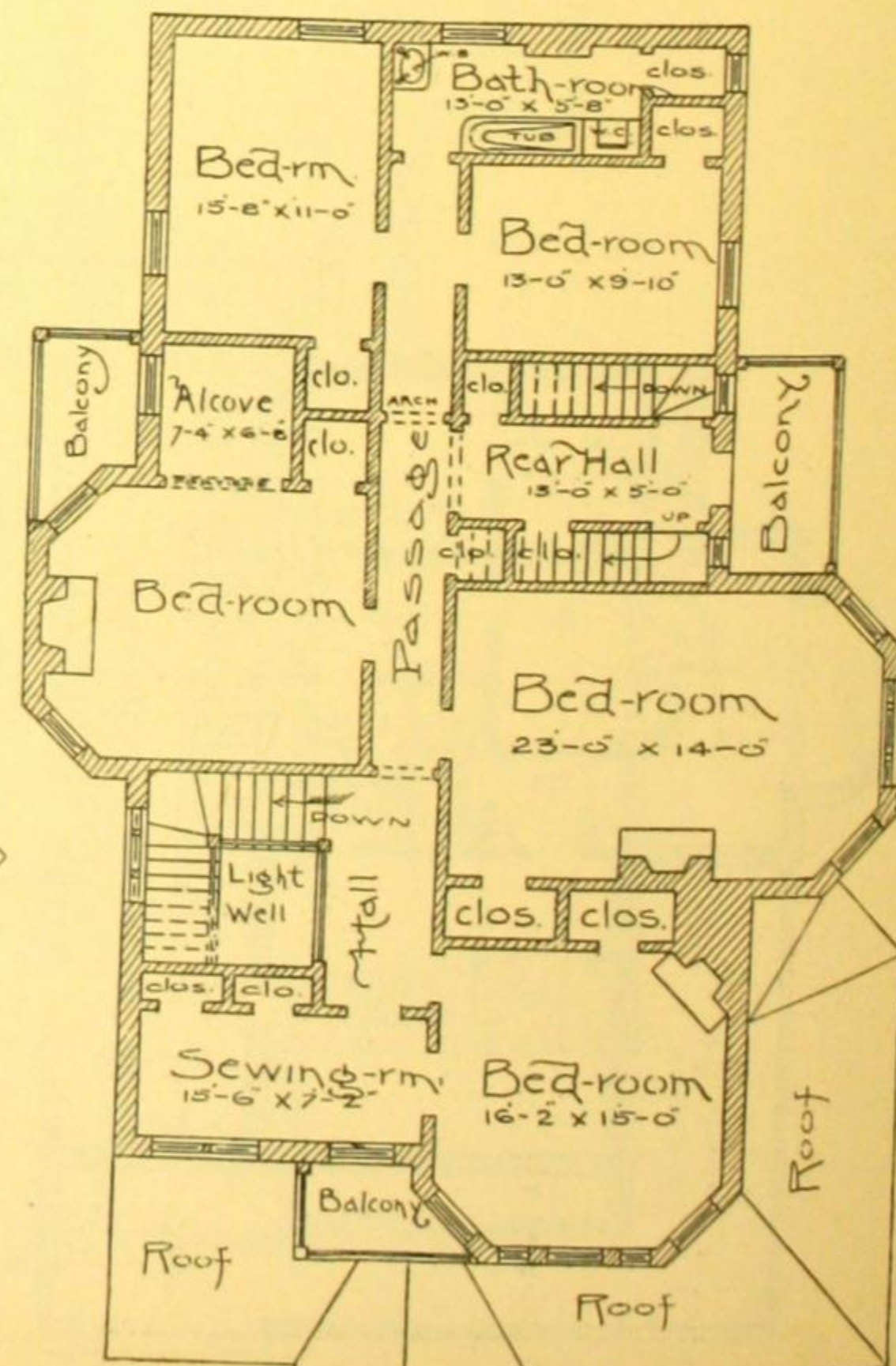
SPECIAL FEATURES AND REMARKS: Building a mansion like this is a notable event in any community. It is pointed out to every visitor as one of the "sights" of the neighborhood.

A new building, even of small size and low cost, if it be artistic, increases the value of the lot upon which it is built as well as the adjoining lots; a fine large building may be said to proportionally increase the value of the land. A house

like this placed near the centre of a plot that is several acres in extent, with a corresponding barn and some attention paid to landscape gardening, will be popularly known as about a "fifty thousand dollar place." The bare plot may have been worth but \$100 an acre; the improvements increase the value of land ten, perhaps twenty, fold.



FIRST FLOOR OF DESIGN NO. 544.



SECOND FLOOR OF DESIGN NO. 544.

**DESCRIPTION OF
DESIGN NUM-
BER 546.**

A BANK.

SIZE OF STRUCTURE:
Front width, 30 ft. Side
depth, 70 ft.

MATERIALS EMPLOYED:
Exterior—Foundations, stone;
First Story, brick; Second
Story, brick; Roof, metallic
shingles. Interior—Cellar
floor cemented; First Story
finished with cherry, stained
mahogany; Second Story,
with white pine; stairway,
from first to second story,
cherry, stained mahogany.

ACCOMMODATIONS: The
principal rooms, closets, etc.,
are shown by the floor plans
given here. Beside these
there is a cellar, 26 ft. by 33
ft., and an attic story un-
finished.

COST: \$7,500 to \$10,000,
according to the prevailing
prices for materials and labor
in different localities. All
complete, except vault, bank
counter and railings. The
difference in cost is explained
on page 23.

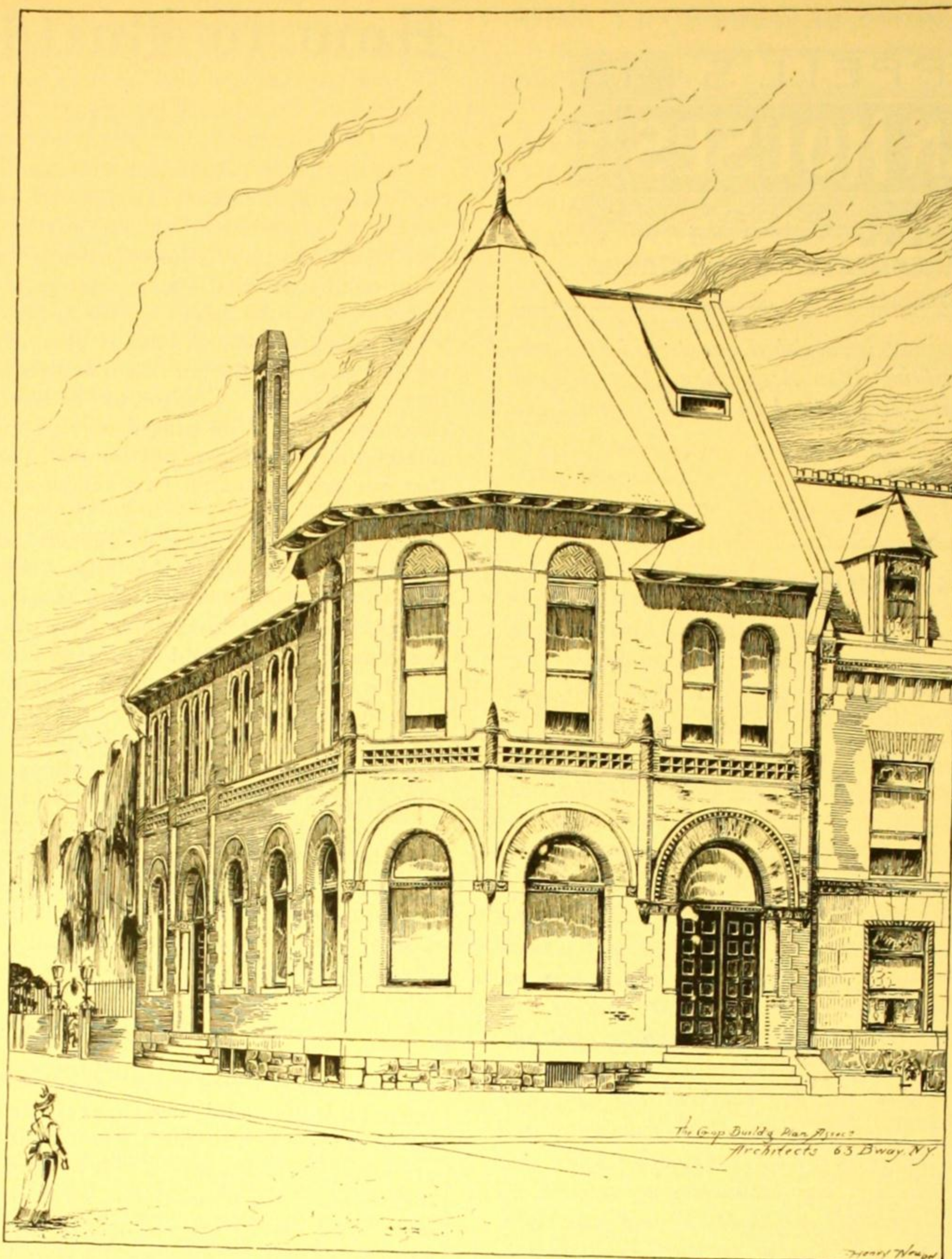
**GUARANTEED ESTI-
MATE, WORKING
PLANS, SPECIFICA-
TIONS, ETC.:** See page
23 for information and
terms.

Read "How to Build a
House," on pages 22, 23
and 24.

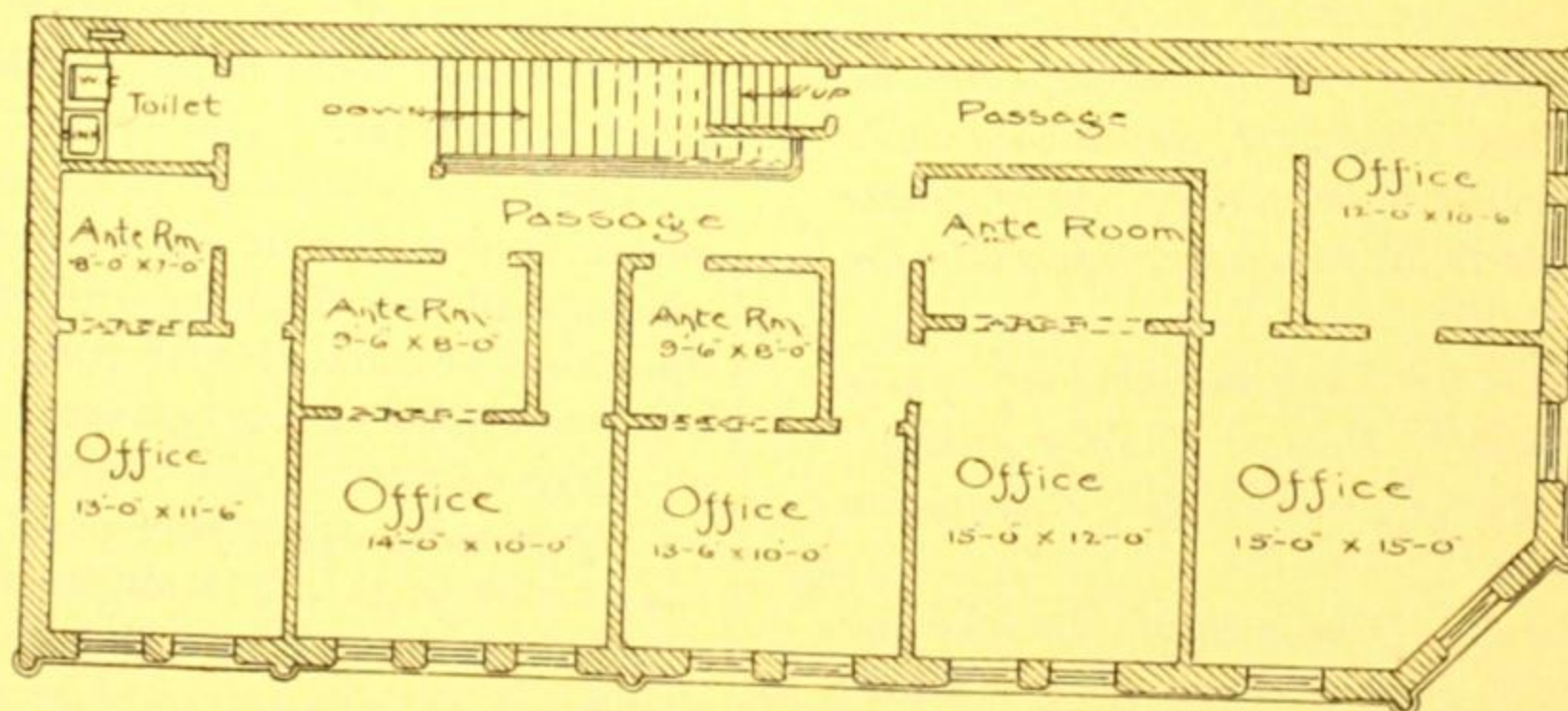
**BUILD A MODERN
HOUSE.**

The desirability of building
modern houses, especially those of
moderate cost, to rent, to sell or
to live in, is now very well under-
stood. But there are many who
have given the subject no serious
attention, although they have the
means with which to build. Such
persons make a serious mistake,
and they will realize some day
with regret that they have paid out
for rent more than sufficient to
have built desirable houses. There
are no real difficulties in the way of
building, even by those of no ex-
perience whatever, when our draw-
ings, specifications and directions are
followed.

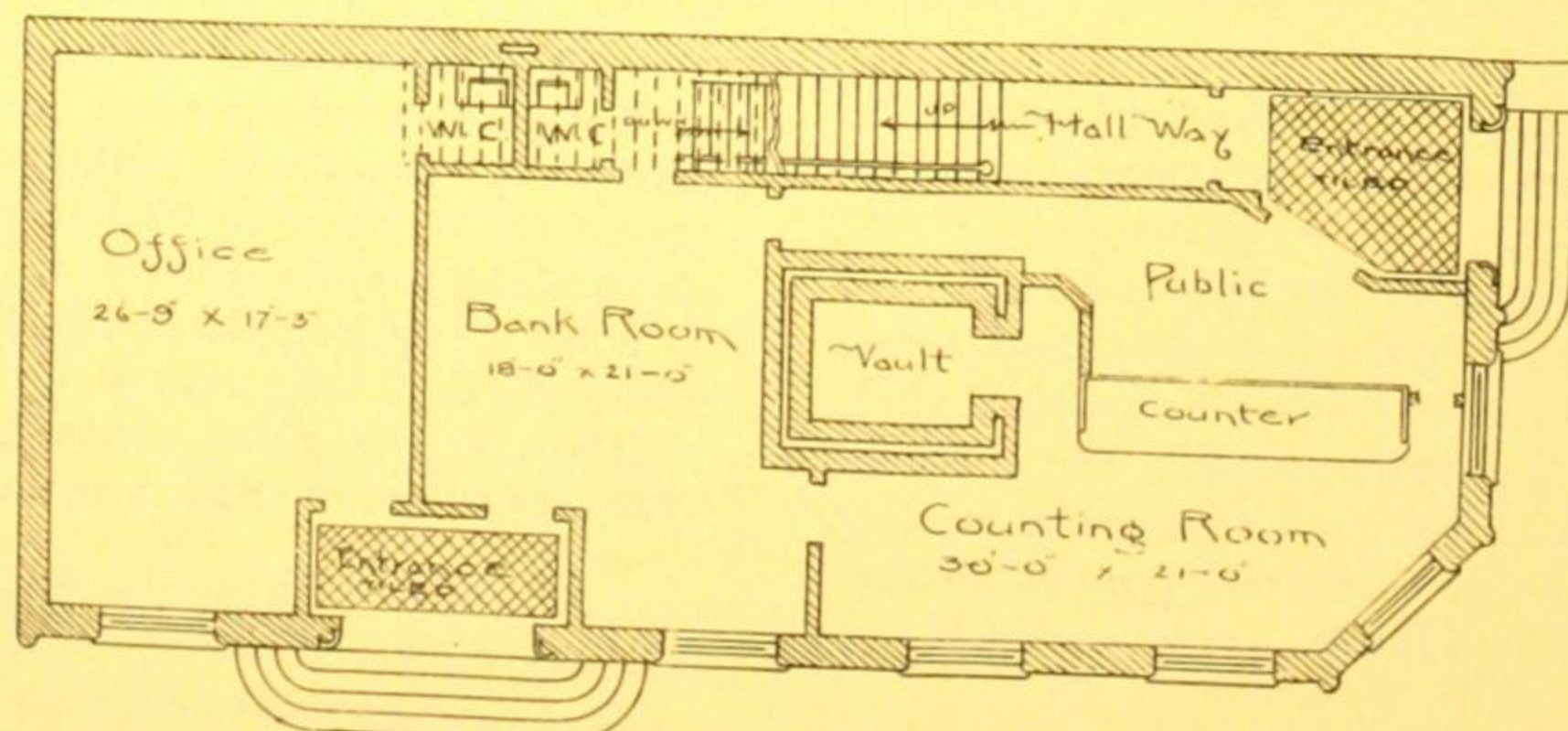
There are many others whose
savings will partly pay for building.
If such a one will call upon some
wise friend for advice (perhaps the
head of the firm or an officer of the
company that employs him) he will
probably learn that it is wholly practicable to build, say, for instance, a
\$2,500 house with \$1,000—perhaps even with a less amount. There is not



A BANK. PERSPECTIVE VIEW OF DESIGN NUMBER 546.



SECOND FLOOR OF DESIGN NO. 546.



FIRST FLOOR OF DESIGN NO. 546.

space here to explain this
to apply to individual cases,
but the general plan is as
follows: Fully pay for the
lot and make the first and,
perhaps, the second pay-
ment to the contractor; the
capitalist who furnishes the
balance of the money to
make the remaining pay-
ments as they become due,
taking a mortgage as his se-
curity. In the course of a
few years the increased value
of the property may more
than equal the mortgage and
provide for its removal.

Do not buy a house that
is already built. It never
thoroughly satisfies, and it
costs more than to build one.
It is generally said that the
only way to get a handsome
and convenient modern
house is to build it. Re-
member that, until recently,
nearly all the houses of
moderate cost were built
after one common-place and
ill-arranged style. Do not
become the owner of one of
these, when for the same in-
vestment, or for less, a really
beautiful and convenient
house can be built.

A very simple preparation
enables any one to realize
the sizes of the houses and
the rooms, which are very
plainly marked on the plans
in this book: procure a tape
measure, yard-stick or "ten
foot pole," measure the

heights, lengths and breadths of
some familiar rooms, those at pre-
sent occupied, for instance. This
gives a basis for comparisons, and
very accurately brings to mind the
sizes described. The comparison
can be applied to the exterior width
and depth also.

"SHOPPELL'S MODERN
HOUSES' is a publication devoted
to domestic architecture, and is so
full of common sense, practical
suggestions and valuable advice,
that it ought to be in the hands of
every person who has any desire
to build a house. Its aim is high,
and it is evident that its authors
are capable of the grandest work,
but we are glad to see that they
show a predilection for demonstrat-
ing how houses of low and moderate
cost may have beauty and elegance
of design and convenience of ar-
rangement, such as people of cultivation and good taste require."—*New York
Daily World.*



AN ILLUSTRATED ARCHITECTURAL QUARTERLY

SHOPPELL'S MODERN HOUSES is published quarterly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York. It is edited by R. W. Shoppell and C. M. Dissosway.

Price 25c. a number. \$1 a year.

Advertising rates, \$6 an inch.

BACK NUMBERS.

The following back numbers of the quarterly, viz., Nos. 1, 2, 3, 4 and 5 each consists of 72 pages, and each contains over 50 designs for residences, besides much miscellaneous matter. Price of each, \$1.

Nos. 6, 7, 8 and 9 are smaller numbers. Price, 10 cents each.

A fuller description of these numbers, which may be had singly or in bound form, will be found on the back cover page of this issue.

OBJECTS OF THE ASSOCIATION.

The Co-operative Building Plan Association—R. W. Shoppell, President; Lawson Annesley, Manager; C. M. Dissosway, Architectural Director; C. J. Bates, Civil Engineer—is an Association of Architects and Engineers, incorporated under the laws of the State of New York, for the purpose of furnishing architectural and engineering services for all kinds of structures.

They undertake work such as requires the skill and judgment of civil engineers, as well as of architects; their staff of designers and draughtsmen is believed to be larger than that of any other office, and quite equal to any in skill and taste; their estimating department, an outgrowth of their business, certainly has not its equal anywhere.

Doing a large business, it has been possible for this Association to cut down the charges much below the usual schedule of prices. This step caused a good deal of criticism on the part of professional friends, but the Association is satisfied the step was in accord with the spirit of the times, and that it induced thousands of people to build from the tasteful designs prepared by architects, who otherwise, would have built from commonplace designs. Whether right or wrong many people consider the usual fee charged by architects, as excessive, especially for structures of low and moderate cost.

The Association's terms and methods of doing business are fully stated elsewhere, especially under the title "How to Build a House."

In addition to its regular architectural practice, the Association invites business of the following character:

Examinations are made into the nature of the ground on which any structure is to be erected, for the double purpose of insuring stability and avoiding unnecessary expense.

Committees are assisted in determining the merits of competitive designs.

Architects and Engineers are assisted with estimates and advice, points of particular importance when they are designing work that must be kept within prescribed costs.

Contractors are assisted when they are asked to bid on work with which they are not familiar, or where there will be close competition.

Owners, who have the plans and specifications for important work, find our estimates and advice of the greatest value. The estimates enable them to judge whether the lowest bids are low enough, or whether they had better ask for further bids. The advice may point out to them modifications that will reduce cost, or sub-divisions of contracts that will be to their advantage.

Correspondence solicited. Address,

THE CO-OPERATIVE BUILDING PLAN ASS'N,
63 BROADWAY, NEW YORK.

How to Build a House.

The First Step.

The first step is to select a design as nearly the style, size and cost desired as the owner can find. If such a design is not found in this book, procure one or more, or all of our books. Among the nearly four hundred designs illustrated and described in a complete set of our books, a satisfactory design should be found. The list of these books will be found on the back cover page of this issue. We would say here that any amount paid us for these books, not exceeding \$5, may be deducted from the price of Working Plans, etc., when they are ordered. A design may be selected from any other publication than ours, or the design may be original with the owner, indicated by a rough drawing of the floor plans: but it must be evident that our best service can be rendered when the selection is made from our books.

To many people the most difficult part of the whole business of building is the selection of a design. They postpone a selection from time to time, and from season to season, to their loss and embarrassment. When they do conclude, they usually find that the selection is the same that they would have made a long time before.

The best way is to set about the selection as if it were a piece of work that had to be well done and finished within a certain time. Make the selection carefully but promptly. Once the selection is made, and the Working Plans, Specifications, etc., are ordered, it is astonishing how quickly and easily everything proceeds.

This selection of a design does not necessarily mean that the house must be built just as shown by the plans; it may be enlarged or reduced, the interior arrangement may be altered and the exterior changed, so that before the contract is made, it will be, in fact, a new design, and this new design being the result of definite study, and advice will be just what the owner wants.

The Second Step.

When the Working Plans, Specifications, Details, etc., arrive, study them carefully and if any changes are suggested, make full memoranda of them and submit them to us for advice. Whatever changes are finally decided upon, if they be unimportant, the owner may make them himself but it is safer to have us make all changes. For this we charge a small extra fee, usually \$5, but if the changes are extensive the fee may be \$10; seldom more than this.

When the Plans and Specifications finally represent just what is wanted, there are two courses open to the owner: first, to buy all the materials himself and have the house built by "days work," or, second, to invite bids from builders and award the contract to the lowest approved bidder.

The latter course is recommended for a number of reasons: it will be much less trouble to the owner; the builder can buy materials somewhat lower than the owner; if mistakes are made the loss falls upon the contractor; with complete drawings, a full specification and a properly drawn agreement the builder is bound to do just as good work by contract as by "days work."

When submitting the plans, etc., to the builders for their bids, say to each of them, if he finds any details that he does not understand that you or your architects will fully explain them. Our Plans and Specifications are as plain as A B C and ninety-nine builders of every hundred, thoroughly understand them, but occasionally a good builder may fail to understand a very simple thing, in which case he is apt to estimate that thing too high.

The preference for a house built by "days work" is a thing of the past—of the times when complete drawings and specifications did not exist. There are better houses now built by contract than were ever built by "days work."

When the builders have all made their bids, if considered necessary, consult us as to the proposed agreement.

If further changes are wanted, be sure to have them made on the Drawings and in the Specifications before the agreement is signed.

The Third Step.

Now sign the agreement with the contractor and after that watch the progress of the work until completion, or at least thoroughly inspect the condition of the work as each payment becomes due.

The duplicate blank agreements which we supply to the owner are very complete, indicating at what stages of construction the differ-

ent payments should be made. The agreement also provides that, if required by the owner, the contractor must produce a certificate from the architects when each payment becomes due that the work so far is in accordance with the Plans and Specifications. It may not be necessary to enforce this clause, but it should form part of every agreement, as it affords complete protection to the owner.

Carefully write in all the "extras" that are included in the contract; also all the omissions that are agreed upon. Have the agreement distinctly state everything; leave nothing to oral agreement.

Do not advance payments to the builder before they are due; if he requires assistance take his note for the amount advanced, with the understanding that you can either turn in the note as so much cash on the next payment, or you can consider it a loan to him outside of the building contract. The advantage of this is, that, in case of trouble, you can withhold the next payment and also collect the amount of the note.

Acquaint yourself with the provisions of the lien laws of your State and strictly comply with their requirements.

Should any extras or omissions be made during the progress of the work, they should be distinctly described, stating prices, in writing, with date and signatures of the owner, the contractor and of two witnesses.

Wide Differences in Cost.

In this book two estimates of cost are given for each design; one is for localities where materials and labor are low; the other, where they are high. The wide differences stated actually exist. The true cost for any given locality will be found to be between the two. We have, for each design, a complete list of all materials required, as well as a close estimate of the number of days labor required. When we are given the local prices for materials and labor, we can calculate closely the cost for that locality. See "Guaranteed Estimates."

Guaranteed Estimates.

When ordering Working Plans, Specifications, etc., of any design, give us the local prices for materials and labor, as per the list below. We will then make a special estimate for that design, sending it along with the Working Plans, etc., and we guarantee that a contract can be placed at figures not exceeding the special estimate, otherwise the Working Plans, etc., may be returned to us and we will return the fee to the owner.

Excavation, per cubic yard,	_____
Rubble stone work laid up complete, all materials furnished by contractor, per perch of 25 cubic feet,	_____
Stone wall, double faced above grade, per foot, or per perch,	_____
Brick work laid in the wall, per thousand,	_____
Plastering, per yard,	_____
..... timber, per thousand feet,	_____
..... sheathing boards, per thousand feet,	_____
..... shingles, per thousand,	_____
..... flooring, merchantable, per thousand feet,	_____
Clear clapboards, per thousand feet,	_____
Novelty siding, per thousand feet,	_____
Glazed window sash, 2 ft. 7 in. x 5 ft. 6 in. x 1½ in., two lights, per pair,	_____
Doors, four panels, moulded both sides, 2 ft. 8 in. x 7 ft. x 1½ in., each,	_____
Blinds will average all around, per window,	_____
Tinning, per square of 100 square feet,	_____
Painting, including materials and labor, per square yard, each coat,	_____
Carpenters' labor, per day,	_____
Masons' and plasterers', per day,	_____
Common labor, per day,	_____

A Complete Set of Plans, Specifications, etc.

The following is a full and complete list of architectural aids for the building of a house:

WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

COLOR SHEET, giving examples of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth-closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

BLANK AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

* BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

Prices for Working Plans, etc., in this Book.

A complete set of Working Plans, Specifications, etc., such as is described in the foregoing, for any design in this book, will be sent prepaid on receipt of price as per list below. Remit by Check, Draft, P. O. Order, Registered Letter, or by Express, or the package will be forwarded by Express, C. O. D., if preferred.

For Plans, etc., of any design, *reversed*, add \$5.00.

Design No. 524.	Price of Working Plans, Specifications, etc.,	\$150.00
" " 525.	" " * Bill of Quantities for same,	25.00
" " 526.	" " Working Plans, Specifications, etc.,	10.00
" " 526.	" " * Bill of Quantities for same,	5.00
" " 527.	" " Working Plans, Specifications, etc.,	15.00
" " 527.	" " * Bill of Quantities for same,	10.00
" " 528.	" " Working Plans, Specifications, etc.,	15.00
" " 528.	" " * Bill of Quantities for same,	10.00
" " 529.	" " Working Plans, Specifications, etc.,	20.00
" " 529.	" " * Bill of Quantities for same,	10.00
" " 530.	" " Working Plans, Specifications, etc.,	20.00
" " 530.	" " * Bill of Quantities for same,	10.00
" " 531.	" " Working Plans, Specifications, etc.,	25.00
" " 531.	" " * Bill of Quantities for same,	10.00
" " 532.	" " Working Plans, Specifications, etc.,	15.00
" " 532.	" " * Bill of Quantities for same,	10.00
" " 533.	" " Working Plans, Specifications, etc.,	30.00
" " 533.	" " * Bill of Quantities for same,	10.00
" " 534.	" " Working Plans, Specifications, etc.,	25.00
" " 534.	" " * Bill of Quantities for same,	10.00
" " 535.	" " Working Plans, Specifications, etc.,	25.00
" " 535.	" " * Bill of Quantities for same,	10.00
" " 536.	" " Working Plans, Specifications, etc.,	25.00
" " 536.	" " * Bill of Quantities for same,	10.00
" " 537.	" " Working Plans, Specifications, etc.,	30.00
" " 537.	" " * Bill of Quantities for same,	10.00
" " 538.	" " Working Plans, Specifications, etc.,	35.00
" " 538.	" " * Bill of Quantities for same,	10.00
" " 539.	" " Working Plans, Specifications, etc.,	35.00
" " 539.	" " * Bill of Quantities for same,	10.00
" " 540.	" " Working Plans, Specifications, etc.,	35.00
" " 540.	" " * Bill of Quantities for same,	15.00
" " 541.	" " Working Plans, Specifications, etc.,	60.00
" " 541.	" " * Bill of Quantities for same,	15.00
" " 542.	" " Working Plans, Specifications, etc.,	80.00
" " 542.	" " * Bill of Quantities for same,	20.00
" " 543.	" " Working Plans, Specifications, etc.,	80.00
" " 543.	" " * Bill of Quantities for same,	20.00
" " 544.	" " Working Plans, Specifications, etc.,	150.00
" " 544.	" " * Bill of Quantities for same,	30.00
" " 546.	" " Working Plans, Specifications, etc.,	80.00
" " 546.	" " * Bill of Quantities for same,	20.00

* If the owner intends to build by contract, he does not need a Bill of Quantities.

Superintendence and Visits.

The Plans, Specifications, Contract, etc., are so accurate, full and explicit that the work of construction usually goes on satisfactorily, and the business relations between the owner and the contractor are amicable; therefore, visits of inspection, especially for houses of low and moderate cost, are usually unnecessary. When visits are requested they will be made for a very reasonable charge, depending on distance.

For large and important work complete superintendence will be furnished, if required.

"Extras."

It is impossible to know the individual preference of owners regarding mantels, ranges, heating apparatus and window blinds. When they are not included in the estimates, it is so stated. According to styles wanted, mantels cost from \$8 upward; ranges from \$25 upward; furnaces from \$75 upward; steam or hot water heating apparatus from \$200 upward; blinds (including fixtures and painting) from \$2.50 and upward per pair.

The following items also should be considered:

Cess-pools and drains.

Privy and vault for same.

Cistern and pipes to connect same with leaders.

Water and gas connections with main.

Flagging for walks, etc.

Grading, fences, grates, tank.

Any or all of the items named under this head of "Extras," that will be required, and are not stated in the Specification, should be described to the builders when the Plans, etc., are submitted to them for bids. Also be sure that they are clearly described in the agreement when that instrument is signed.

Conclusion.

The foregoing briefly but truly outlines the best course to pursue in the building of a house. The first and principal thing is to commence by the selection of a design. The aid and advice of this Association meet every exigency after that.

Thousands of owners have followed this course, and we do not know of a single one that is dissatisfied, either with his house or with our services as the architects. It is our pleasure as well as our duty to do our work as well and as thoroughly as it can be done.

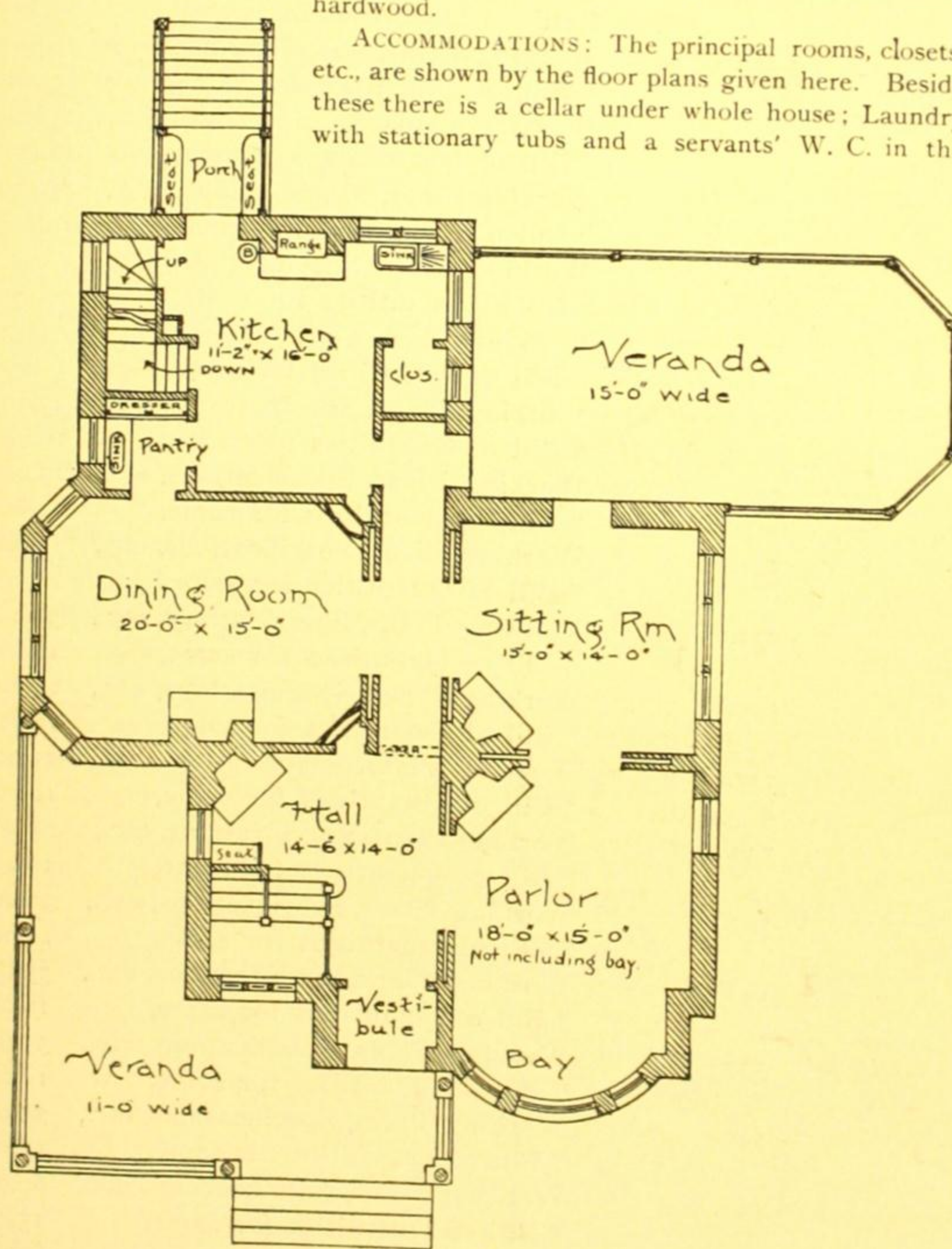
DESCRIPTION OF DESIGN NUMBER 524.

SEE FRONT PAGE FOR PERSPECTIVE VIEW.

SIZE OF STRUCTURE: Front width, 33 ft. 10 in.; width through the dining and sitting rooms, 44 ft. 4 in. Side depth, 54 ft.

MATERIALS EMPLOYED: Exterior—Foundations, stone; First Story, stone; Second Story, brick and terra cotta; Gables, shingles and panels; Roof, slate. Interior—Cement floor in cellar; hall and dining-room finished with hardwood.

ACCOMMODATIONS: The principal rooms, closets, etc., are shown by the floor plans given here. Beside these there is a cellar under whole house; Laundry with stationary tubs and a servants' W. C. in the



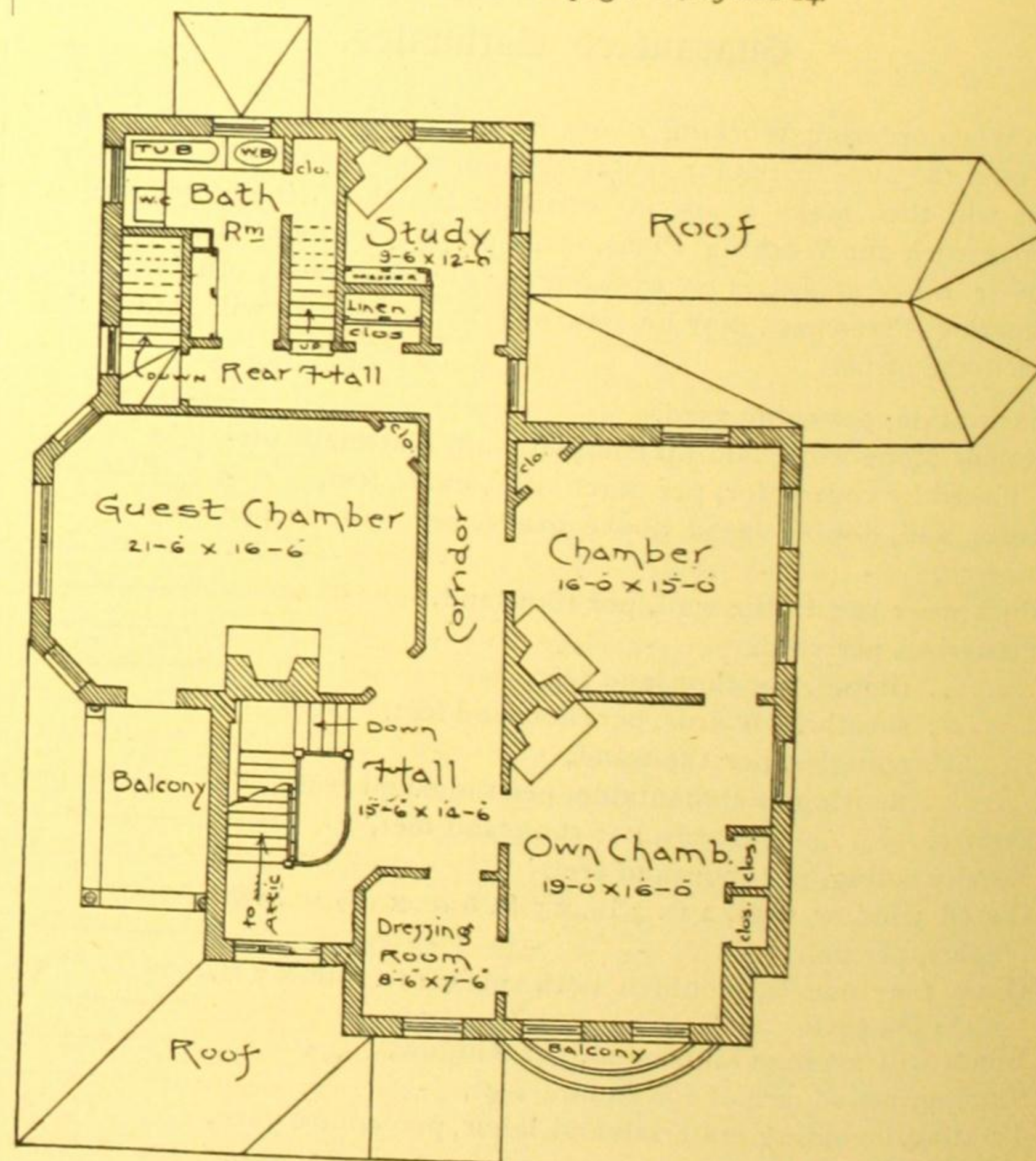
FIRST FLOOR OF DESIGN NO. 524.

basement; two bedrooms, beside a store, a trunk and a tank-room in the attic. The rear veranda may be readily converted into a conservatory, or it may be omitted without any detrimental effect to the appearance.

COST: \$9,000 to \$15,000, according to the prevailing prices for materials and labor in different localities. All complete, except mantels and heating apparatus. The difference in cost is explained on page 23.

GUARANTEED ESTIMATE, WORKING PLANS, SPECIFICATIONS, ETC.: See page 23 for information and terms.

Read "How to Build a House," on pages 22, 23 and 24.



SECOND FLOOR OF DESIGN NO. 524.

DESCRIPTION OF DESIGN NUMBER 547.

SAME AS NO. 524, BUT EMPLOYING DIFFERENT MATERIALS.

THE exterior appearance, the size, the accommodations and the interior finish are the same as those of Design No. 524, but the materials employed for the exterior are changed to the following: For the First Story, stone; for the Second Story, frame covered with shingles.

The **COST** is thus reduced \$1,500; therefore, to construct a house from this design will cost from \$7,500 to \$13,500, according to the prevailing prices for materials and labor in different localities. All complete, except mantels and heating apparatus.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

VOL. III. }
No. 2. }

NEW YORK, JANUARY, 1889.

} WHOLE NO. II.



PHOTOGRAPHIC VIEW OF DESIGN NUMBER 548.
For floor plans, see page 46.

* The Habitations of Man in all Ages.

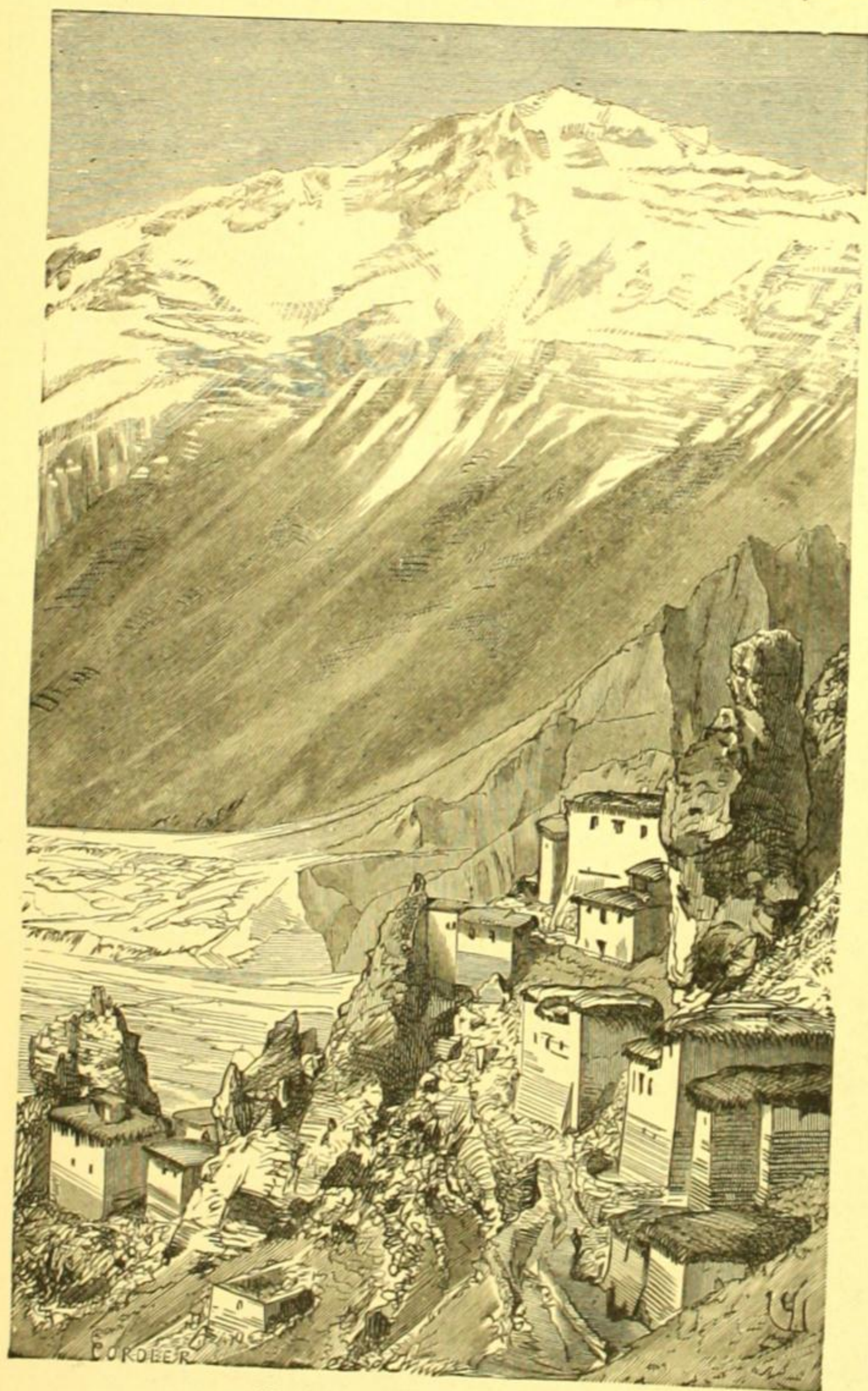
BY VIOLET-LE-DUC.

Translated by BENJ. BUCKNALL, Architect.

CHAPTER XXI.

A Journey through the Far East.

IN leaving Benares, our travelers ascended the Ganges; they came to mountainous countries of remarkable beauty, for it seemed as if the charms of all the climates of the globe were united in this region. Sometimes, in wide valleys, was to be seen a luxuriant tropical vegetation; while a few hours' walk would bring them to forests of firs and larches on the slopes of the mountains, to wild gorges and peaks covered with eternal snows. Enormous edifices cut in the rocks in honor of Buddha, testified to the faith of the people; and by the side of these prodigious results of human industry were miserable huts of wood and reeds. Epergos was anxious to revisit the Upper Indus, to see whether this ancient cradle of the Aryas, whence so many nations had issued, preserved its primitive simplicity, or had suffered a transformation. The travelers reached the valley of Cashmere, which they had descended many centuries before. They could scarcely observe any difference in the customs of the dwellers in these highlands; they were building their houses just as they built them formerly. Their physiognomy was the same as it had been, they had retained the simplicity of their manners, and tribes continued to emigrate westwards, since towards the south the land was already occupied.



HIMALAYAN VILLAGE.—FIG. 82.

Having ascended the course of the Indus, they reached the plateaus of Thibet; there nothing had been changed; the houses of the villages were detached as formerly. No cities were to be seen, and the inhabitants were engaged only in the chase, the breeding of cattle, and the exchange of certain products of their own country for wrought metals and implements of various kinds which they obtained from Cashmere. In the countries where wood abounded, the houses were made of timber—trunks of trees piled up and framed at the corners—and protected by projecting roofs covered with bark. In the deserts, where wood was scarce, these houses were constructed of rubble stone put together with a poor kind of mortar, or with clay when

* Continued from Volumes 1 and 2 of SHOPPELL'S MODERN HOUSES.

there was any in the neighborhood, and covered with trunks of trees, brushwood, and a thick layer of rammed earth.

There is no sight gloomier than these abodes, always built against the rock to protect them from the winds which at these altitudes are terribly violent, buried beneath the snow for eight months in the year, and lost amid solitudes into which the traveler dares not venture. In summer the steep slopes are covered with verdure; and during the four months which this season lasts, numerous flocks are to be found on the loftiest of the prairies, while the inhabitants lose no time in mowing the lower parts to lay in as large a store as possible of the abundant forage which they produce.

The difficulty of sustaining life in such inhospitable regions has from time immemorial induced their energetic inhabitants to go in search of milder climates. Epergos and Doxius therefore came across the track of bodies of these emigrants, who were to be seen, like their ancestors, coming down from their mountains with wagons, in which were the women, the children, and such movables as they were obliged to carry with them.



CATHAYAN HOUSE.—FIG. 83.

While they were resting in a village whose rude appearance was in perfect harmony with the country (Fig. 82), Epergos said to his companion:—

"Well, art thou not as strongly convinced as I am that these Aryas cannot develop the qualities with which Nature has endowed them, except in contact with other races? Here, in the vicinity of their cradle, things are as they were many thousands of years ago, or nearly so. It would seem as if they, like their mountain home, were rude and infertile, but destined to fertilize the plains. Look at those snowclad summits, those far-stretching heaps of rocky debris, the ruins of the peaks, this valley strewn with pebbles through which run those tortuous streams of a muddy torrent, these occasional breadths of verdure, these ravines worn by the ice, and these rocks rent by the lightning only. This spectacle suggests only desolation and death; yet it is owing to these ruins and snows that vast regions are covered with a fertile alluvium."

"Yes," said Doxius.

"And how immense must have been the work of Nature in smoothing down these valleys, and thus converting the ruins of rocks, that seem unchangeable, into a fine dust spread over immense spaces, which are soon covered with a rich vegetation! * * * And thus it is with men; they must descend from the heights and mingle with foreign elements, to constitute the finest civilizations."

* * * * *

The travelers directed their course for a considerable time along the chain of the Himalayas, then, having crossed the Brahmapootra, they passed the Mien mountains occupied by savage tribes. Thence they went down to the countries formerly visited by them and inhabited by men of the yellow race. There they ascertained that progress was very gradual. On the banks of the rivers bamboos continued to be used in building, and the dwellings scarcely differed in point of construction from those of the fat fau. The art of carpentry, however, had been developed; and advancing towards the north-east,

they found peoples following the arts and less remote from those improvements in them which a long practice secures, than those of the south. Usually, however, the houses of these peoples were built very slightly and simply. Wood, which these countries furnished, in abundance, was almost exclusively employed, with brick, burnt or sun-dried. Many of these houses were nothing more than a covered space closed in with walls of wood, within which, as occasion required, they set up partitions formed of mats. The dwellings of the wealthy consisted of a series of pavilions more or less apart from each other—each containing only one or two apartments—isolated, or communicating by means of light wooden galleries. Thus these dwellings, when extensive, resembled a village interspersed with gardens carefully planted and cultivated. It was a rare thing for the son of a rich man to pull down his father's house and build it anew. If it was falling into decay through age, he contented himself with erecting by the side of the old buildings new pavilions differing very slightly from those which he was abandoning to ruin. These houses consisted only of a ground-floor, covered with very projecting roofs artistically wrought.

In Cathay, where our travelers stopped for a considerable time, Epergos to study the manufactures of its countries, and Doxius to endeavor to preach the law of Buddha, they hired a small house, which was only one of the pavilions before mentioned, consisting of two apartments, with some indifferent accommodation for the servants. This pavilion (Fig. 83) was constructed entirely of wood, and placed upon a platform of dry stone-work, with a small flight of steps before the single door. In point of structure, nothing could be more simple: posts, connected by clips and stays, carried horizontal beams projecting outside, relieved by brackets, and kept in place by a system of wall-plates strengthened by braces. On the ends of the beams rested the eave-plates which received the rafters. All was so curiously fashioned, perforated and painted, that the aspect of this pavilion, amid the verdure, was delightful to the eye. The windows were filled in with upright bars of turned wood, behind which curtains of stuff were drawn at night if it was desired to keep out the cold. The roof was entirely covered with very thin plates of copper ingeniously turned up in the same manner as tiles.

By means of shutters which opened above the windows in the height of the wall-plates, ventilation could be obtained through the intervals left between them, for the ceiling was placed upon the bracketed beams.

The spaces between the posts, and beneath the windows were closed in with boards.

Epergos, though he reflected that these wooden structures were derived from the early buildings he had formerly seen erected by the Aryas, and to whose improvement he had contributed, did not conceal from himself that this love of the complicated, this elaboration of details, this multitude of minute precautions, were a peculiarity of the yellow race. The Aryas he concluded had been able to exercise only an ephemeral influence over this race, which was developing its arts in conformity with its own genius.

He began to recall what he had seen during his sojourn at Athens and in the cities of Hellas, and assured himself of the immense interval that separated the works of these descendants of the Aryas from those of the yellow races of the extreme East. While his friends the Greeks had skillfully simplified the forms suggested by the structure and the materials employed; while they were moderate in the use of ornament, and used discrimination in reproducing material objects, the yellow races of the East seemed to take pleasure in making the simplest structure complicated, to be lavish of ornament, and to delight in representations of strange monsters; and yet—Epergos reflected further,—could it be admitted that the inhabitants of these countries had a more lively imagination, a mind more open to impression than the Greeks? Have they a greater love for the stupendous? No, assuredly; the dwellers in this country are little prone to seek the higher spheres of thought. Their written works do not exhibit any excess of imagination. Their mind is practical, and they know little of heroism or of lofty ambitions; they are satisfied with a quiet and obscure existence, provided they enjoy material comforts. Whence comes it then that their works of art sometimes display a bold, fantastic spirit, a disordered imagination? Time passes on and new peoples come under my observation; while the problems which at first seemed to me easy of solution are becoming obscure.

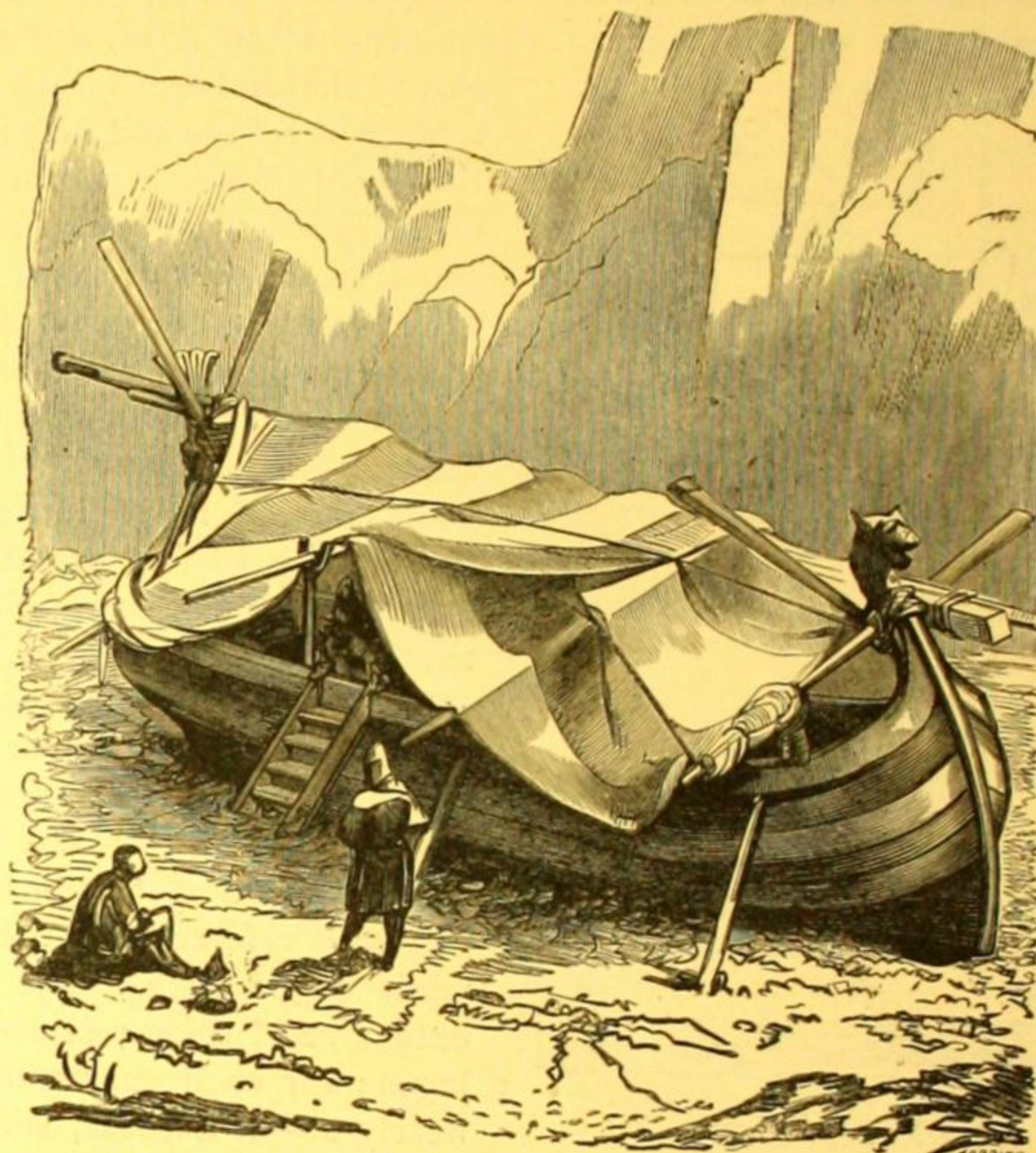
The preaching of Doxius among these peoples had not the success he expected; so when Epergos told him he wished to visit other countries, he made no objection.

CHAPTER XXII.

THE SCANDINAVIANS.

IN Scandinavia—the land of the Danes and Northmen—they found a population remarkably active and enterprising, inhabiting a cold and sterile soil, and undertaking expeditions to the neighboring coasts more favored by climate. The young men passed their time at sea; for they possessed the art of building strong vessels of considerable length, in which they did not fear to face the tempests. Even during the rough weather of autumn and spring they were seen preparing their expeditions. Then putting to sea, they would steer towards the coast of Britain or the land of the Franks, enter the rivers, land unexpectedly in the neighborhood of villages, abbeys and towns, carry off everything that fell into their hands, and immediately re-embark to secure their booty.

They would often even stay on the coasts, in some lonely, out-of-the-way cove; and, taking advantage of the position, would fortify the heights, and swoop down like birds of prey upon the inhabited places.



NORMAN BOAT.—FIG. 84.

Intrepid, formidable both in stature and vigor, and fearless of death, they were the dread of the coast population, who dared not attack them in their holds.

Their vessels then served them for dwellings (Fig. 84). Left dry on the shore at high tide, with the help of masts and oars the sailors formed a sort of roof over them, on which were stretched two triangular sails, for they had always one to spare.

When they had acquired booty enough to satisfy them, they betook themselves to sea again and returned home.

In their country there were towns whose houses were built entirely of pine wood, which was very abundant on the mountains.

Epergos was not a little surprised to find in these habitations the structural elements observed by him and even improved under his direction, many centuries before on the Upper Indus. But the habit of building vessels, acquired by the inhabitants, had introduced considerable improvements in the execution of these timber houses. The framings were carefully and strongly joined; some were even ornamented with carvings bearing a rude resemblance to those which decorated the buildings of Northern India. It was the same with the woven stuffs fabricated among them; their coloring and designs incontestably resembled those of the fabrics woven on the slopes of the Himalayas.

The religious beliefs of the Scandinavians also resemble the earlier beliefs of the Aryas. With the latter, they imagine that the men who are the bravest and most distinguished by their noble actions on earth, are elevated, beyond the tomb, to the rank of gods; that is why they do not dread death, but even seek it in some glorious exploit.

They sacrifice human beings to propitiate the gods, and the males of beasts. The body of the victim is suspended in the sacred wood near the temple of Upsal, not far from the town of Birka, and the trees composing this wood are regarded as sacred.

They acknowledge the authority of military chiefs or kings, and have among them noble families descended from heroes.

These kings do not exercise a despotic authority, but are obliged to assemble and consult with the most illustrious of the nobles before engaging in any enterprise.

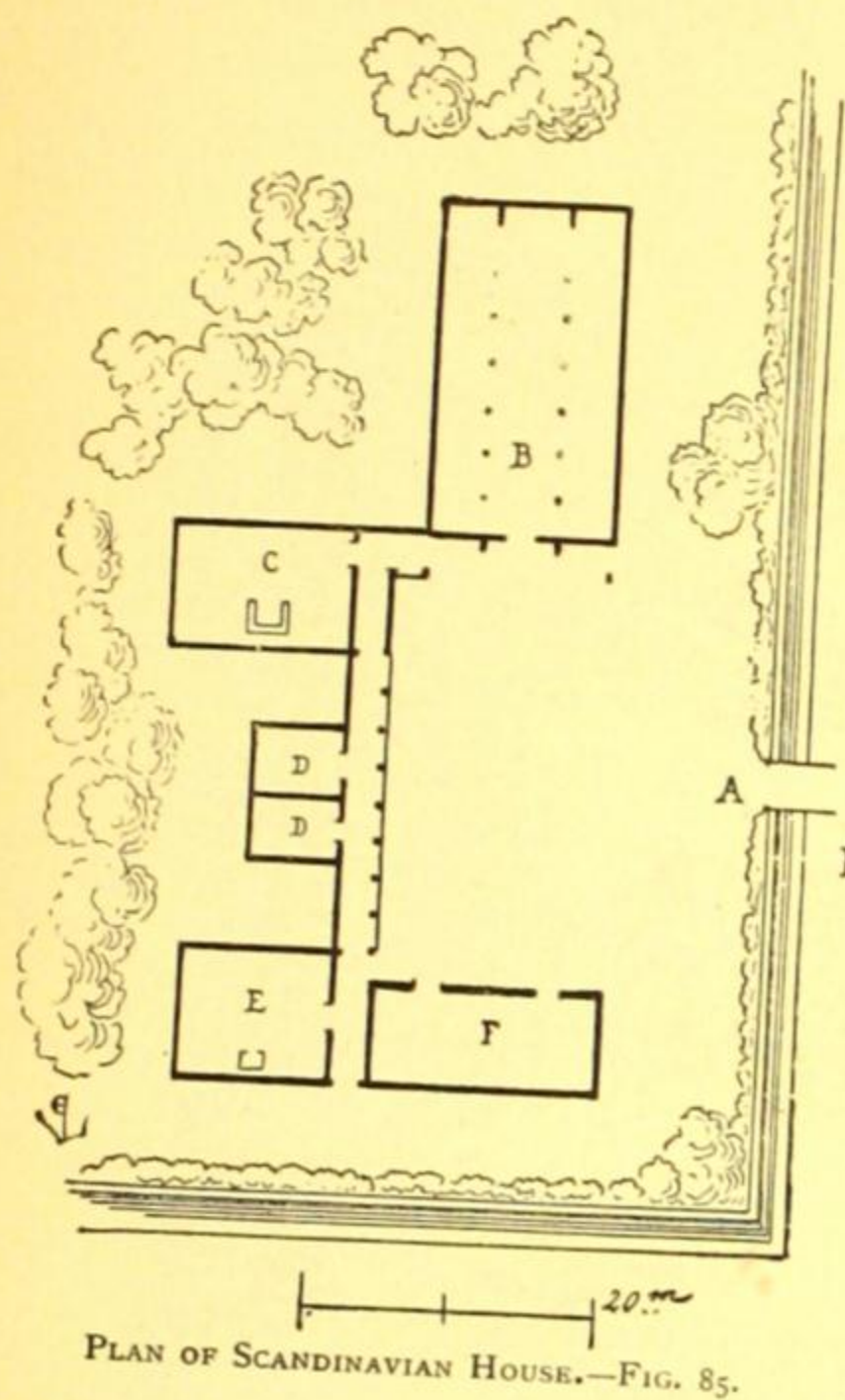
The men of Scandinavia unite with this courage and intrepidity which nothing can daunt, a love of gain, and extraordinary cunning. All are skilled in discovering the means of eluding the most solemn oaths, if the fulfilment of them is prejudicial to their interests. With a view to this there is no subterfuge or finesse they will not employ. Those who reckon upon their simplicity, and the *naïveté* of their manners, to entrap them in any way, are infallibly ensnared themselves; for their penetration equals their ambition, their rapacity, and their prudence.

Like their Aryan ancestors, it is their custom to build a great hall in their dwellings, in which they assemble their equals and retainers. There they deliberate, settle differences, and give banquets which are prolonged for several days and nights, and which frequently issue in brawls.

If an expedition to a neighboring territory promises great results, they select, as we said above, some unfrequented beach, commanded by a promontory or peninsula at the mouth of the river, and there

fortify themselves so as to have a place of refuge and defense in the event of a failure, until another expedition comes to their relief: hence they are very careful always to keep themselves in communication with the sea, which secures them and their booty from all pursuit; for no other people is so inured to a maritime life, or capable of crossing the sea so rapidly, as these men of the North.

The habitations of persons of distinction among them consist of a group of buildings of various dimensions and uses, arranged without symmetry, but with reference to the convenience of each. The most extensive of them resemble villages; for each apartment—or nearly so—is a house, small or large, according to the require-



ments. These houses are either in juxtaposition, just touching at one point, or apart, in which case they communicate by very low wooden passages.

Roofed with pine shingles or slabs of schist, these dwellings are of one floor only, and are often even partly sunk in the ground to secure the inhabitants more effectually from the cold. Palisading, hedges, and ditches surround the dwelling, for the men of this country are very tenacious of their independence; and even the towns rather resemble an agglomeration of establishments, each with its inclosure, than a collection of houses in juxtaposition along the highway. To prevent the accumulation of snow upon the roofs, they are made very steep.

The Scandinavians breed horses, and are good riders. The broad meadows of their country supply forage for these animals, which are, moreover, inured to hardship.

In their maritime expeditions they do not hesitate to take their horses with them in their capacious boats, and they carry off those which they meet with in the country they invade; thus they readily form bands of formidable cavalry, falling unawares upon the hamlets they pillage, and then retiring and rejoining the main body of their armed force.

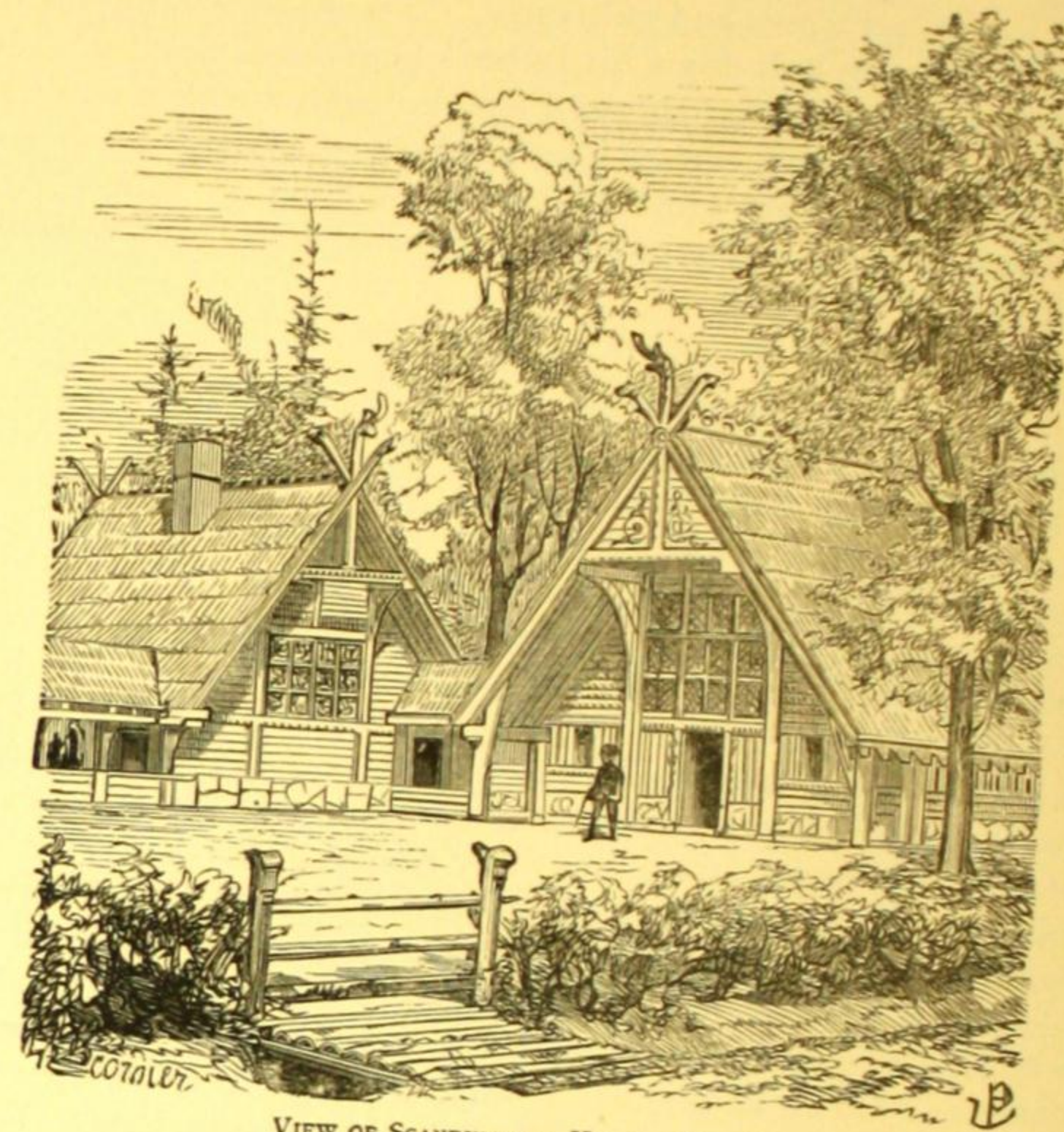
Figure 85 gives the plan of one of the above-mentioned detached habitations. At A is the entrance, a foot-bridge across a fosse, on whose escarpment is planted a quickset hedge. At B, is the great hall, whose roof is supported by a double row of posts.

A wooden porch gives access to a hall C, in the middle of which a hearth is constructed. It is there that the family stay in winter, and the viands are prepared. The inhabitants even sleep in these apartments during the severe cold. At D, are the living rooms of the family during the temperate season. At E, the hall reserved for the servants and for strangers. At F, a large stable and barn for forage.

Figure 86 presents the view of this habitation from the point P. The openings which light the apartments are filled in with perforated wood, presenting fanciful designs. To prevent draughts, sheets of talc, in the dwellings of the wealthy, or of asses' skin in those of the poor, are fastened on the insides of these openings, admitting a dim light.

The smoke escapes through wide openings left in the roof, and sheltered by a kind of movable louver, which is lowered at pleasure to close the orifice.

As previously mentioned, the roofs are covered with shingles of pine-wood overlapping like scales, or in some districts with large slaty stones.



VIEW OF SCANDINAVIAN HOUSE.—FIG. 86.

The timbers are painted in very lively colors forming interlacings. The elders among the Scandinavians assert that the dwellings of their forefathers were circular.

The Scandinavians have a great regard for trees, and their habitations are surrounded by them.

(To be Continued.)

Planning a Modern House.

I. THE INTERIOR.

The points to be decided first are the number and sizes of the rooms; then their arrangement with the objects in view of obtaining the greatest convenience, the free communication between the different rooms and parts of the house, and the proper lighting, heating and ventilating of each separate room.

A well-planned house should provide passages from the main hall to the kitchen portion and to any other part of the house. That is, the hall should be so arranged as to command all the rooms, but in doing this space should not be wasted nor rooms cramped or distorted, as the nearer to square the rooms are kept, the better the result.

The doors and windows should be so placed as to allow sufficient room for furniture; doors should be swung so that they cannot possibly "clash" with each other.

The kitchen portion should be isolated as completely as practicable from the main or living parts of the house. This is best accomplished by an arrangement that makes it necessary to pass *two doors* in going from the main part to the kitchen and by so arranging the butler's pantry that communication between the dining-room and kitchen will be through it.

By these precautions the odors of the kitchen are kept within bounds.

Ample pantry room should be provided in the kitchen; the cellar stairway should be in direct communication with the kitchen. If a servants' stairway is desired, it should be so placed as to be accessible from or near the kitchen and should land in a hall or corridor in the second story; the object being to allow the servants to pass from the first to second story without having to enter the main part of the house.

The relative positions of the different rooms in the main house depend greatly upon the conditions of the site, points of the compass, etc.

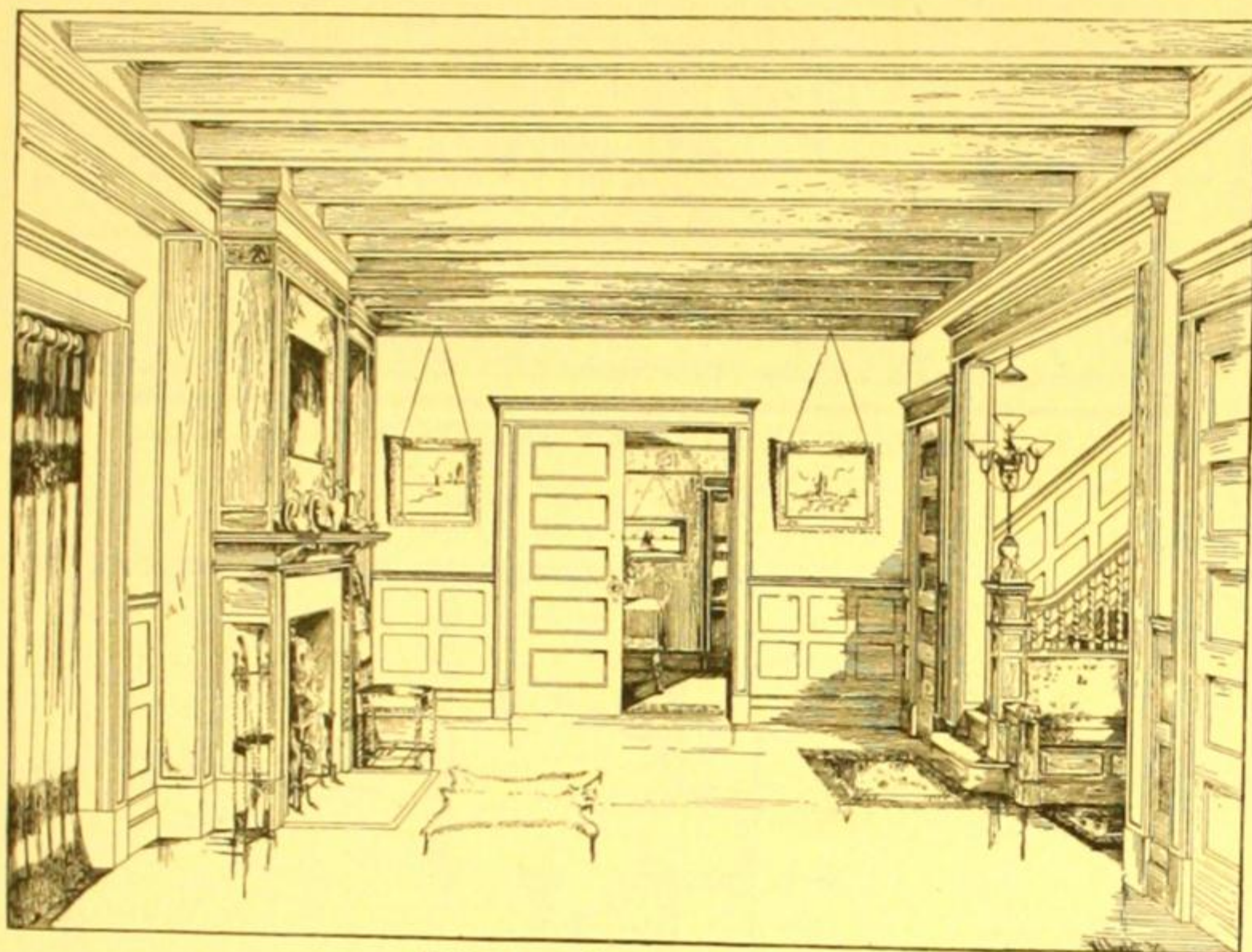
If the problem will admit it, a large, well-lighted hall, with an open fire-place, should be decided upon as it gives an impression of cheerfulness, comfort and room that is painfully lacking in the narrow and gloomy halls so often found in houses that in other respects are well-arranged. A large hall also answers the purpose of a sitting-room or a reception-room, and thus saves the expense of one room. The main hall should be entered if possible through a vestibule, particularly in cold climates.

The dining-room should have a southern exposure.

The library may be partially isolated, if desired, for greater privacy.

The parlor should have the most direct communication with the main hall and should command the best view.

In planning these rooms the fire-places should be so placed as to economize in chimney stacks as much as possible, making one stack answer for two or more fire-places.



VIEW OF AN ATTRACTIVE HALL.

The positions and sizes of the verandas and porches depend upon the conditions of the site and the exterior design of the house.

The arrangement of rooms in the second story should allow direct communication from halls to all bedrooms, bath-room, main and servants' stairs.

Each bedroom should have ample closets and a large linen closet should be provided, accessible from the hall.

If the height of the roof permits, it is well to plainly finish a number of bedrooms in the attic designed for the use of servants.

The finish and decoration of the several parts of the house depend of course upon the amount of money the owner wishes to expend.

It is always desirable to finish with hard wood as many of the principal rooms in the first story as the limit of cost will allow.

The main hall and vestibule should be finished alike and both should have wainscoting about four feet high, either paneled or staved as the cost admits. The wainscoting should continue up the main stairway to the second story hall and stop at any convenient point.

The main staircase should be of the same materials as the hall finish, and should be as elaborate and graceful as consistent with the general design of the interior.

A stationary seat in the main hall, either at the fire-place or near the stairs is desirable; when neatly upholstered it has a very pleasing effect and it is very useful.

By means of a neat plaster cornice and a picture moulding placed at such a distance below it as the general proportions of the hall demand, and a plaster centre piece, a pleasing and inexpensive finish is devised. The walls may be left plain or can be papered or tinted. An economical and beautiful method of decorating the walls is by tinting, which is done by mixing kalsomine colors with the finishing coat of plaster. Almost any color can be obtained in this manner, the favorites being yellows, pinks and blues. The frieze between the cornice and picture moulding may be very effectively treated with a stenciled border of some foliating design. The effect thus obtained is artistic while the cost is comparatively slight. The ceilings may be tinted in the same manner in some color that will blend well with the walls, or they may be left white. The same effect can be obtained by kalsomining but is not so lasting. If the walls are papered the same general scheme is retained. This mode of decorating the walls and

ceilings may be carried out for the other principal rooms, using different tints if desired.

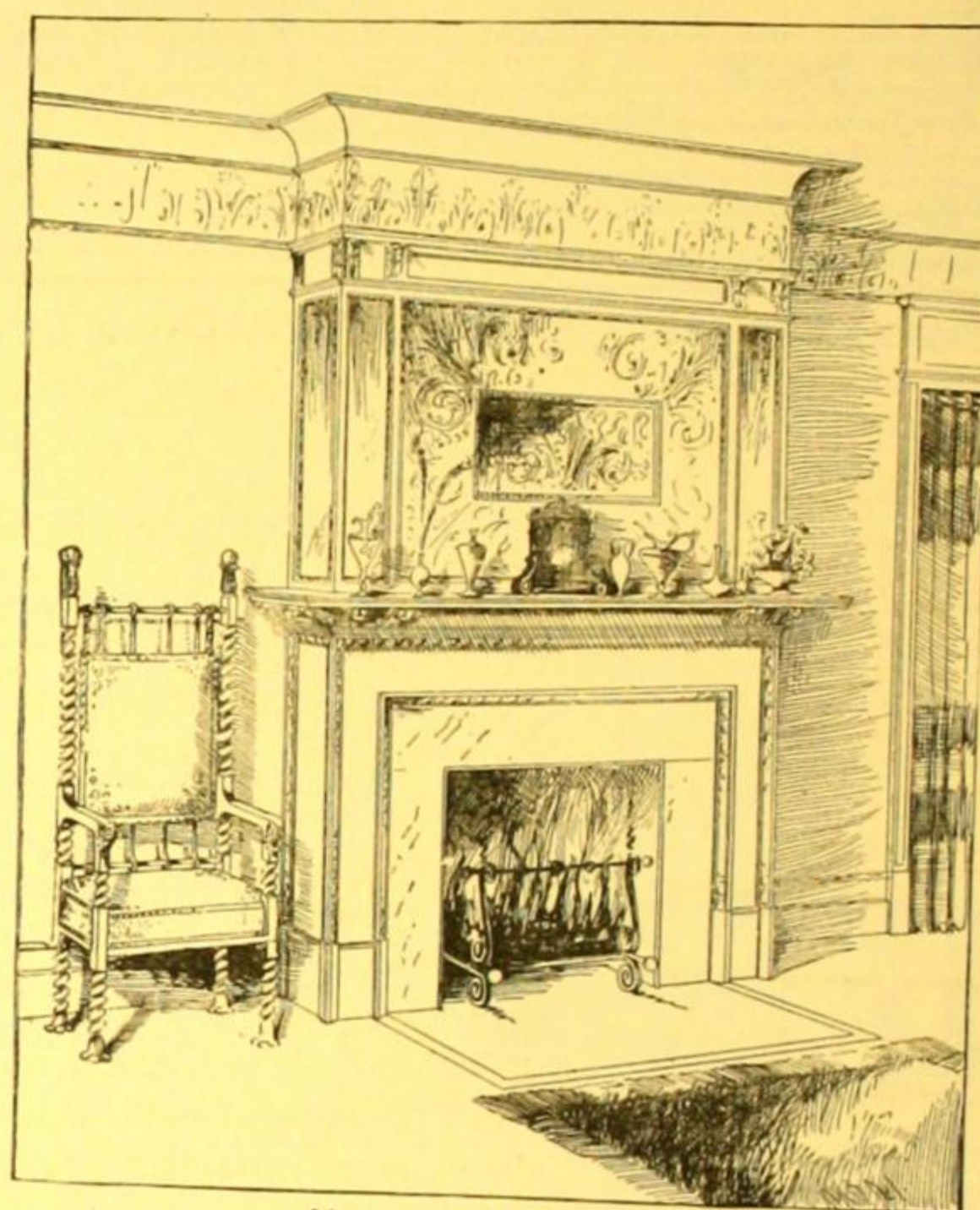
If the owner does not mind the extra expense it is advisable to finish the main hall and vestibule with an open timber ceiling, as the richness of effect thus obtained more than justifies the extra outlay. The beams are false beams boxed with $\frac{1}{2}$ inch stuff, with a moulding run at the intersection of the beams with the ceiling. The spaces between the beams may be plastered, but the best effect is obtained by filling them in with narrow tongued and grooved ceiling stuff.

The parlor should have a neatly moulded base, picture moulding, plaster cornice and centre piece. The same general treatment of walls and ceilings may be carried out as is used in the main hall.

The dining-room should be wainscoted, if not too expensive. In case wainscoting is not used a neat moulded chair rail should be used which, with a moulded base, picture moulding, plaster cornice and centre piece, completes the finish.

The other principal rooms should have the same general treatment omitting the wainscot or chair rail.

The kitchen should have staved wainscoting about three feet six inches high with moulded cap and floor strip. The sink should be supported on turned wooden legs and the space beneath it left open with the plumbing exposed.



MANTEL AND FIRE-PLACE.

The butler's pantry should be wainscoted the same as the kitchen, and fitted up with sink and dresser with sliding glass doors and shelves in the upper portion, and with counter shelf and drawers underneath.

The principal bedrooms may have moulded base, plaster cornice, picture moulding and centre piece, if the owner desires. If not, they should be finished with a neatly moulded base and picture moulding only.

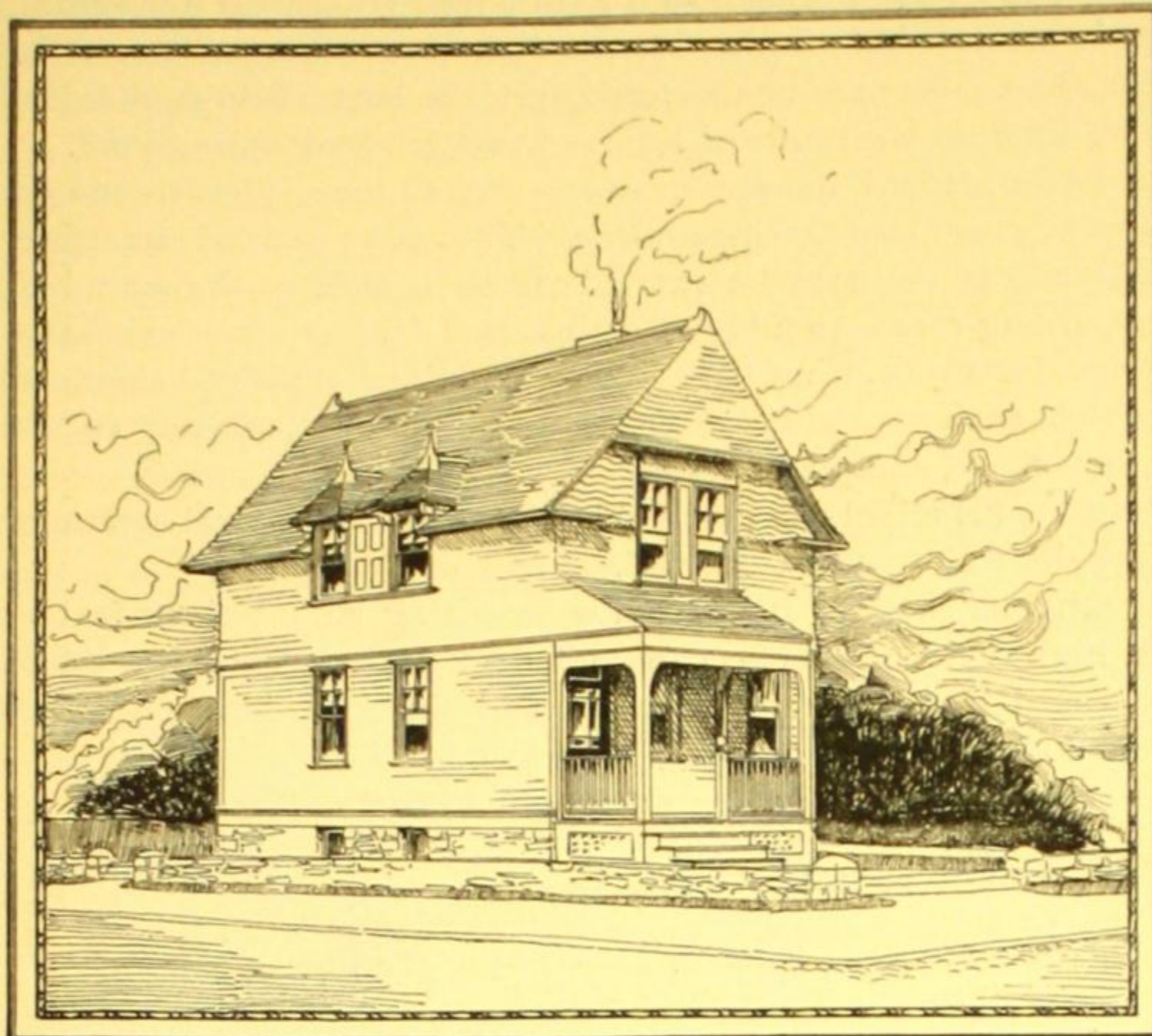
The bath-room should have staved wainscoting three feet six inches high, with moulded cap and floor strip. The fixtures may be encased in staved casing to correspond with the wainscot or may have paneled casing. The top of the bath tub and the seat and flap of water closet should be of hard wood; the wash basin should have a small door underneath.

The mantels throughout the house should correspond in design and finish with the general finish of the rooms in which they are placed, and as they are the principal features in the rooms they should be as well finished and as elaborate as the cost of the house will allow.

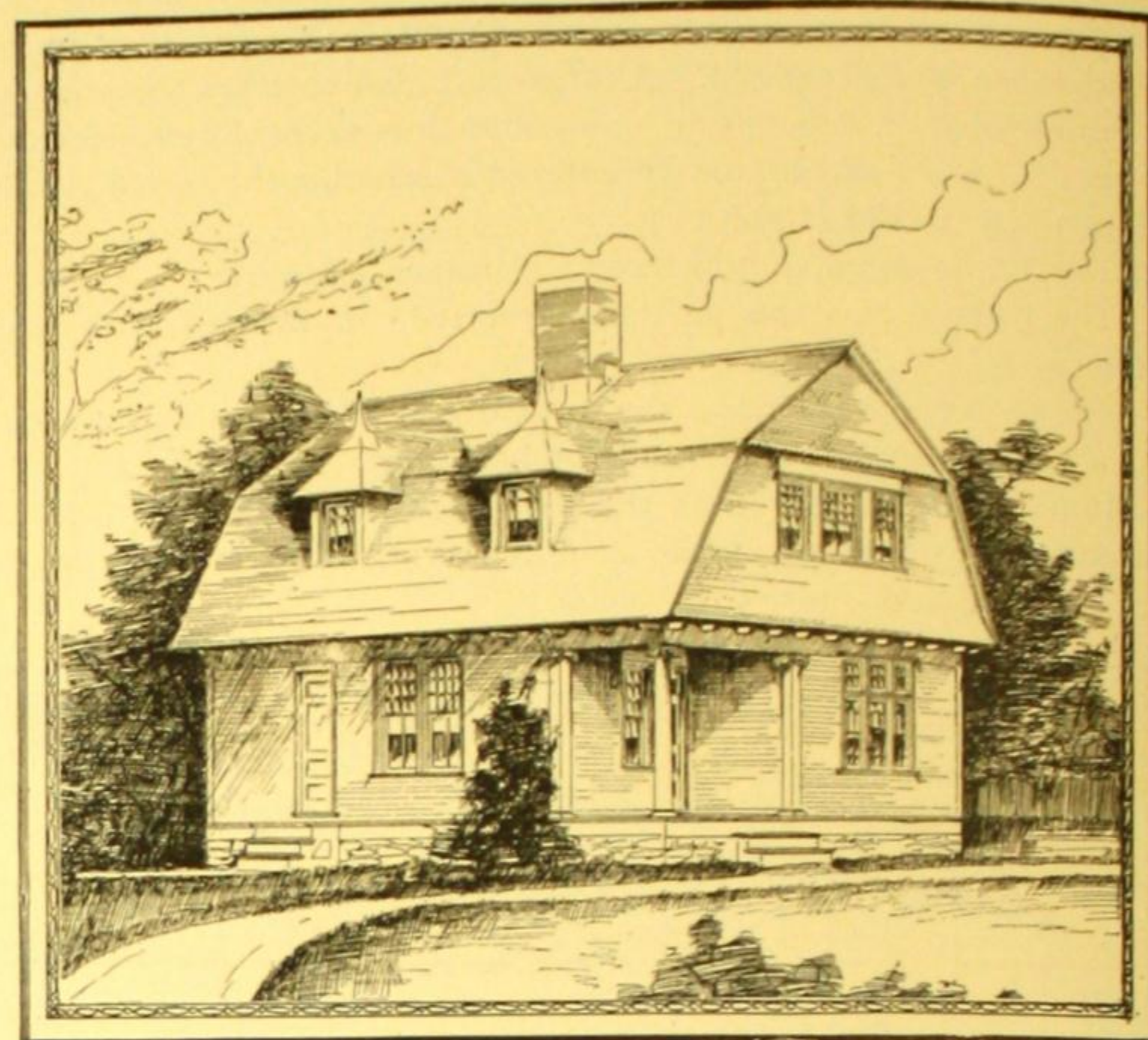
The hearths and facing of fire-places may be tiled, if not too costly, or may be of marble or slate. An economical, and at the same time effective mode of treating the facings of fire-places is with enameled brick or red or buff-colored pressed brick, with joints neatly pointed.

The style of trim may be varied according to the owner's taste. In the principal rooms the trim of the windows should run to the floor and finish on a base block the same as the door trim; the windows should have panel backs to correspond with the doors. Portiere openings may be trimmed the same as doors and, if desired, can be elaborated by a turned or twisted wooden transom grille. The portiere poles should be of the same material as the finish of the rooms in which they are placed and should be supported on suitable wooden or brass brackets.

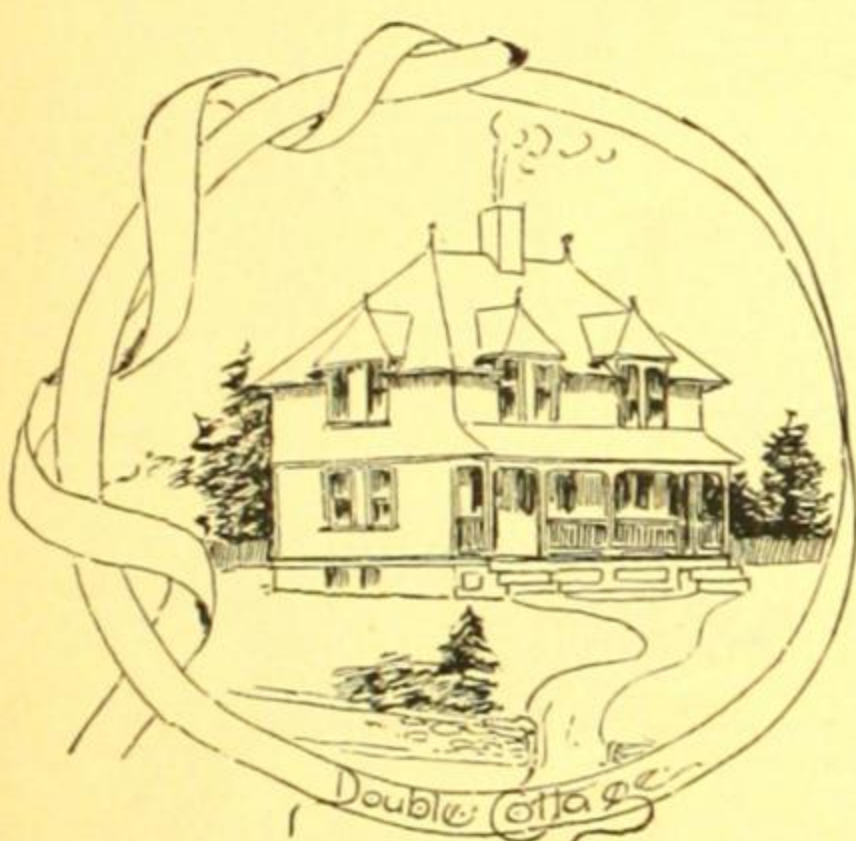
DESIGNS NUMBERS 549 AND 550—LOW-COST COTTAGES.



PERSPECTIVE VIEW OF DESIGN NUMBER 549.

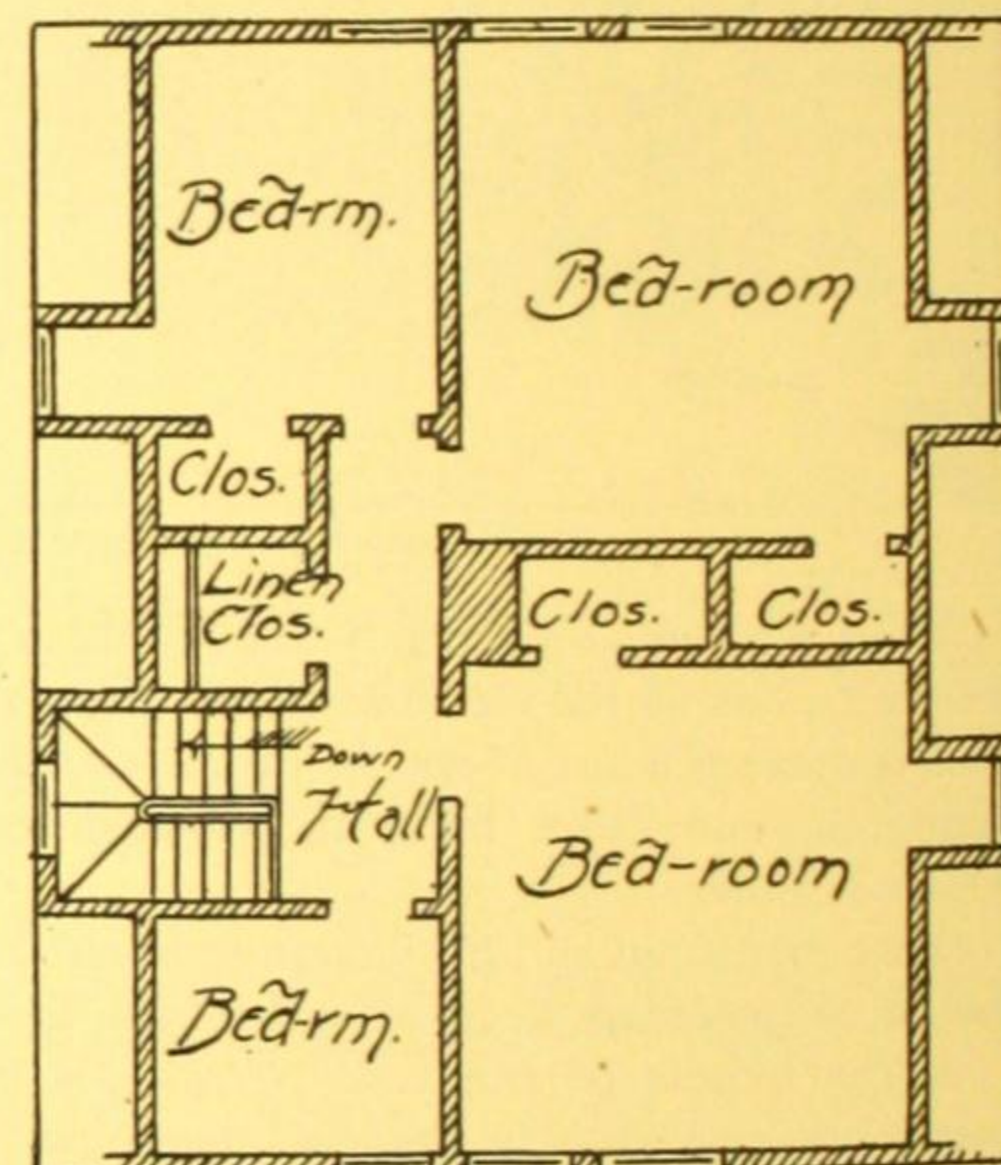


PERSPECTIVE VIEW OF DESIGN NUMBER 550.

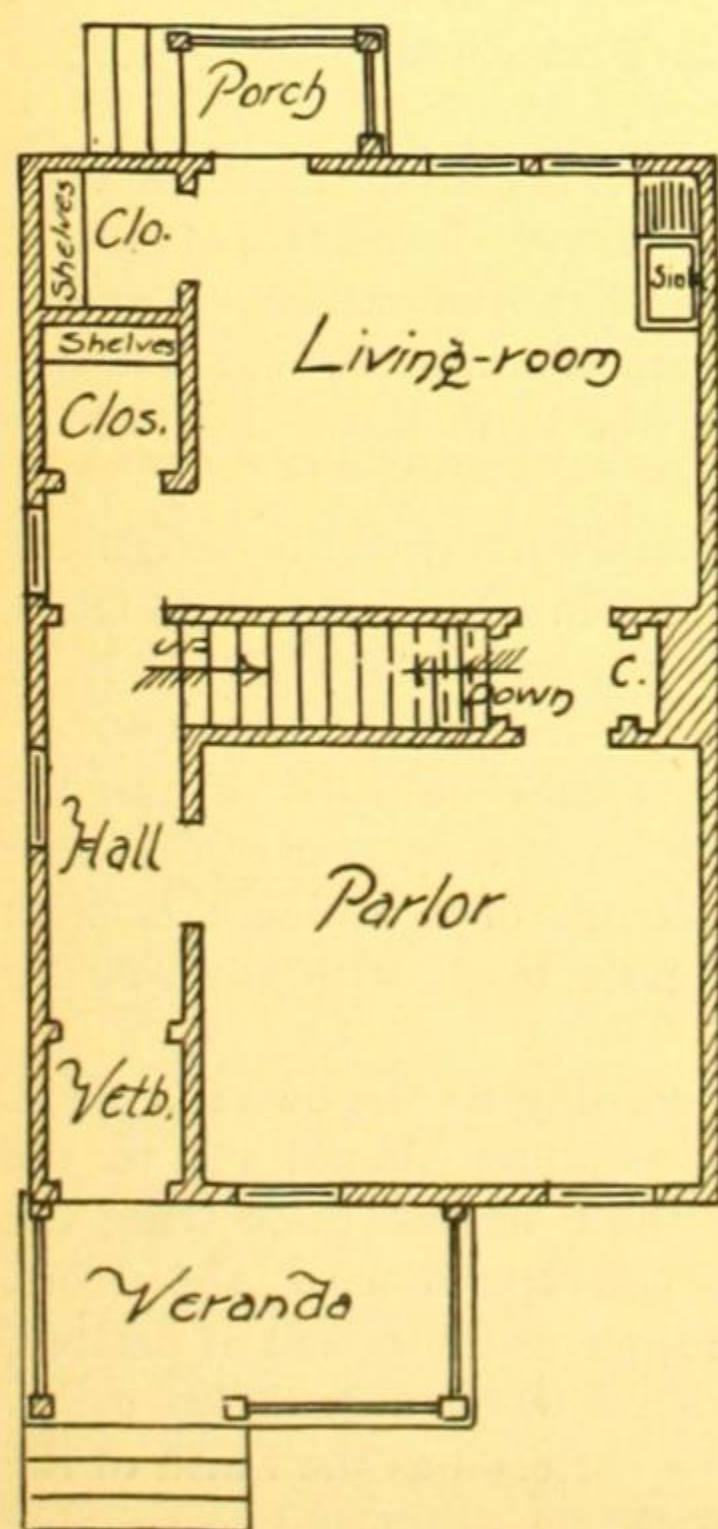


DESIGN NO. 549, AS A DOUBLE COTTAGE.

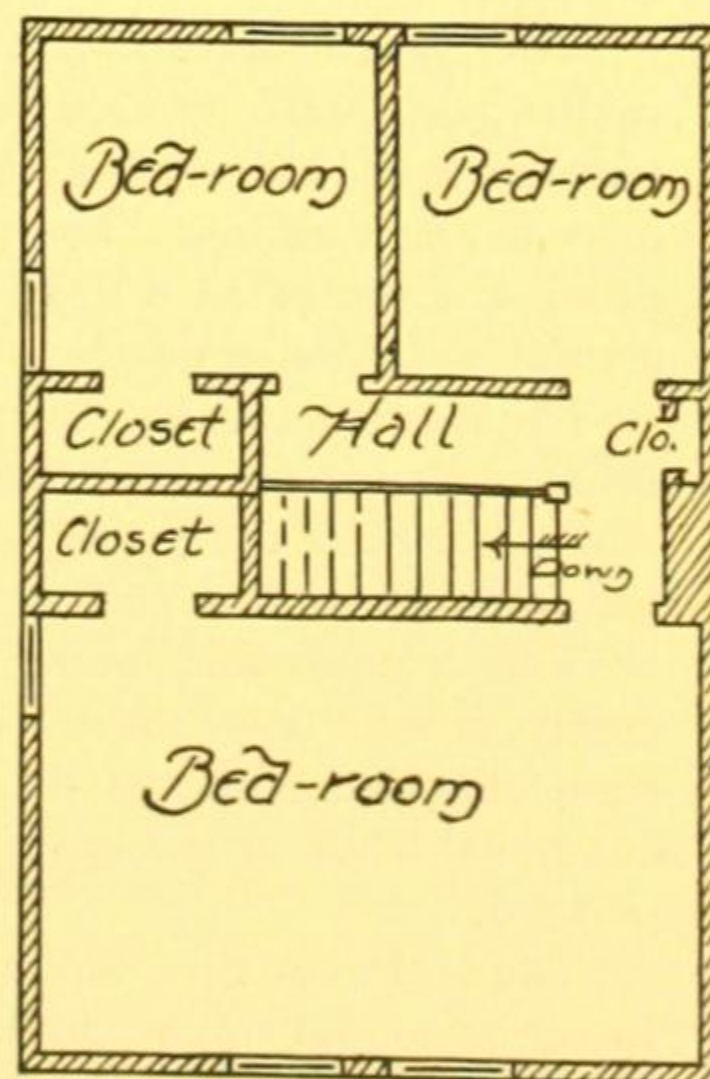
Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York.
See page 47.



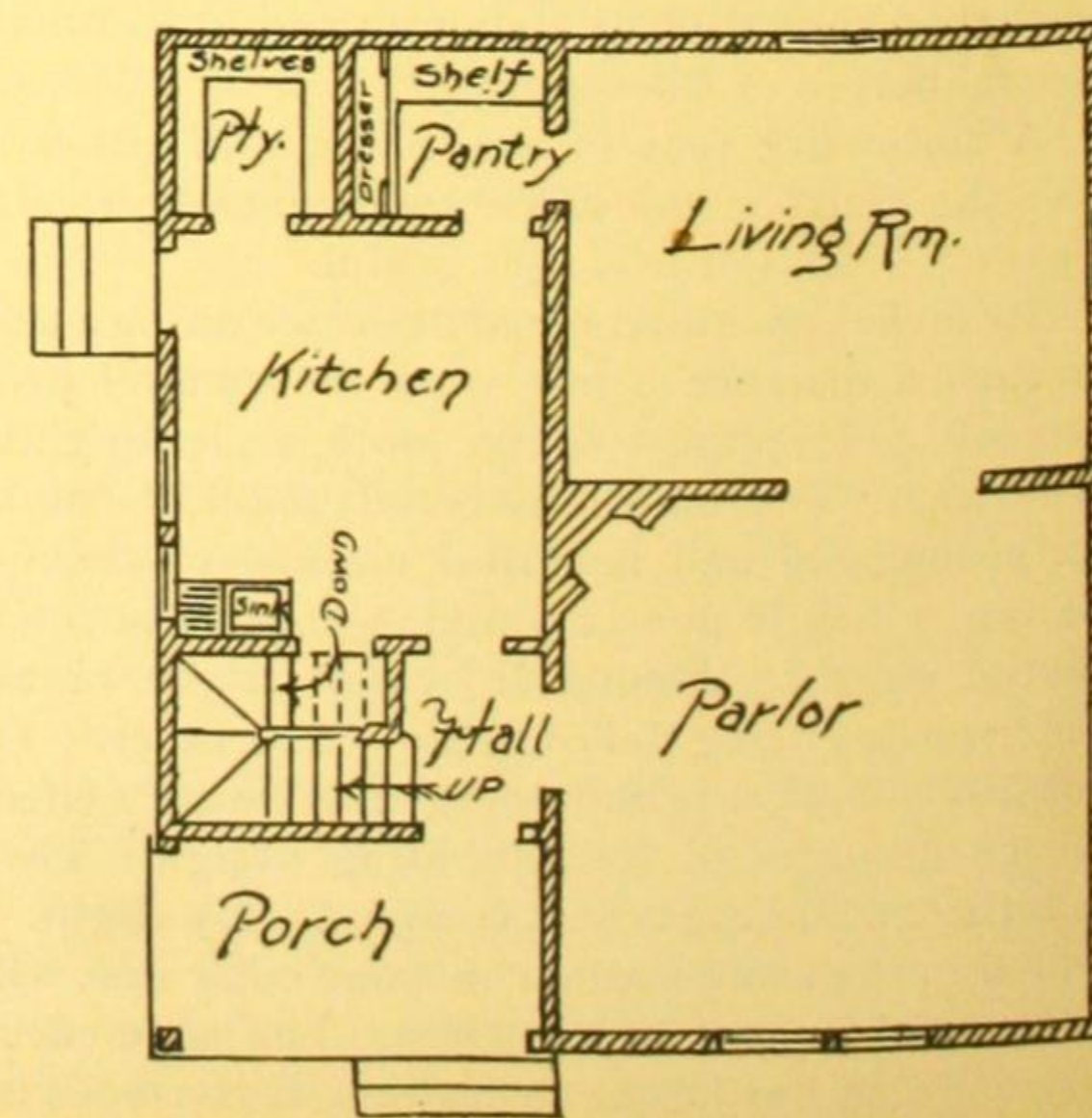
SECOND FLOOR OF DESIGN NO. 550.



FIRST FLOOR OF DESIGN NO. 549.

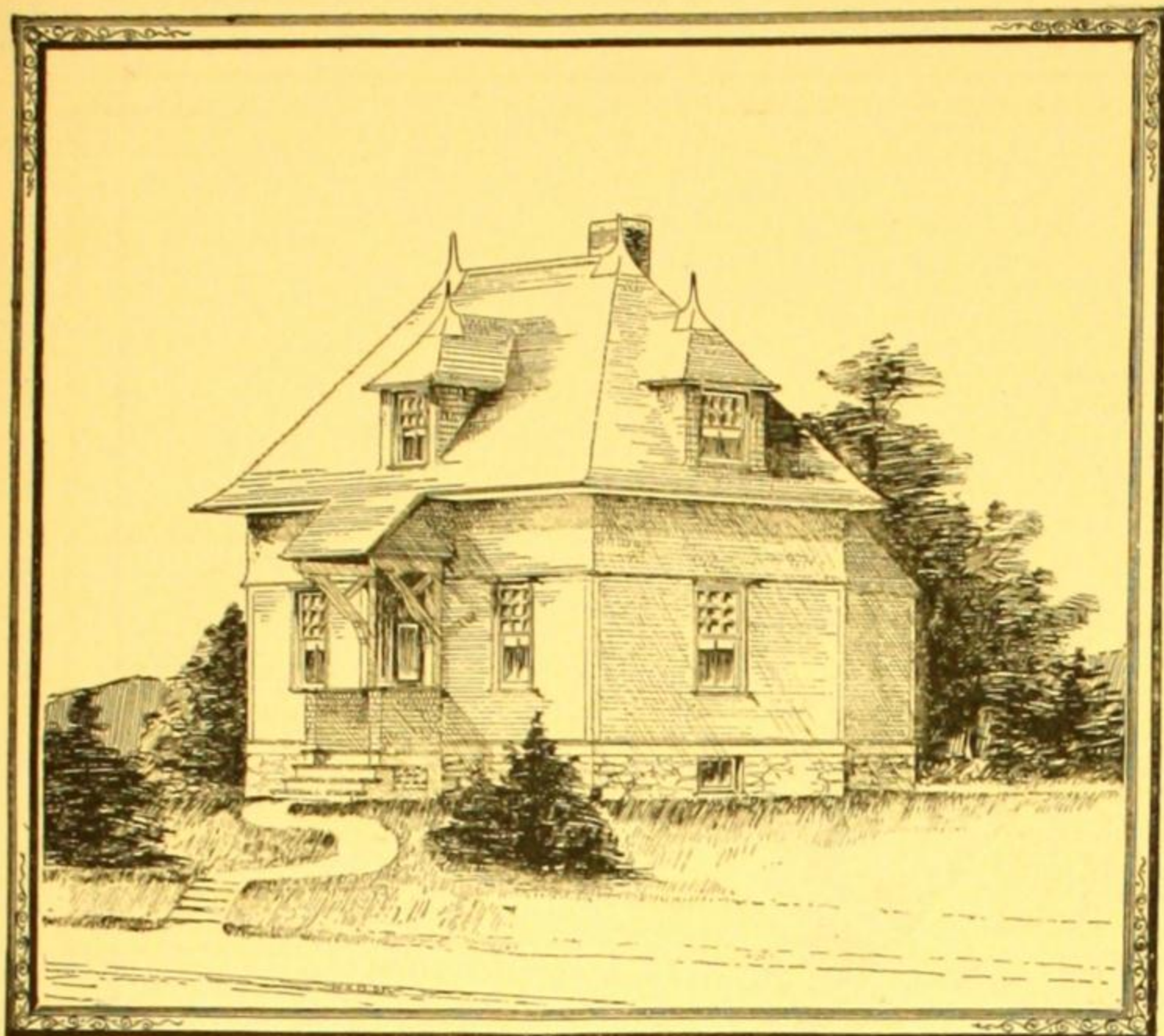


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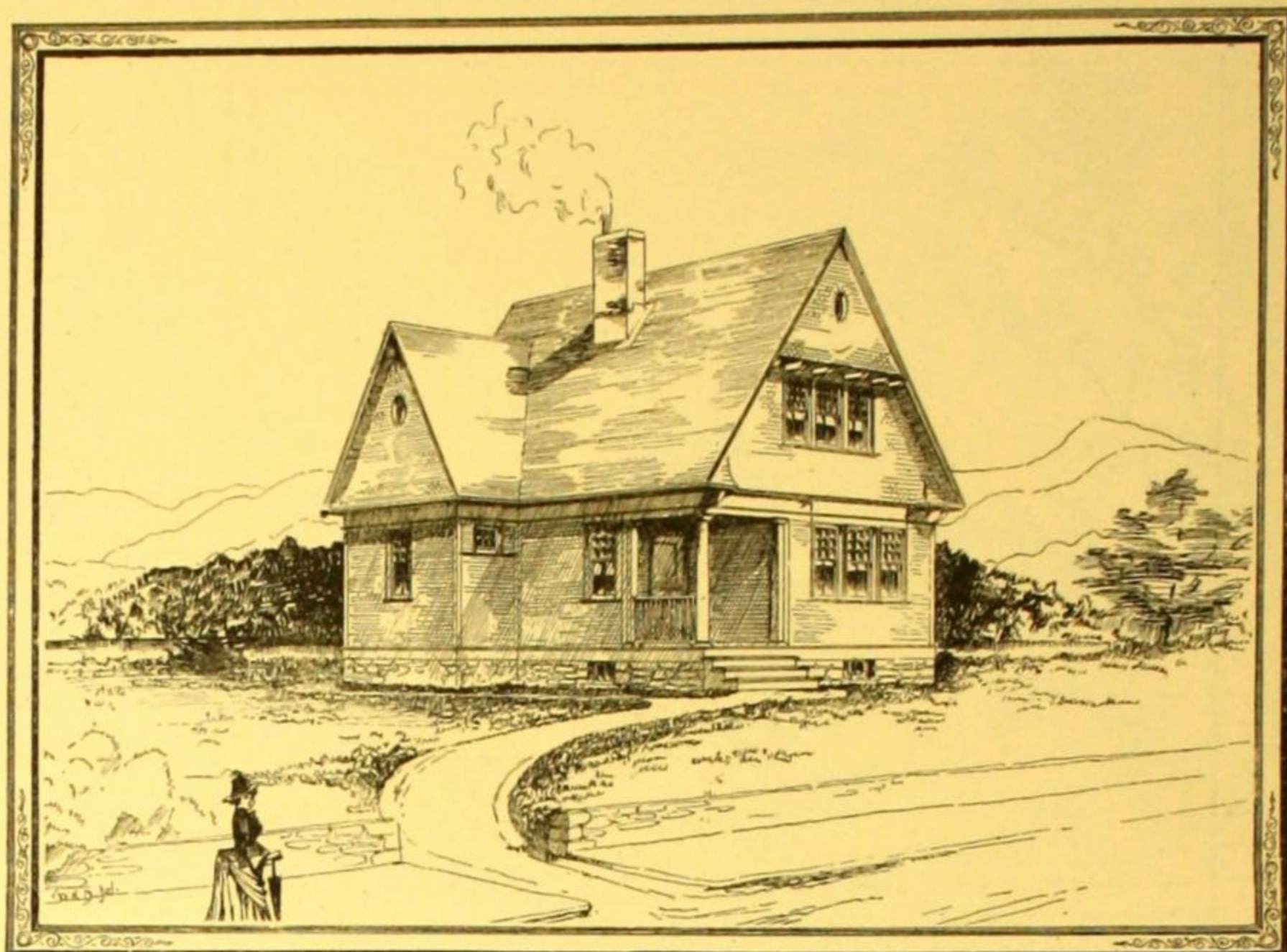


FIRST FLOOR OF DESIGN NO. 550.

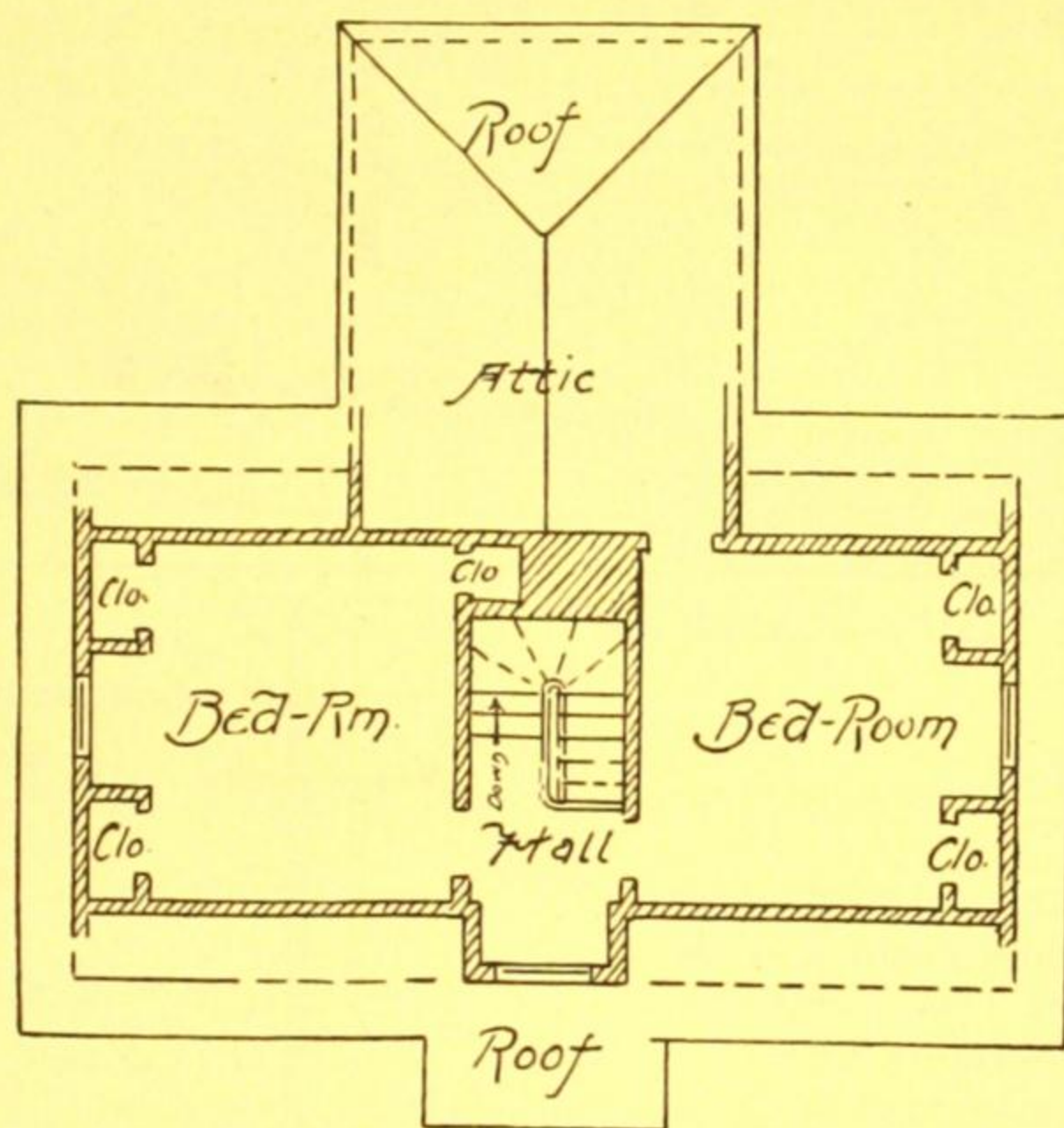
DESIGNS NUMBERS 551 AND 552—LOW-COST COTTAGES.



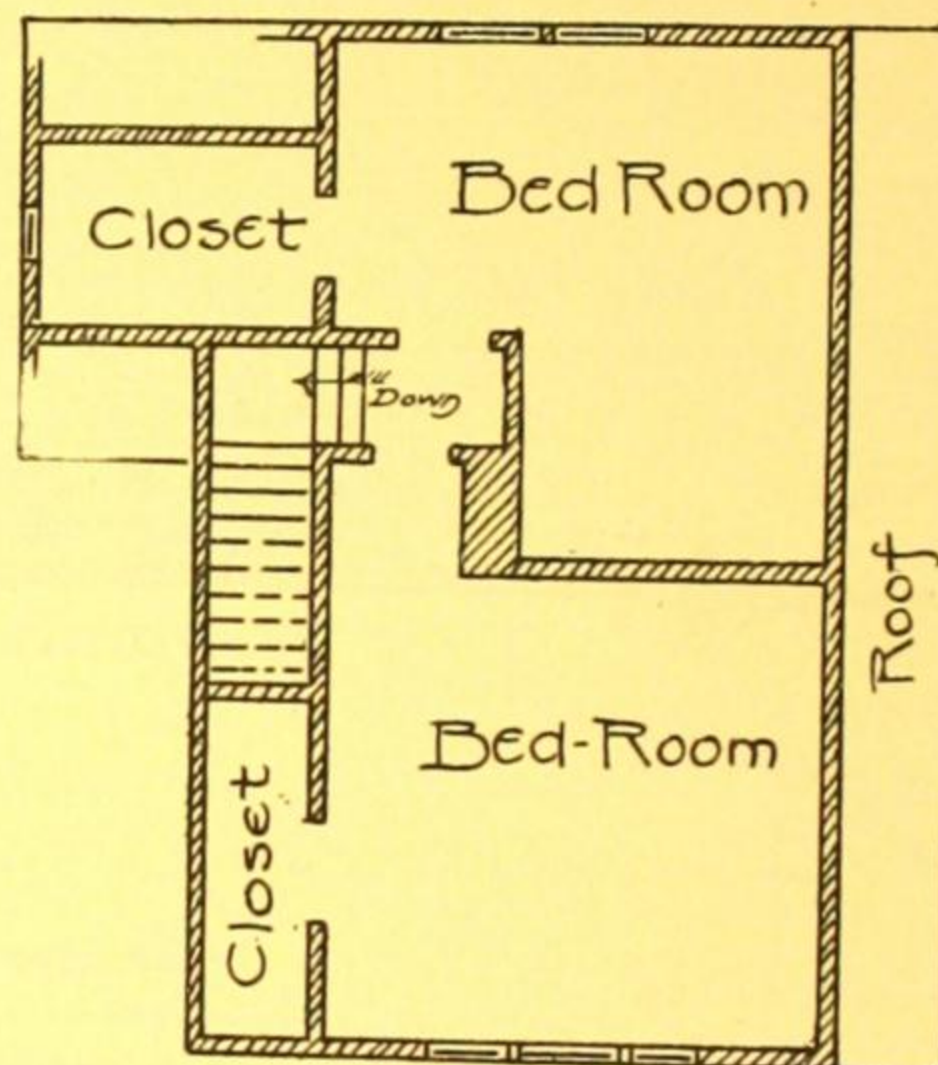
PERSPECTIVE VIEW OF DESIGN NUMBER 551.



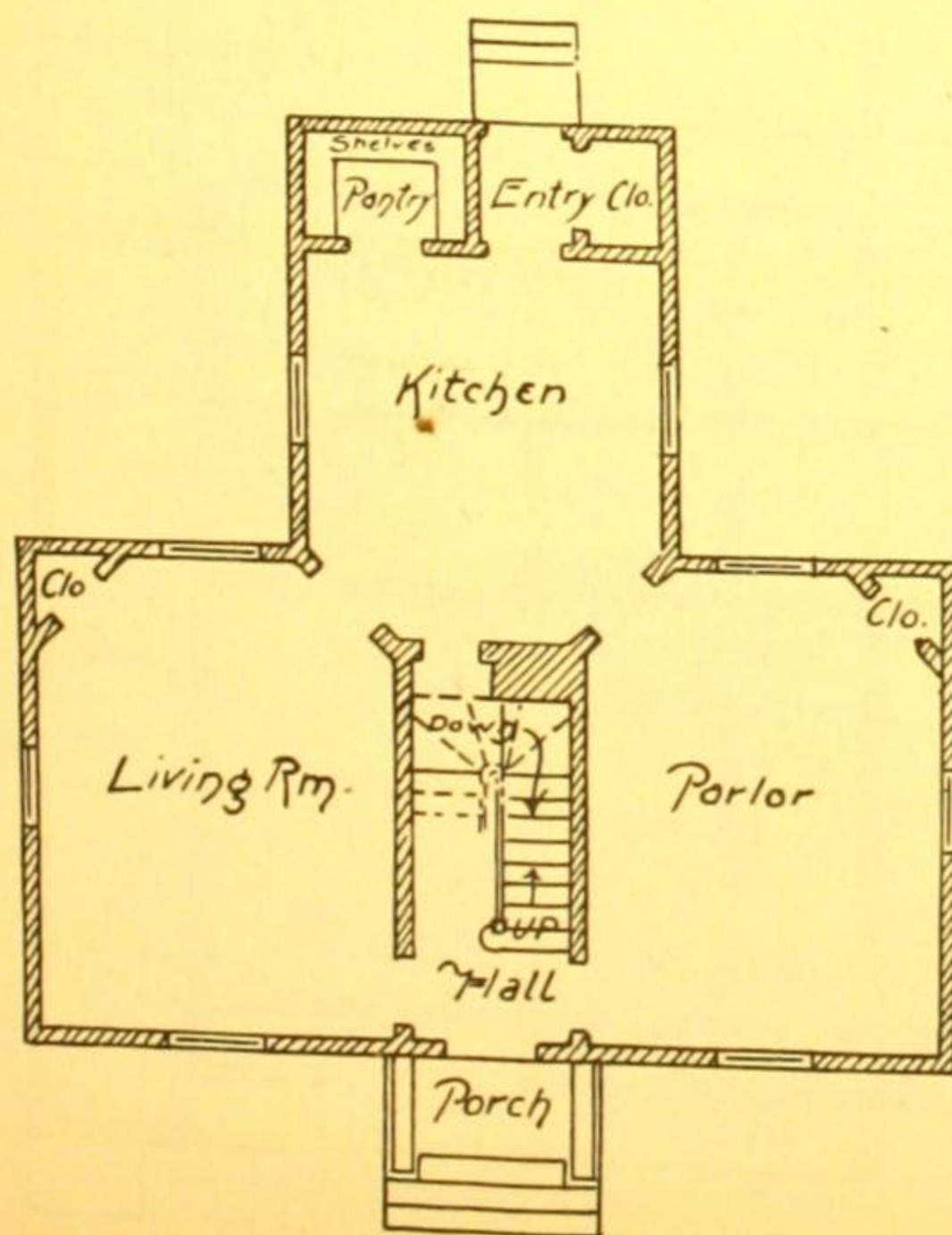
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SECOND FLOOR OF DESIGN NO. 551.

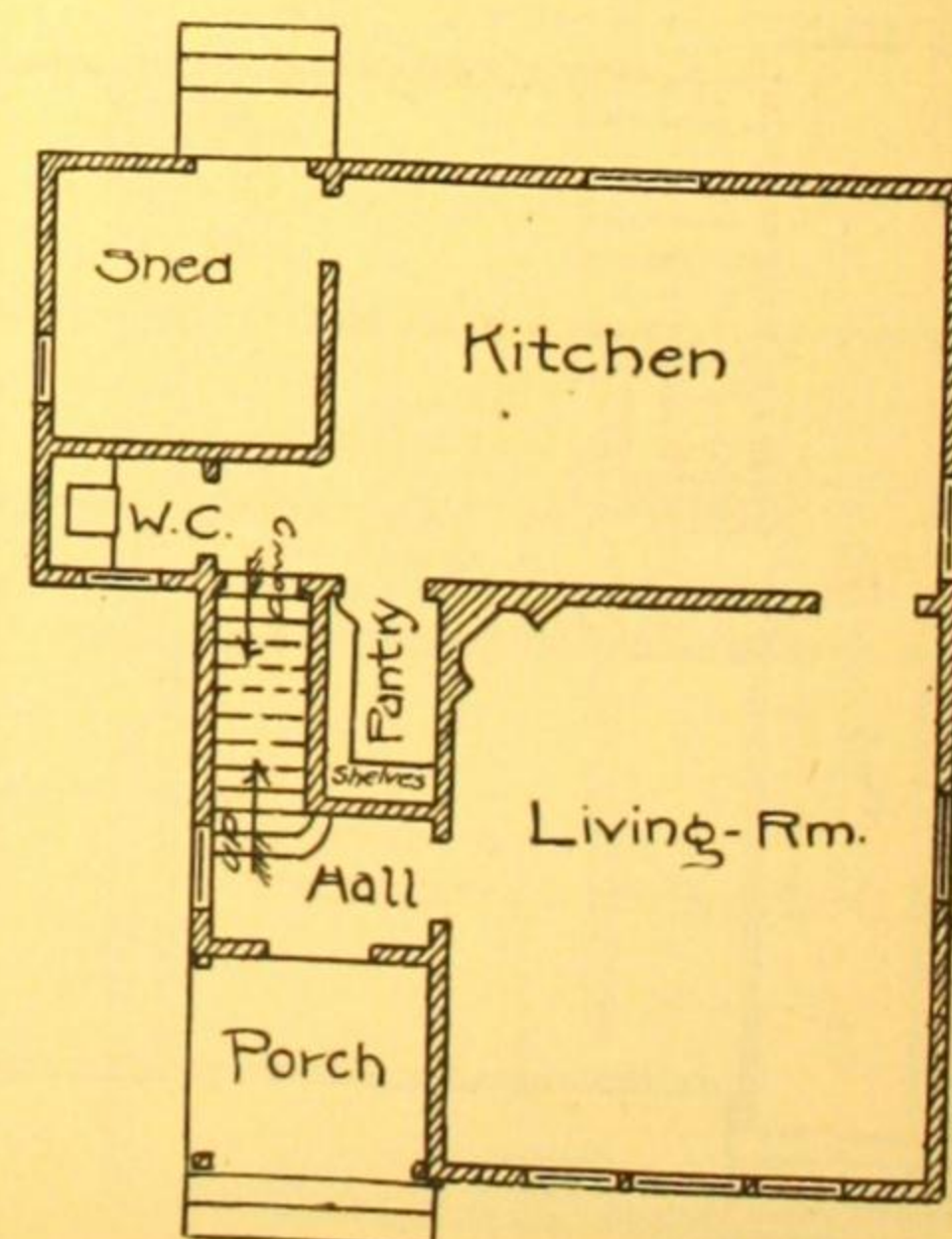


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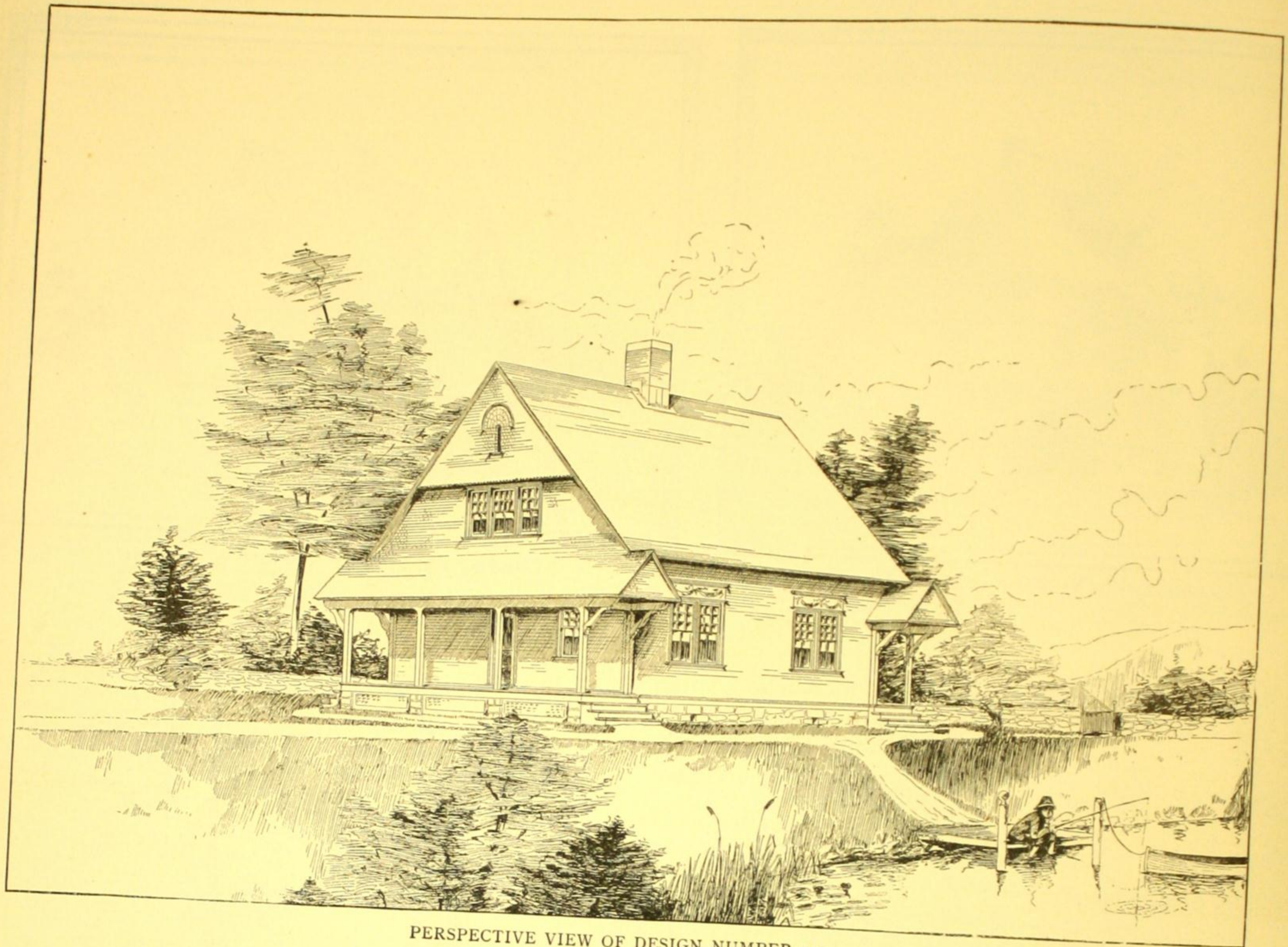
FIRST FLOOR OF DESIGN NO. 551.

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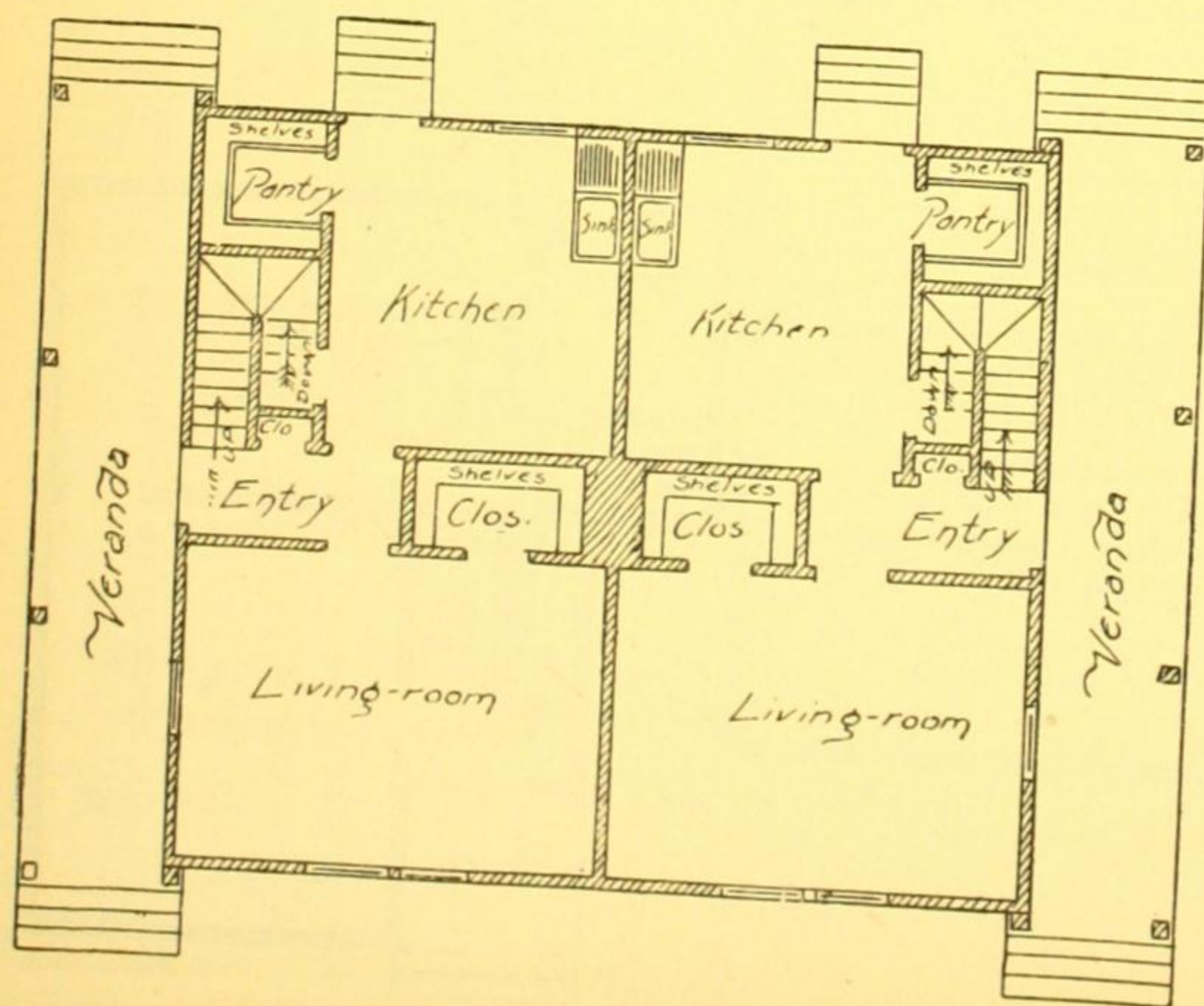
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DESIGN NUMBER 553—A DOUBLE COTTAGE.

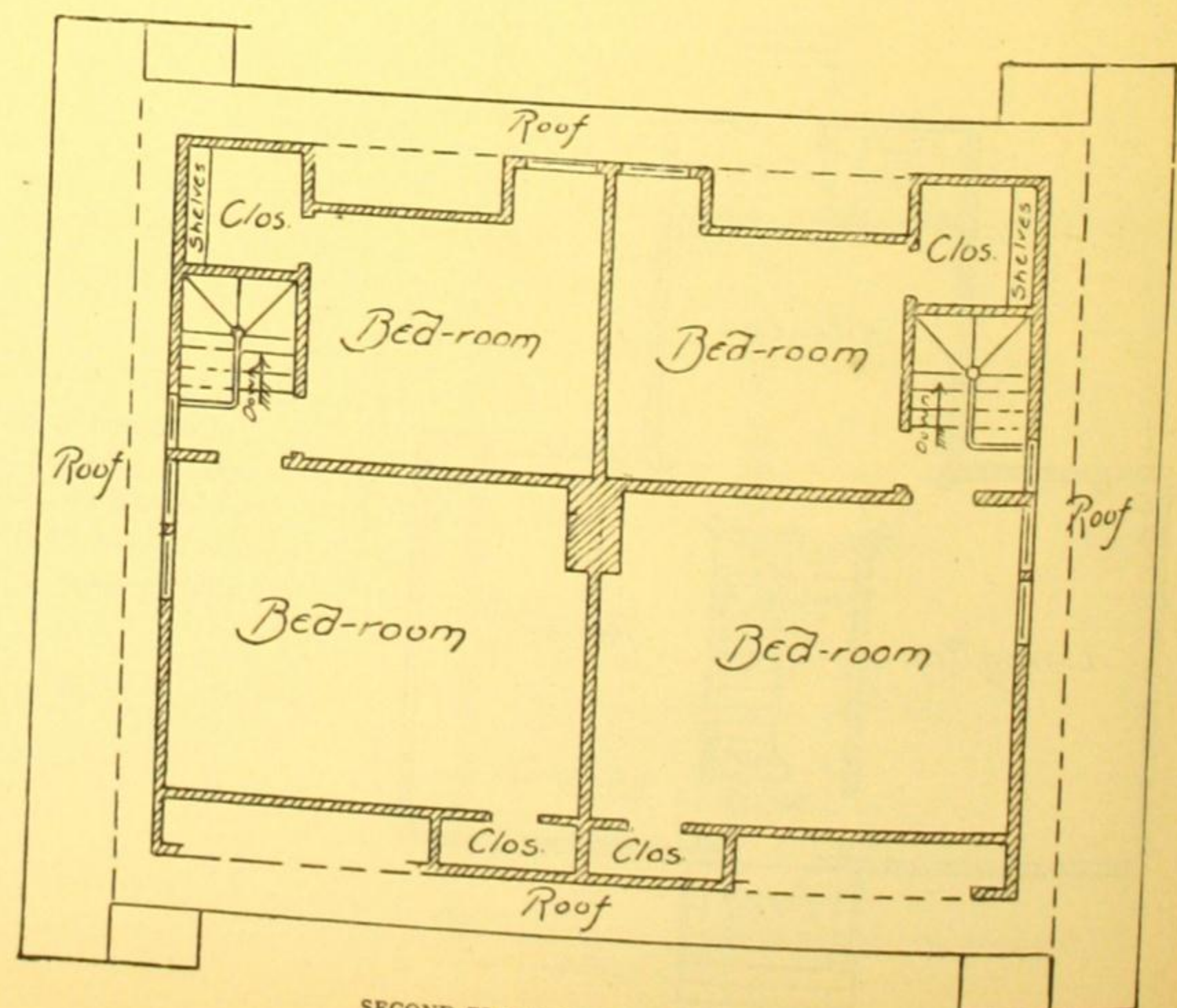


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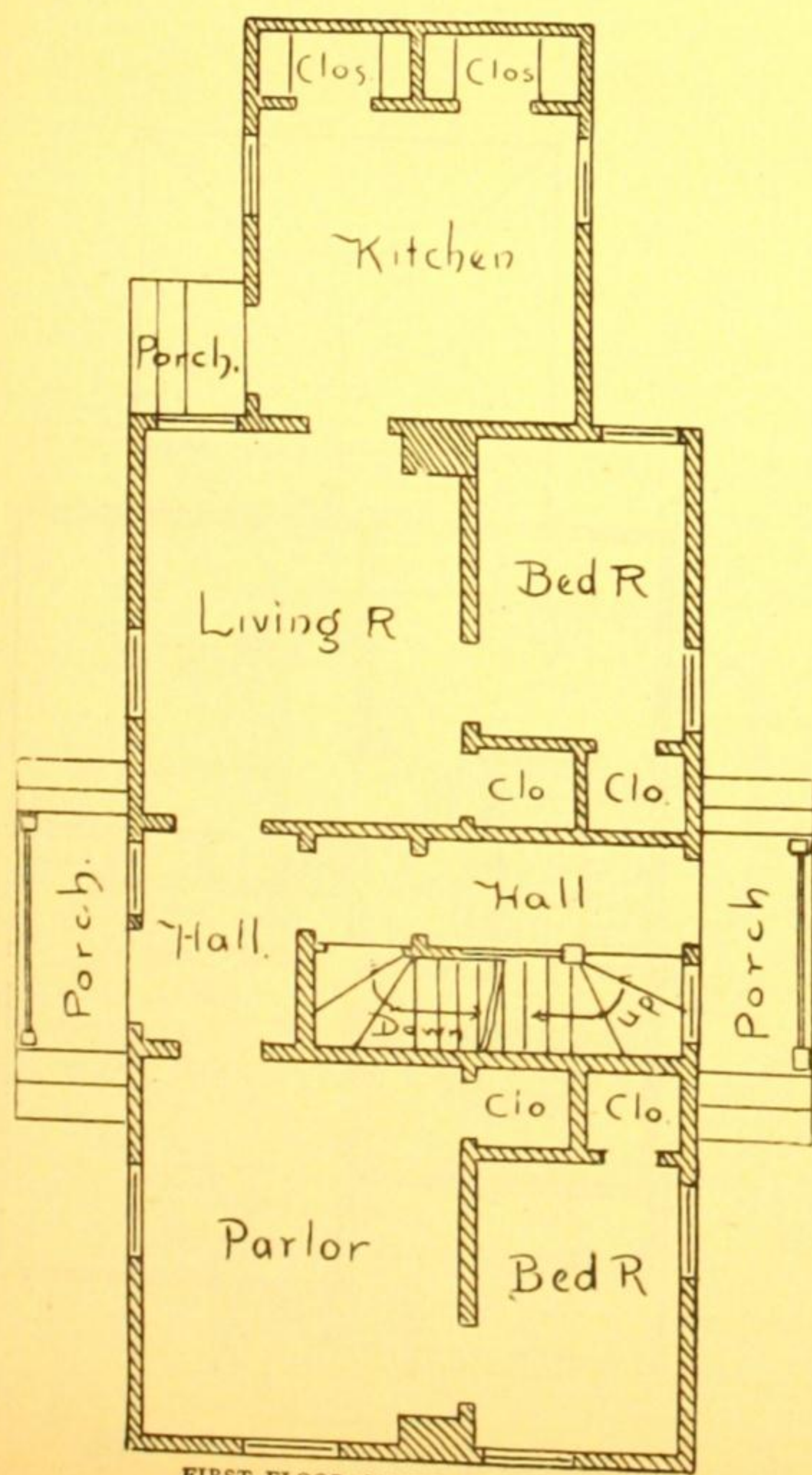
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SECOND FLOOR OF DESIGN NO. 553.

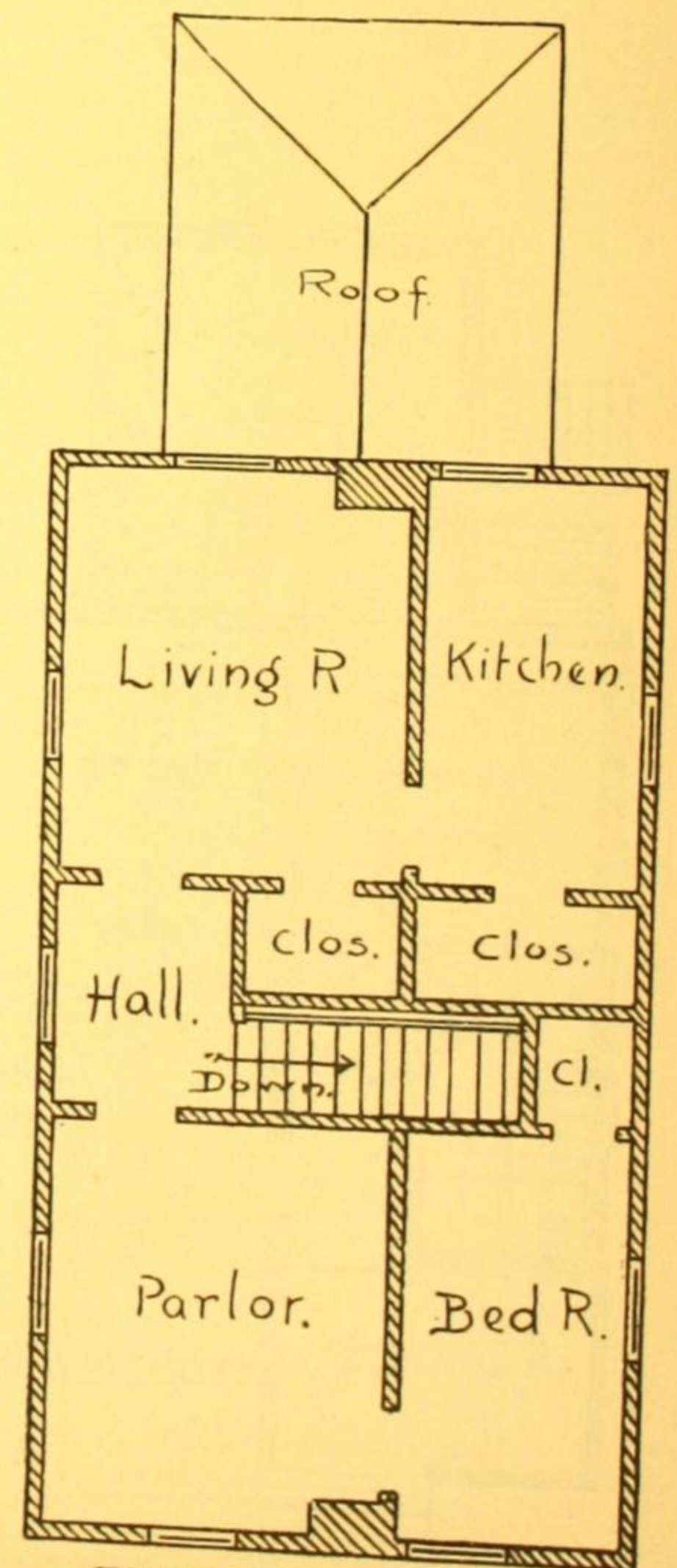


PERSPECTIVE VIEW OF DESIGN NUMBER 554.



FIRST FLOOR OF DESIGN NO. 554.

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SECOND FLOOR OF DESIGN NO. 554.

DESIGN NUMBER 555—A FRAME RESIDENCE, FIRST STORY BRICK-VENEERED.

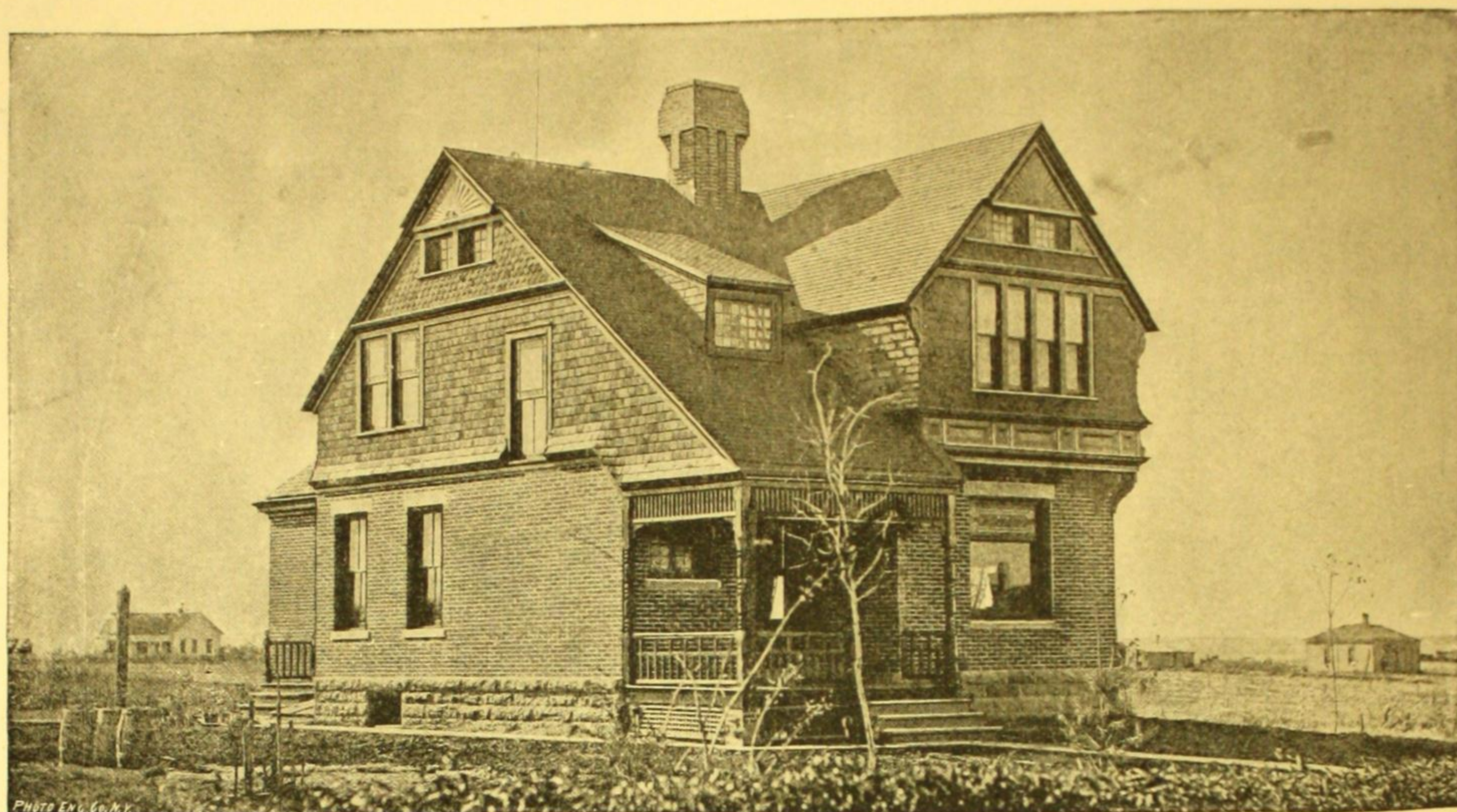
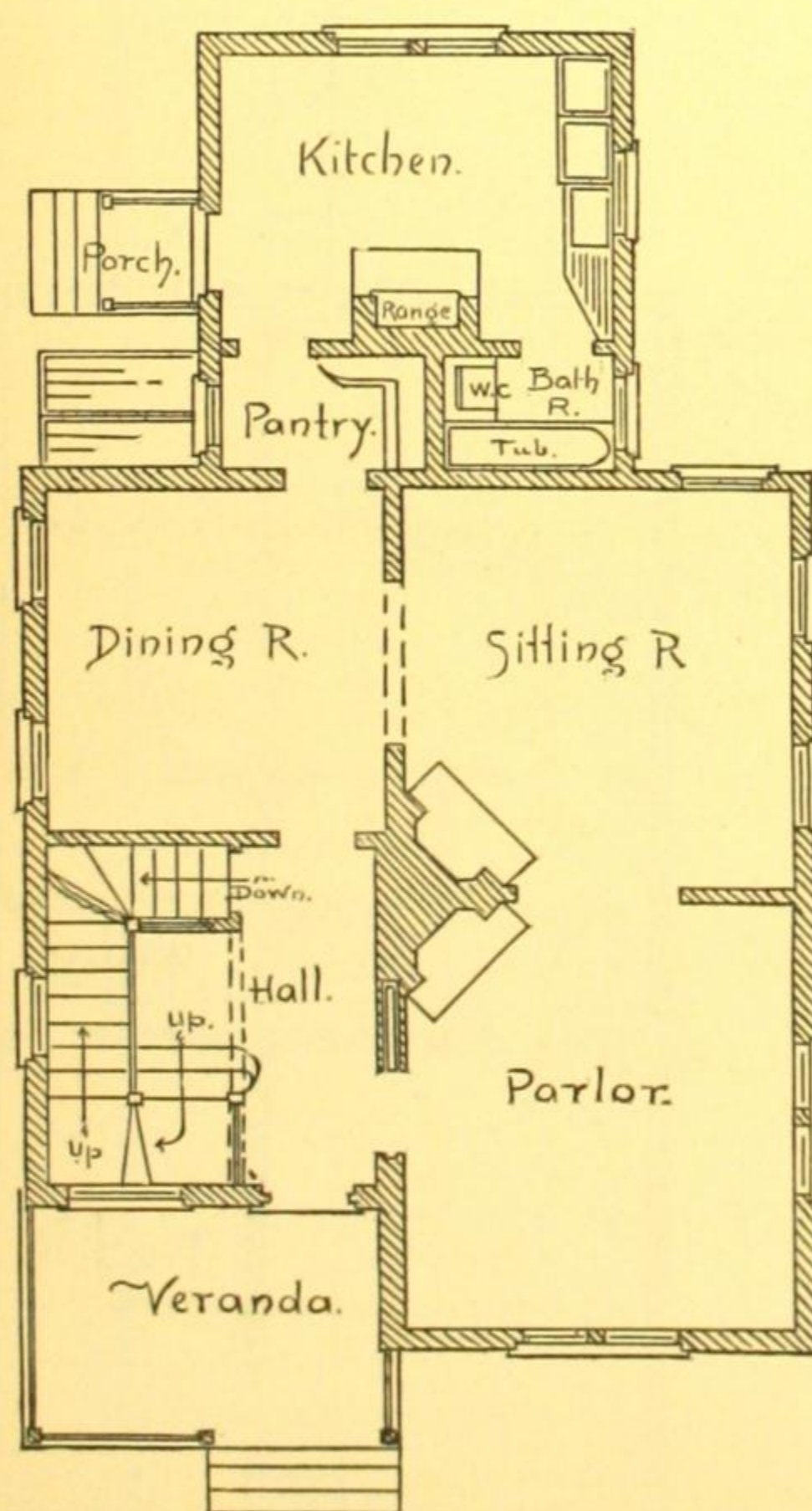


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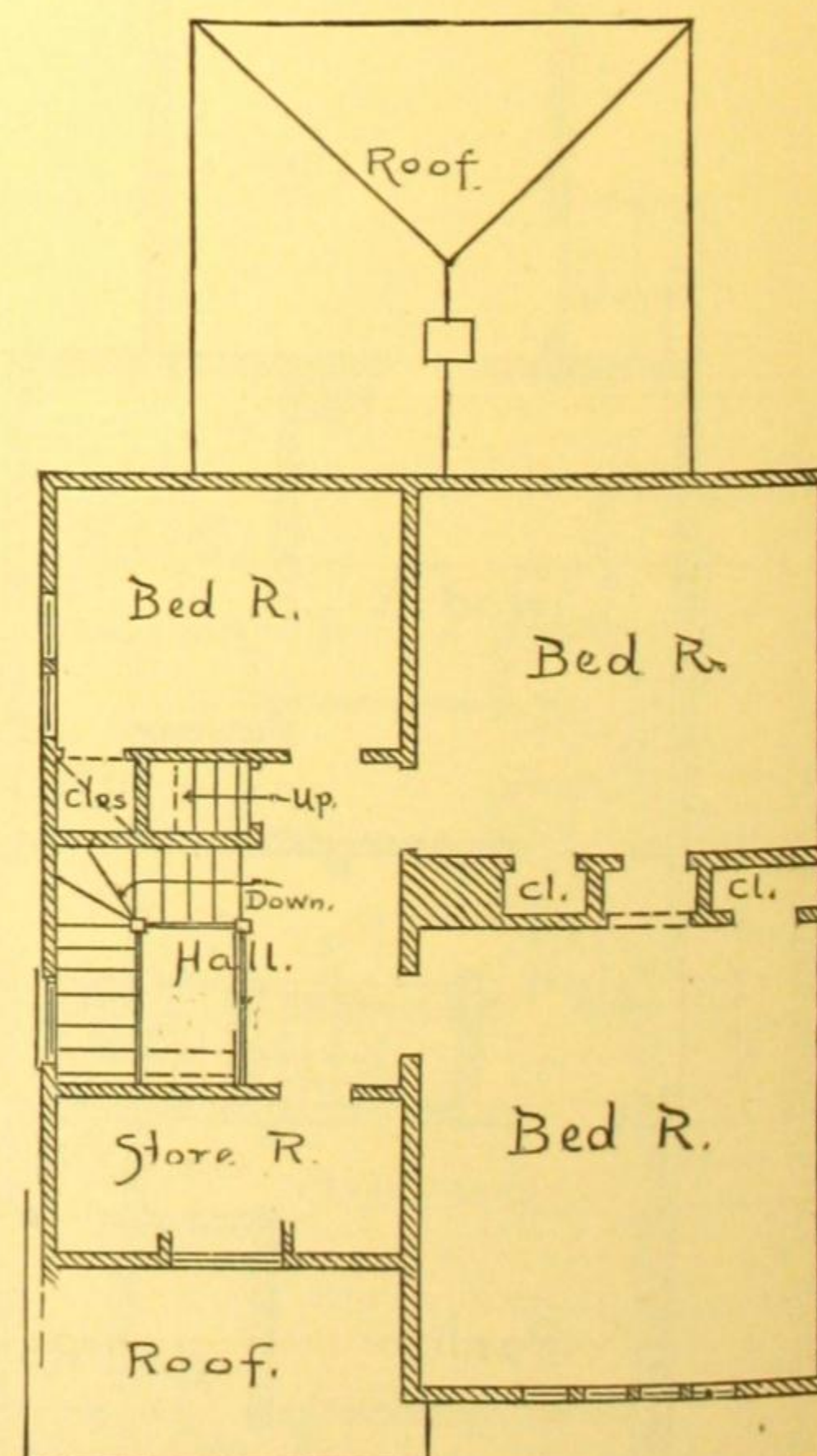
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PHOTOGRAPHIC VIEW OF DESIGN NUMBER 555.



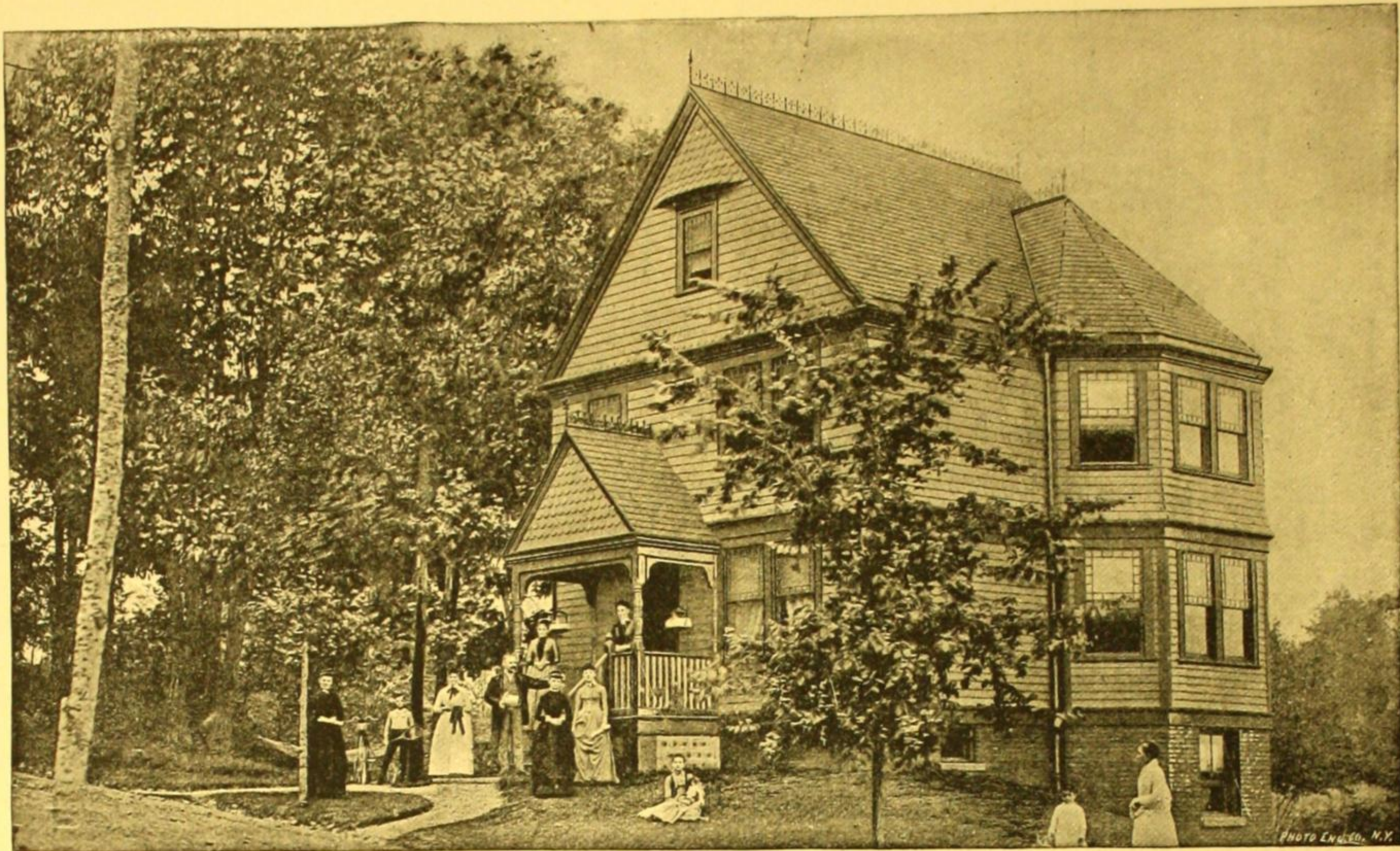
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See page 47



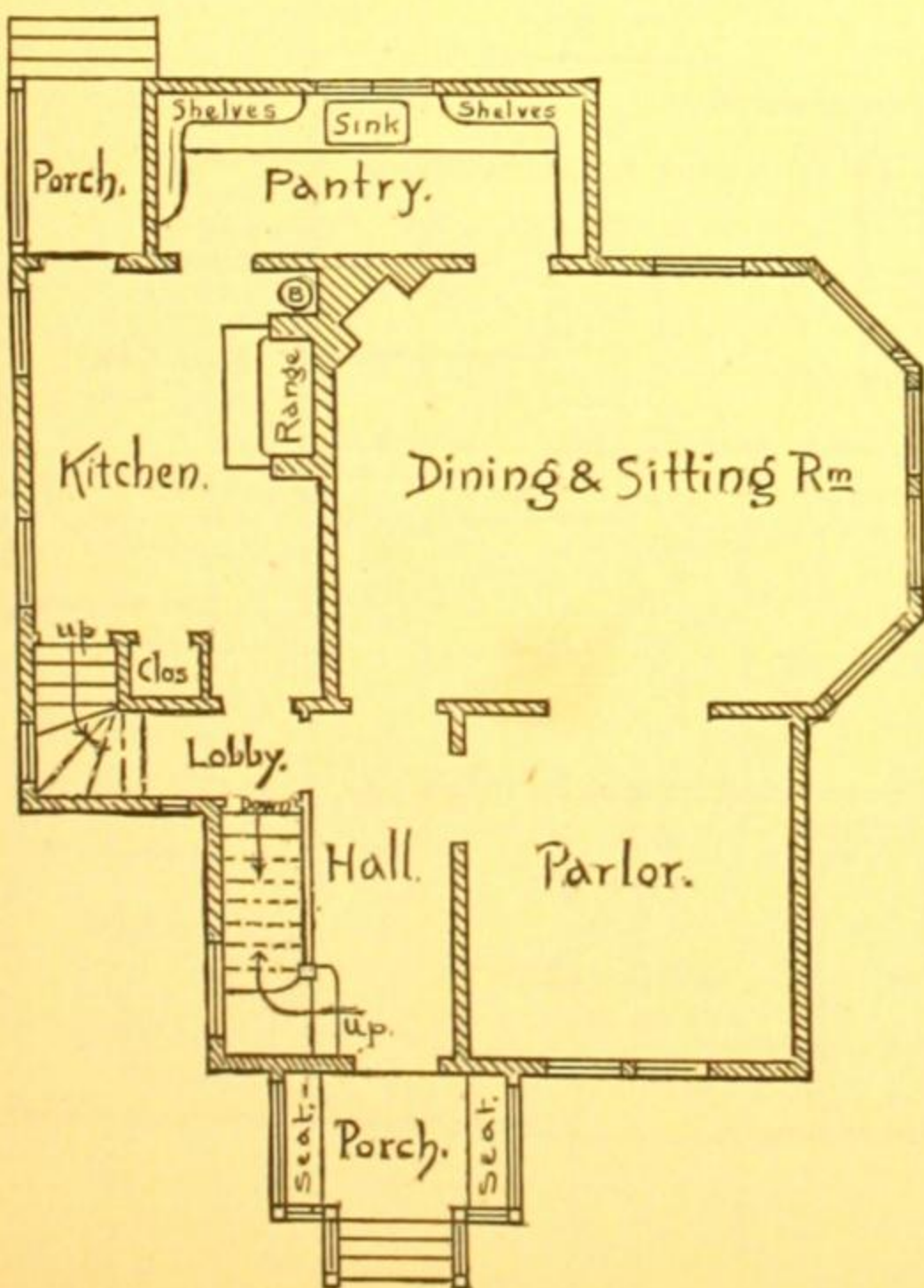
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DESIGN NUMBER 556—A FRAME RESIDENCE.

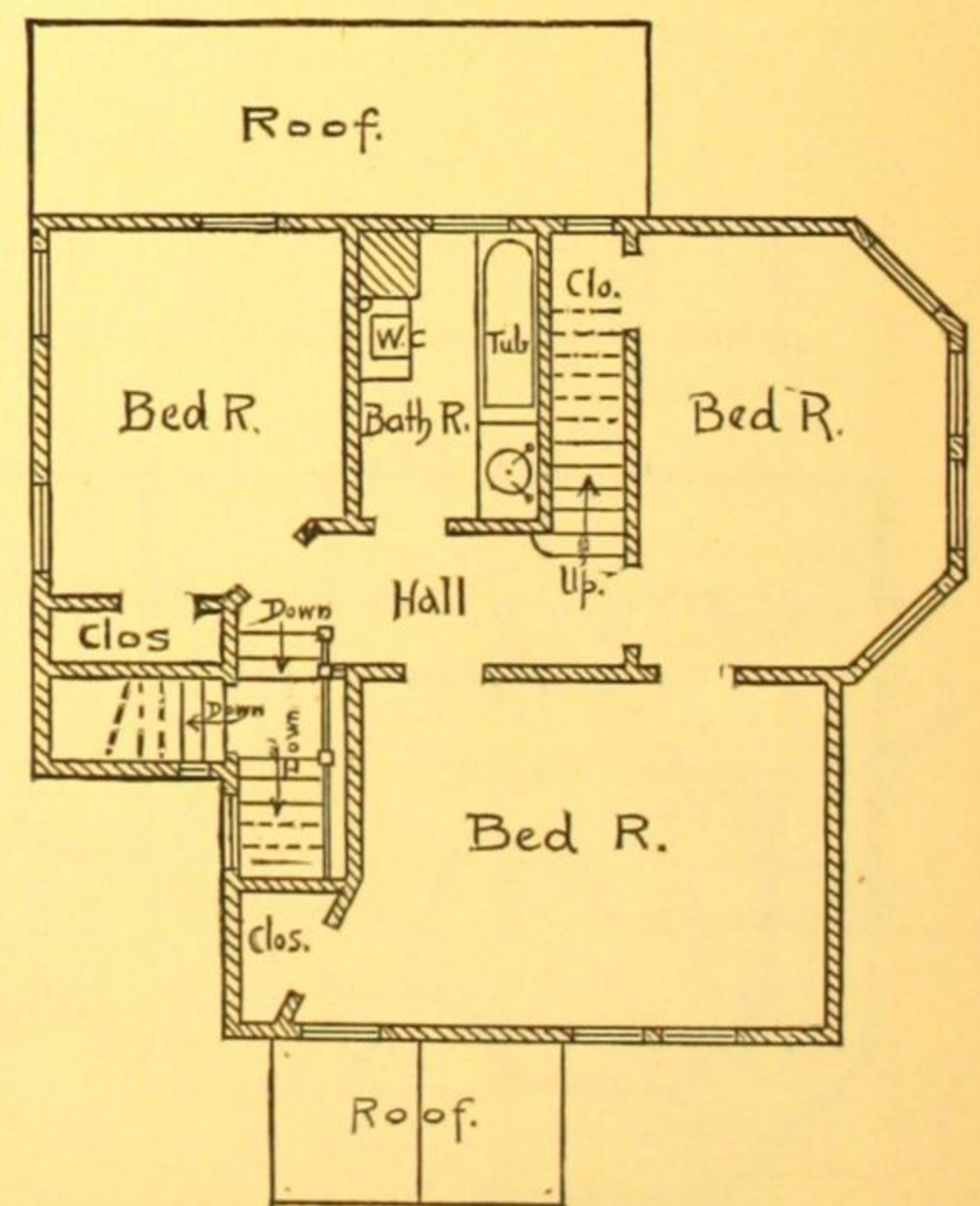


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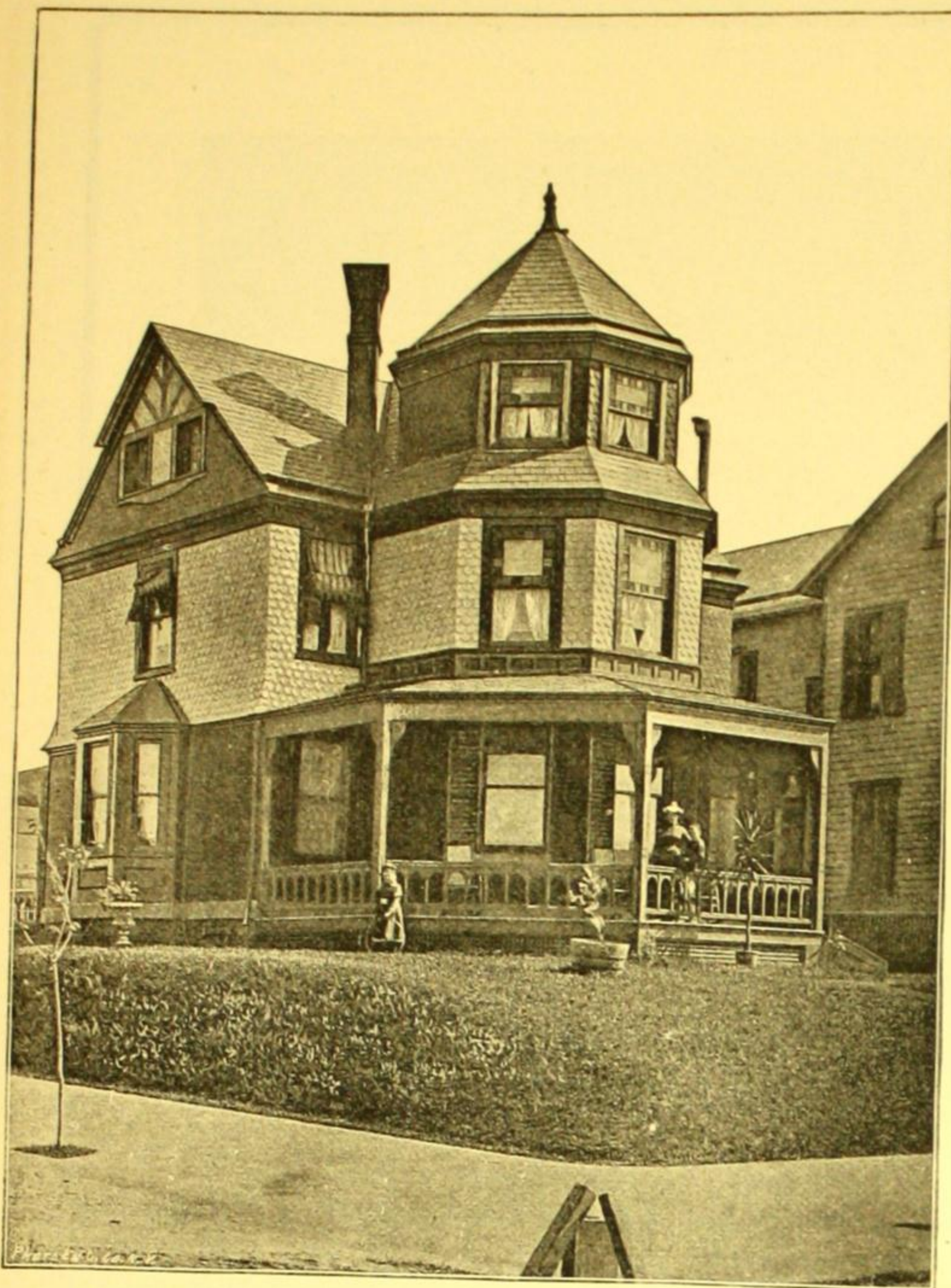


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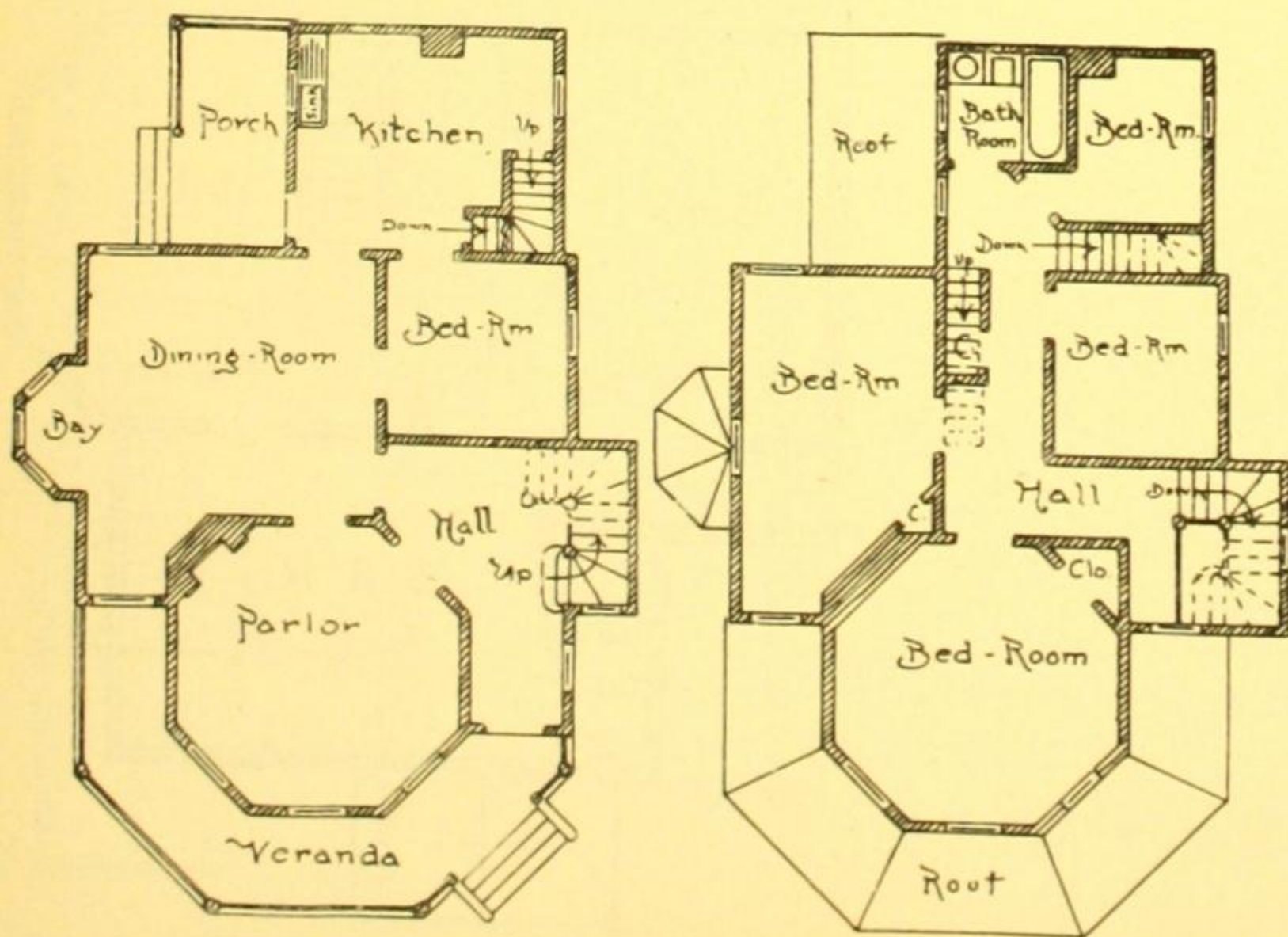
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DESIGN NUMBER 557—A FRAME RESIDENCE.



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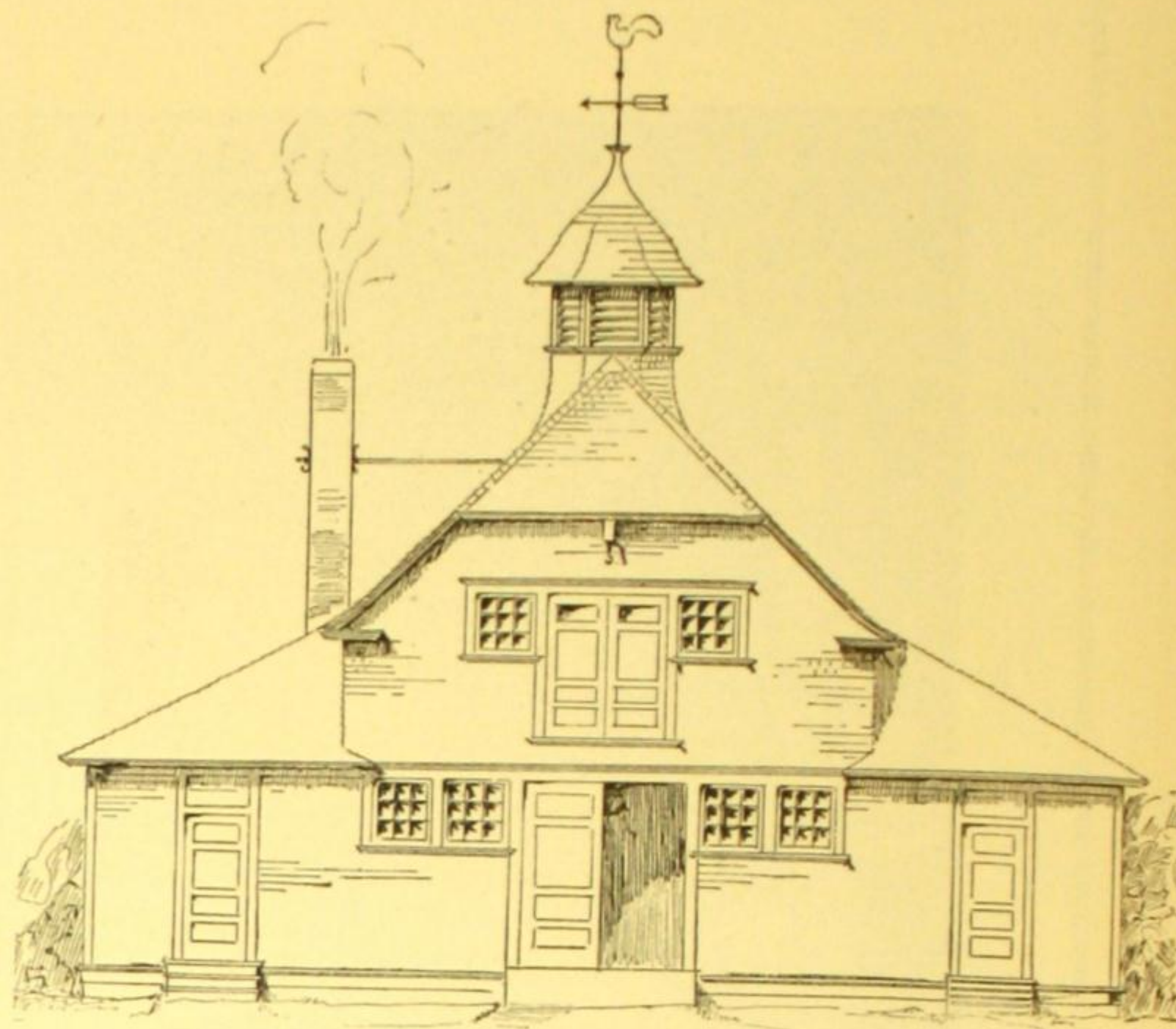
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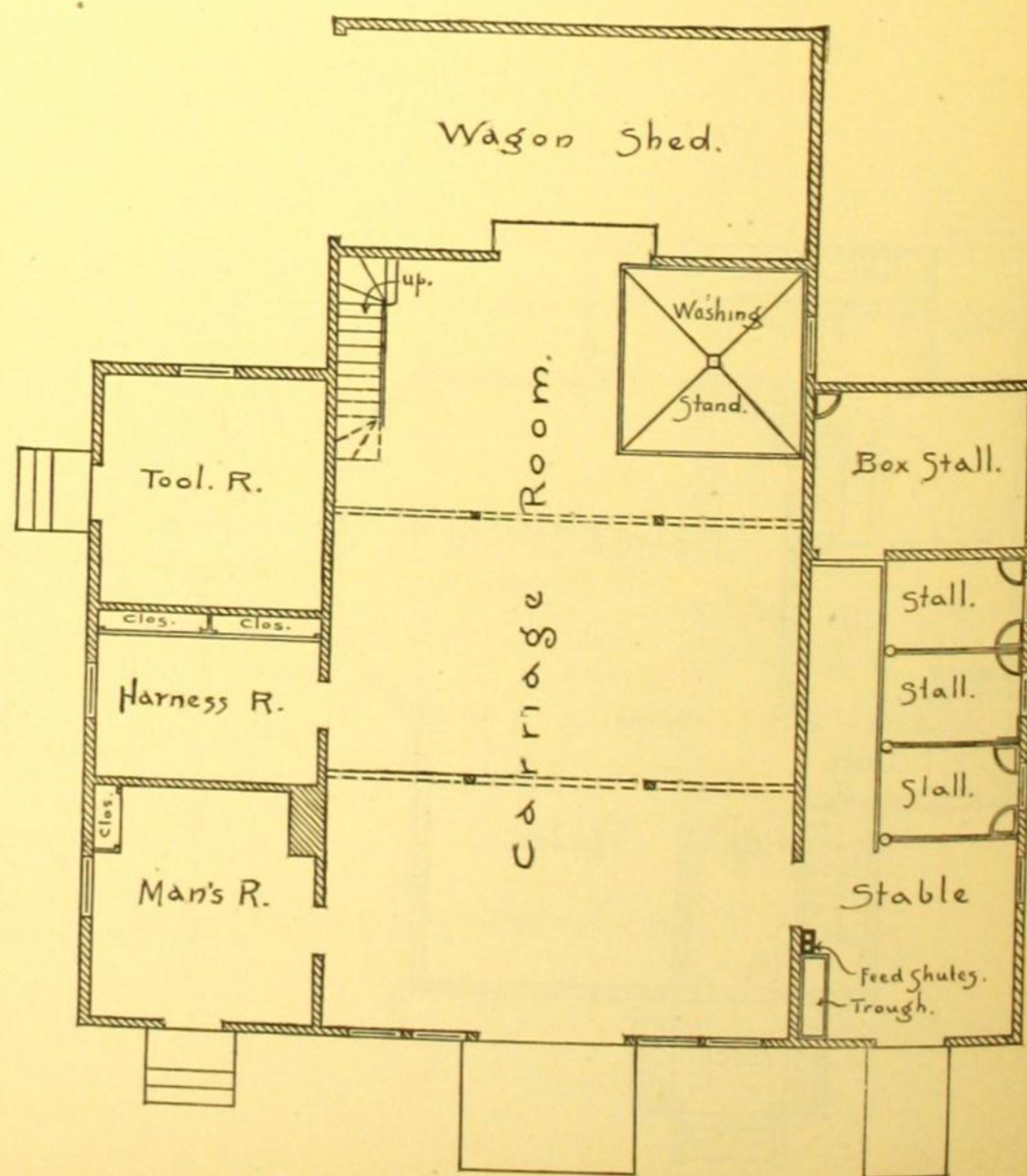
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DESIGN NUMBER 558—A FRAME STABLE AND CARRIAGE HOUSE.



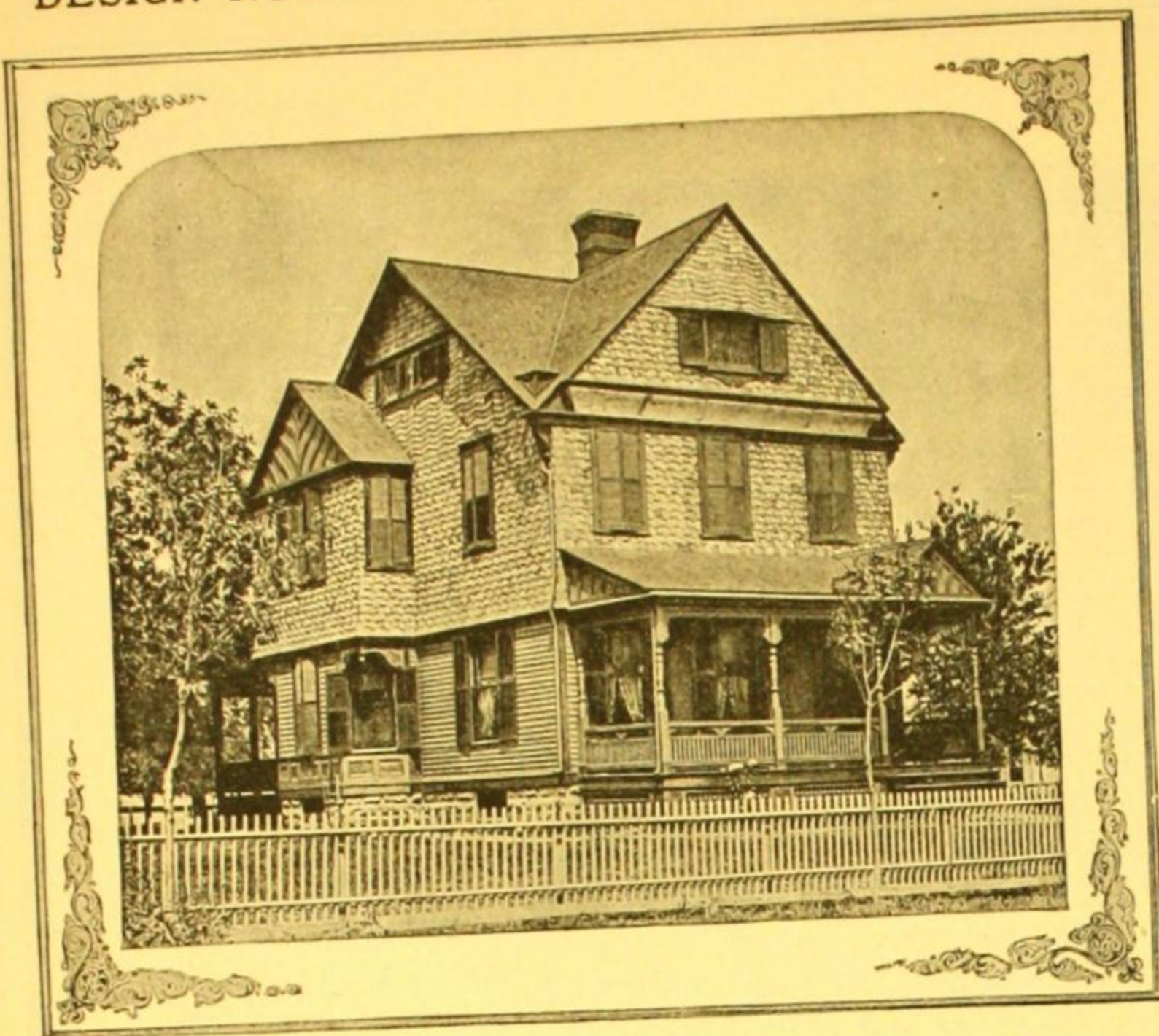
FRONT ELEVATION OF STABLE, ETC., DESIGN NUMBER 558.

Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York. See page 47.



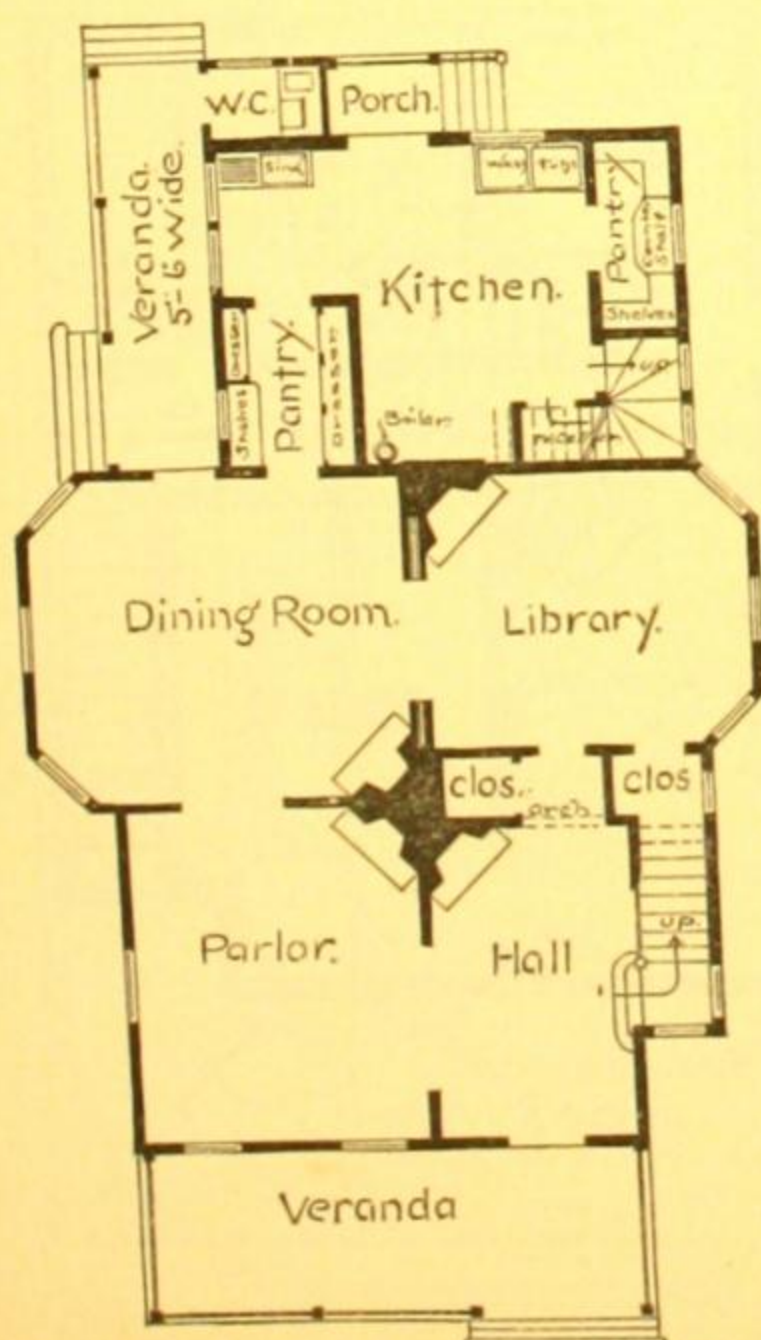
GROUND PLAN OF STABLE, ETC., DESIGN NO. 558.

DESIGN NUMBER 559—A FRAME RESIDENCE.

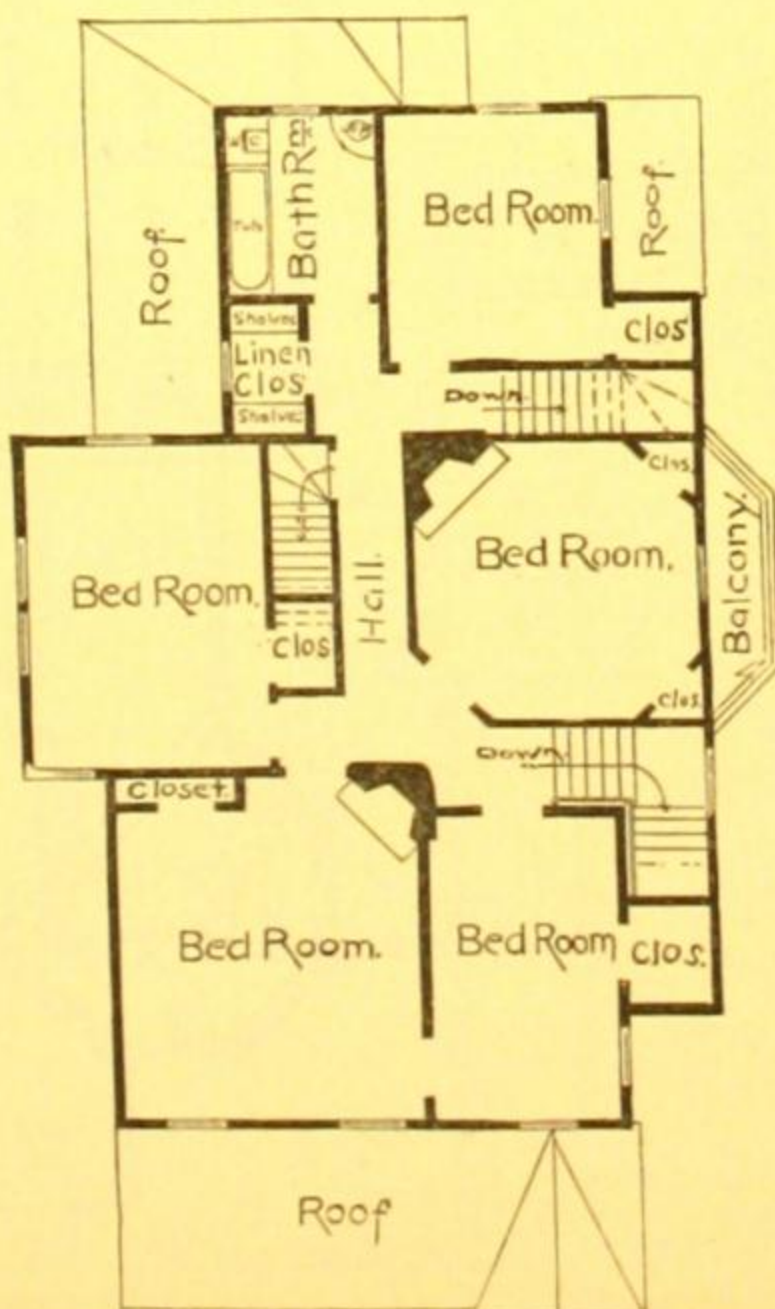


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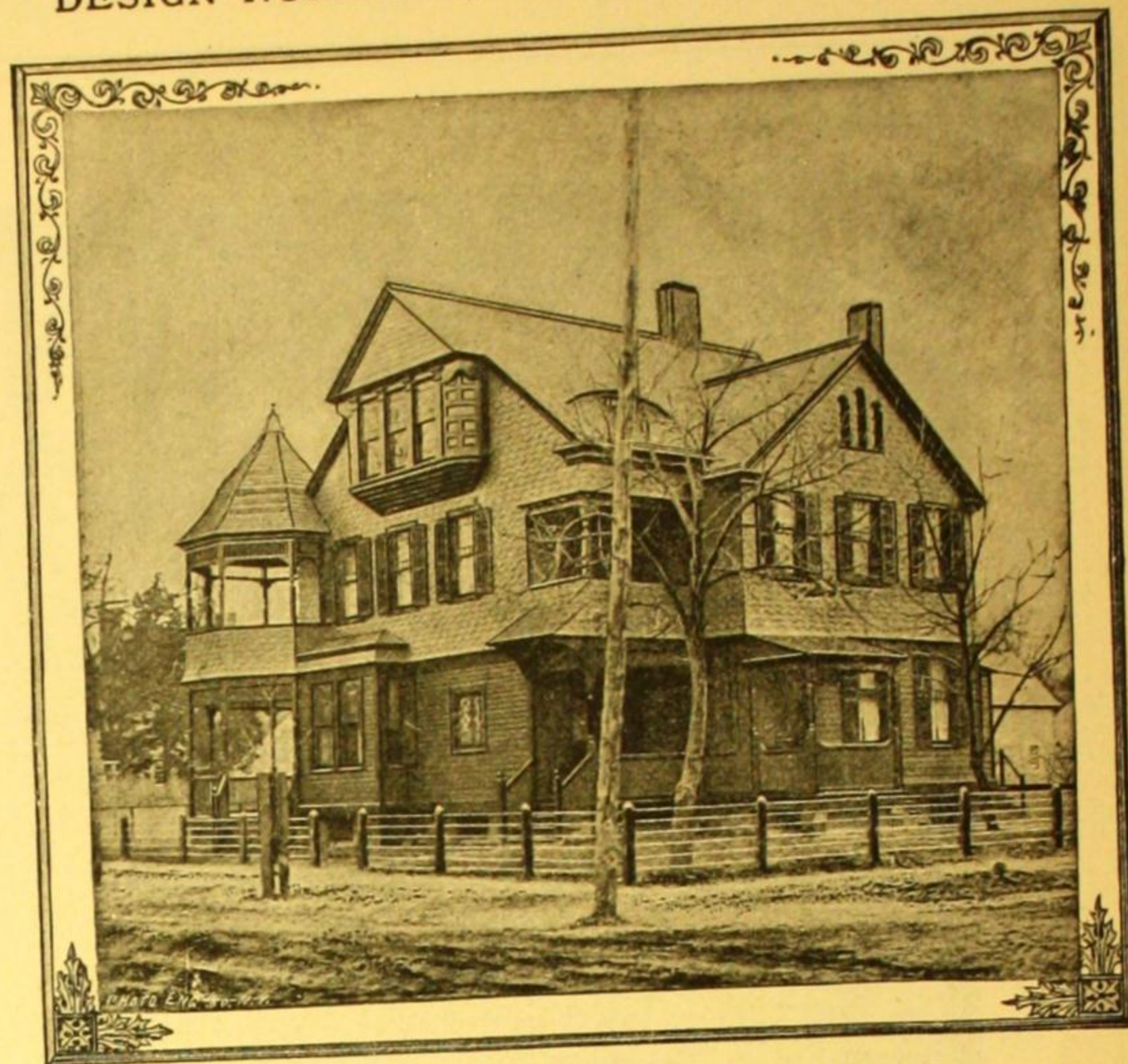


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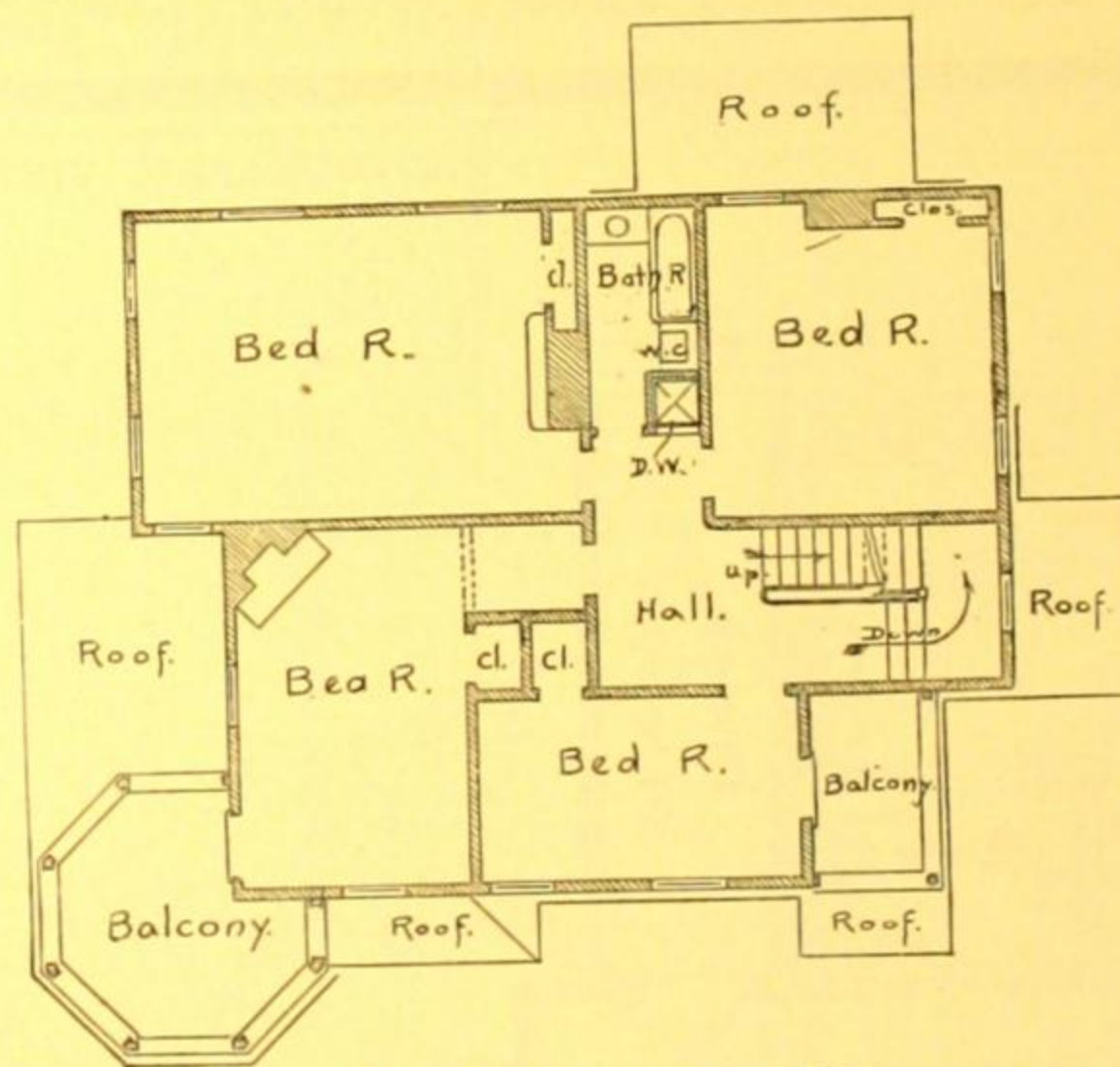
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DESIGN NUMBER 560—A FRAME RESIDENCE.

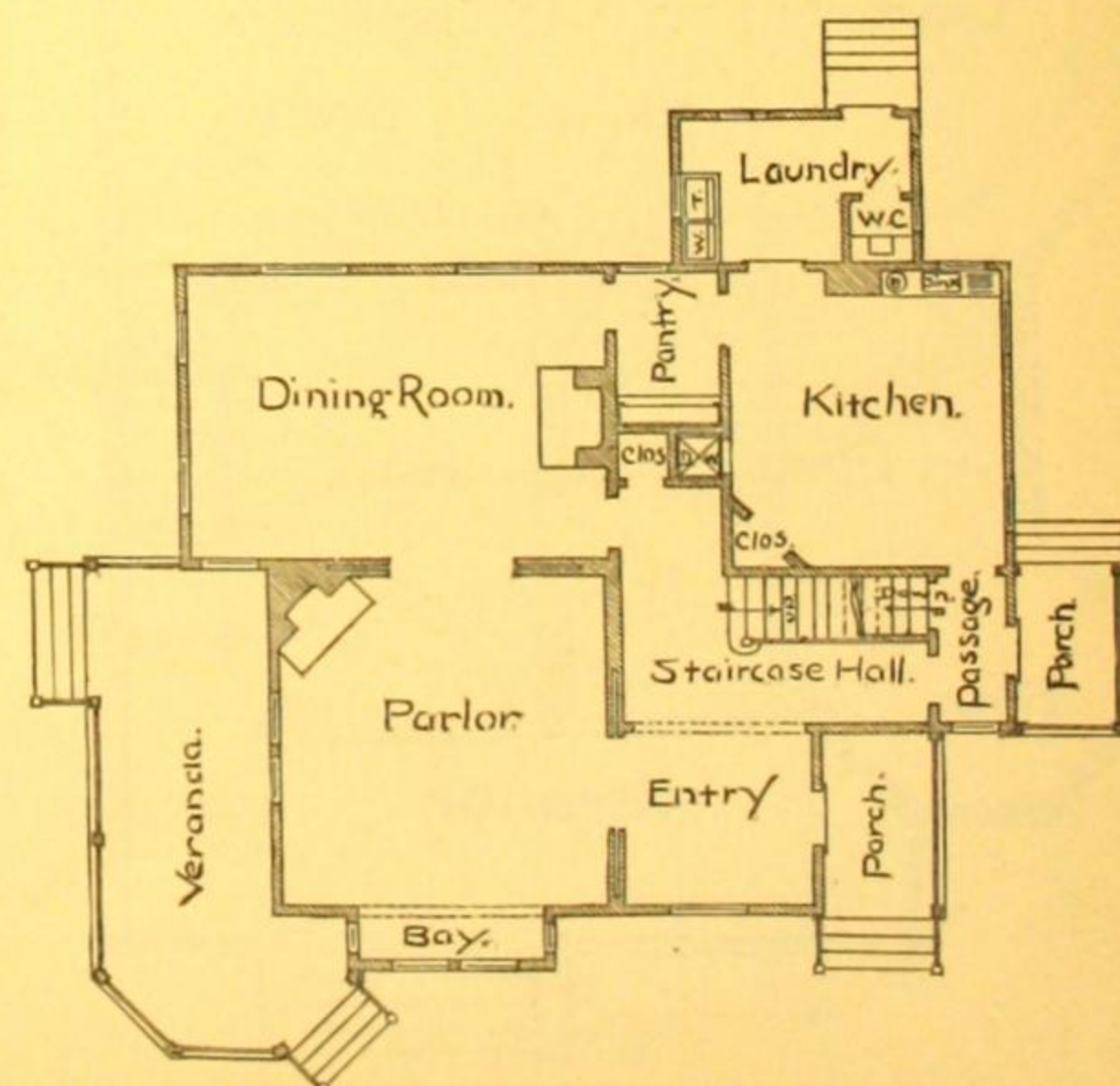


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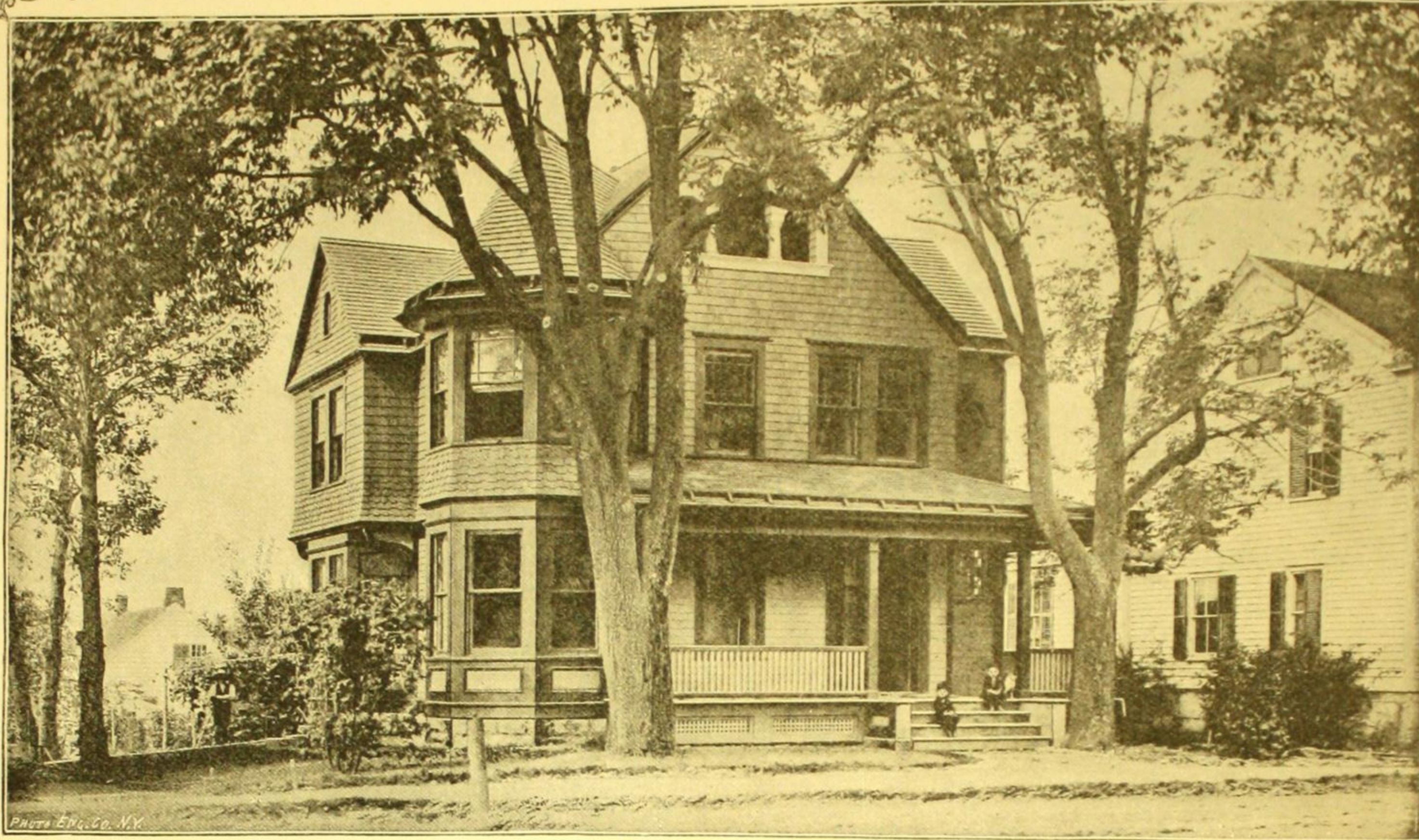


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FIRST FLOOR OF DESIGN NO. 560.

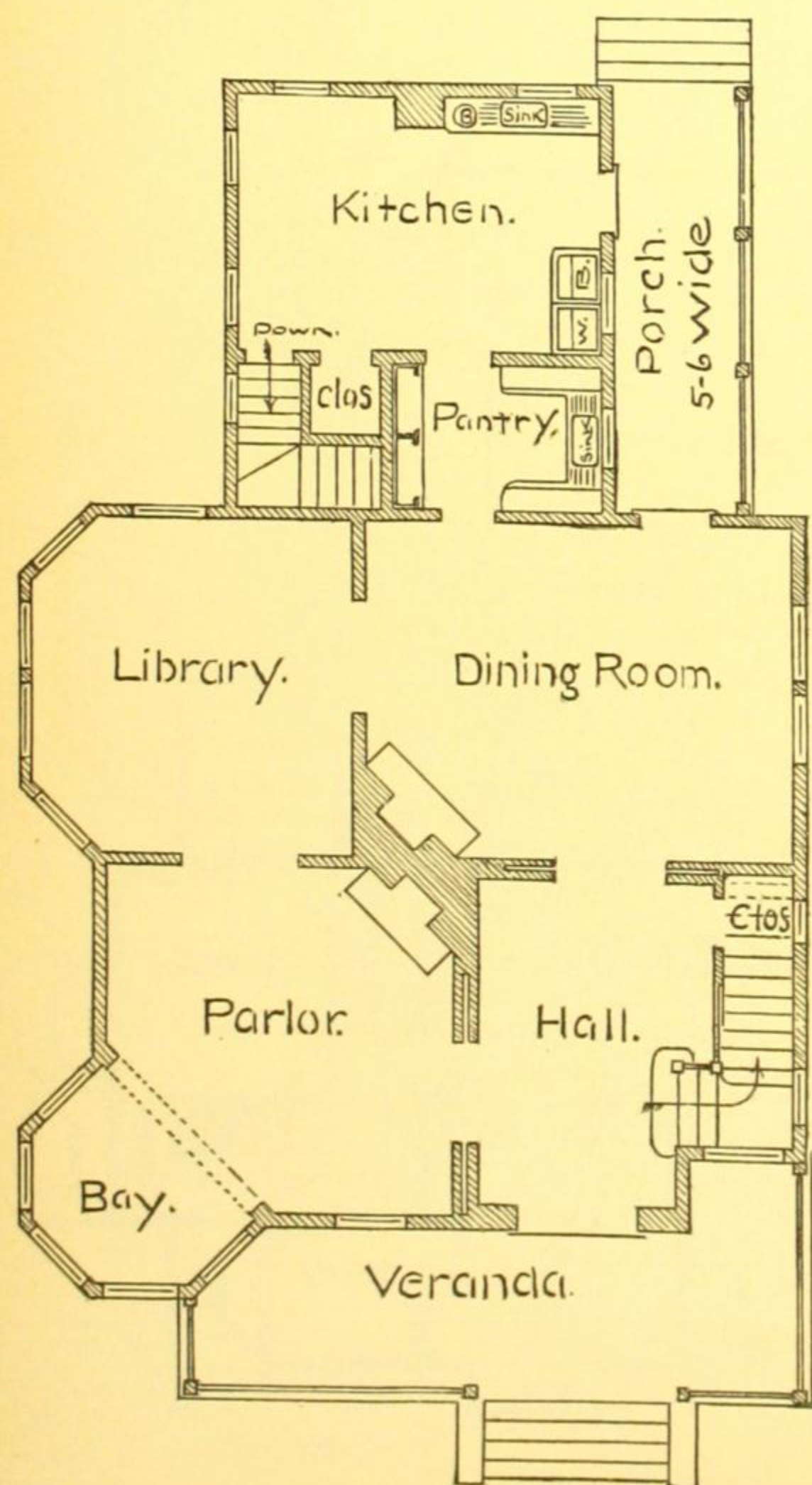
DESIGN NUMBER 561—A FRAME RESIDENCE.



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ARCHITECTS •

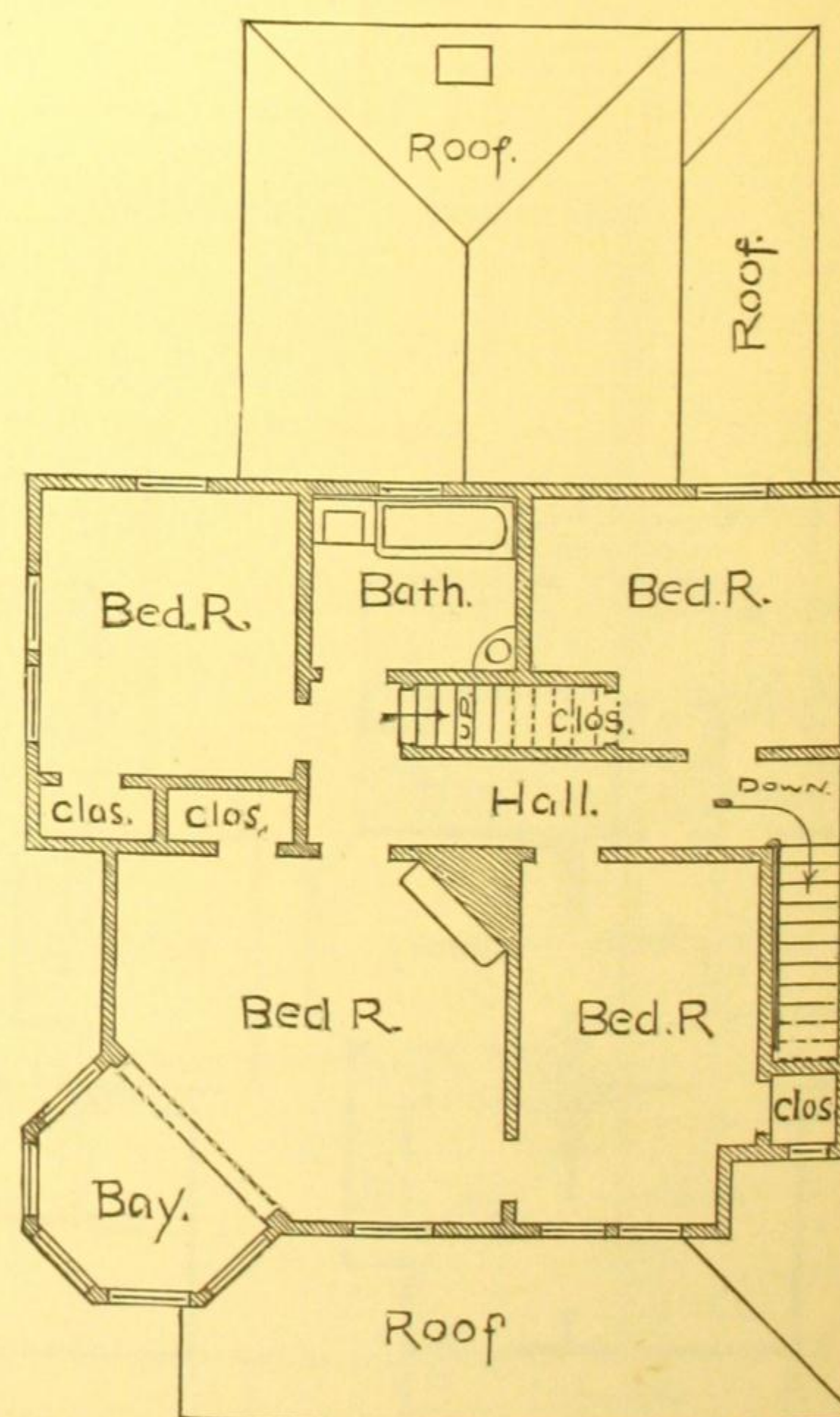
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PHOTOGRAPHIC VIEW OF DESIGN NUMBER 561.

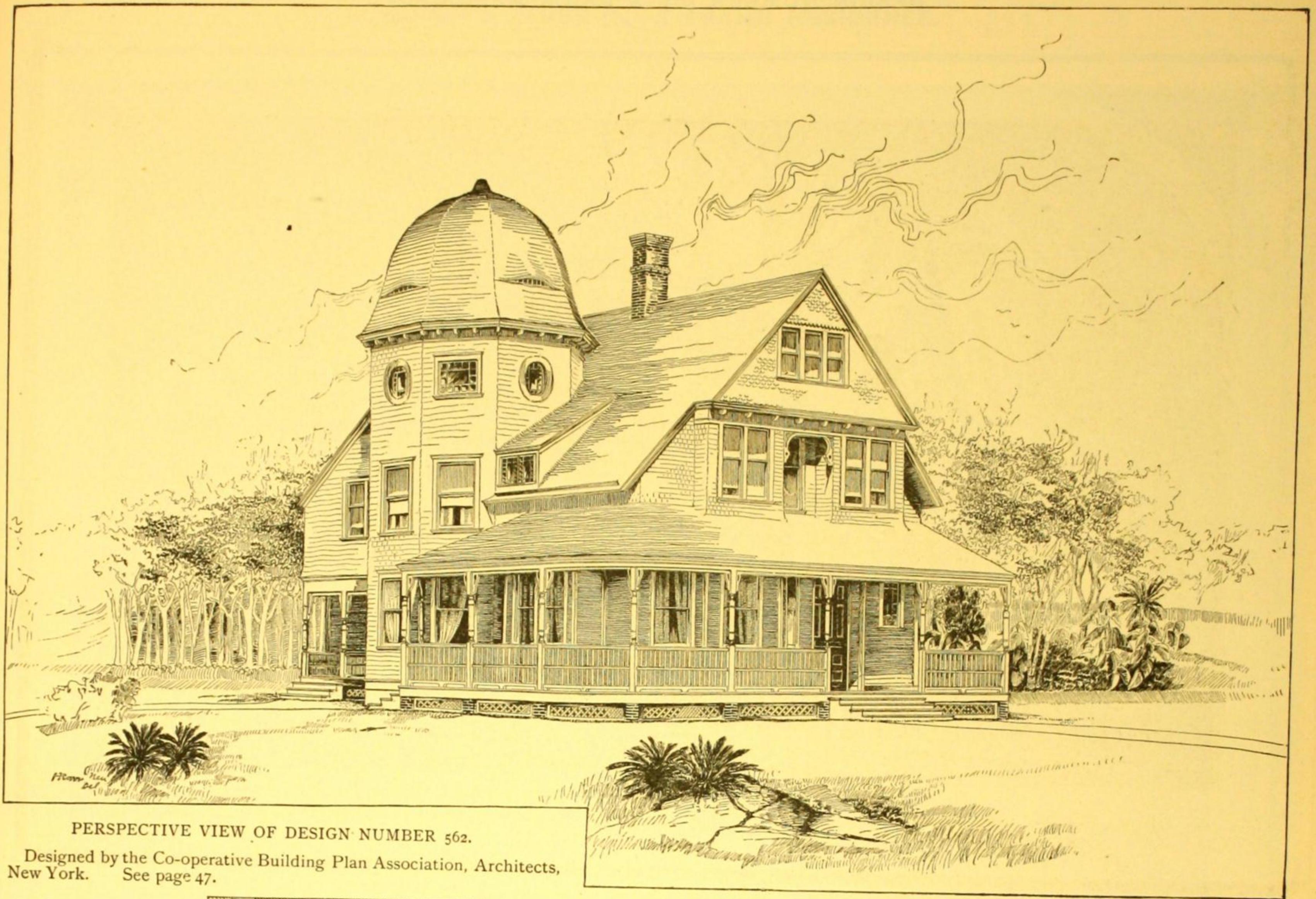


FIRST FLOOR OF DESIGN NO. 561.

Designed by, and built from the Working
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Architects, 63 Broadway, New York.
See page 47.

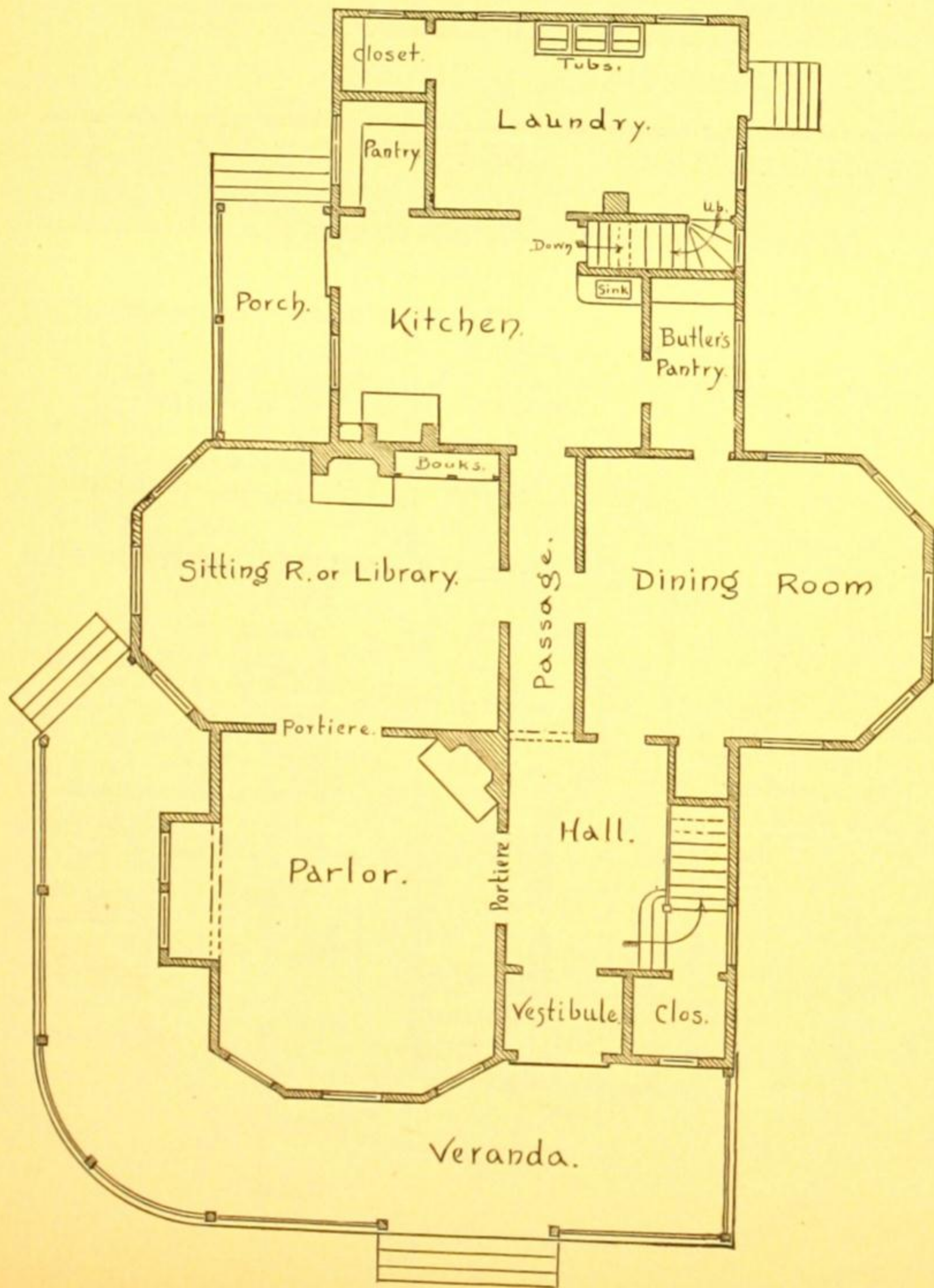


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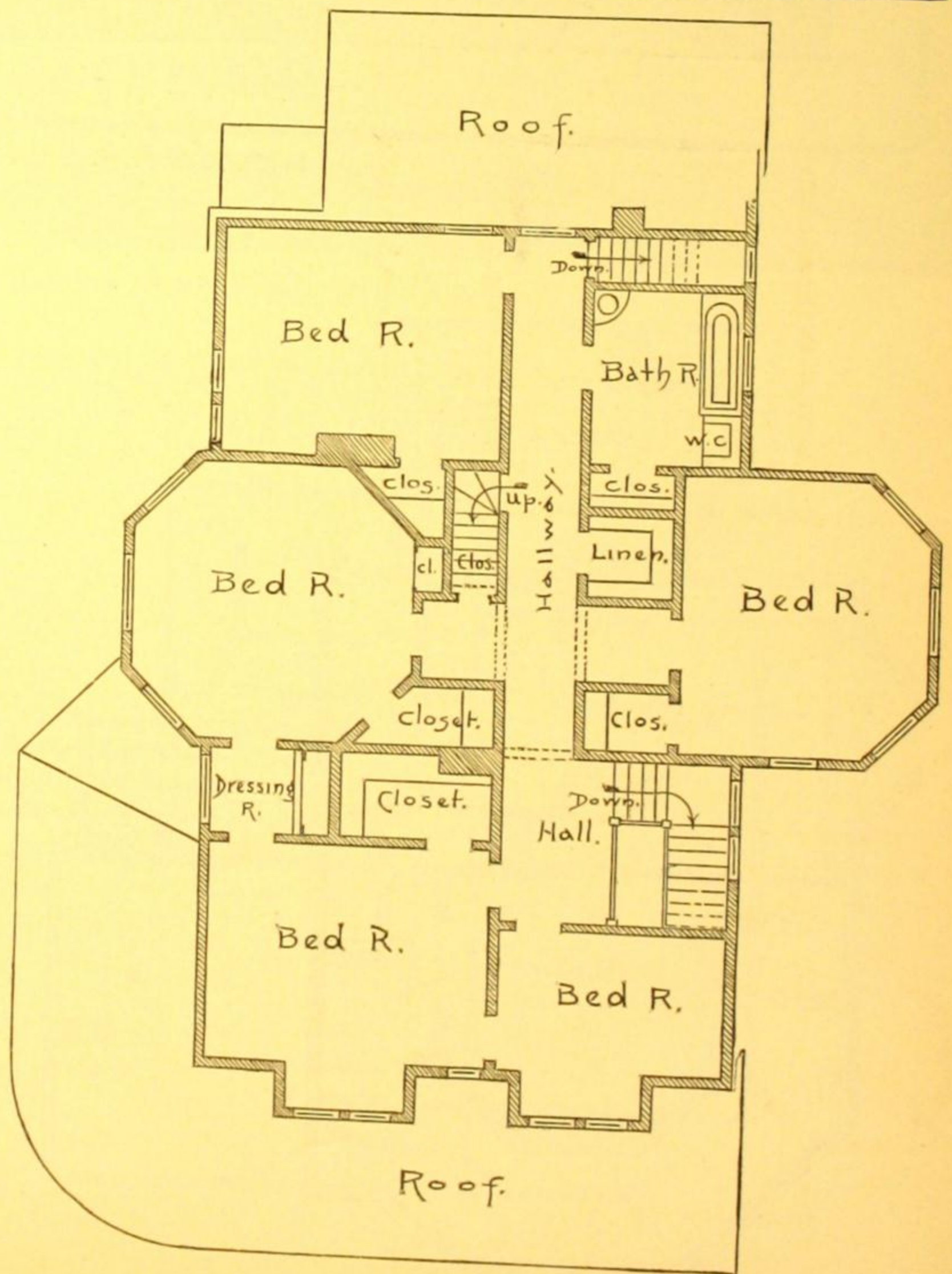


PERSPECTIVE VIEW OF DESIGN NUMBER 562.

Designed by the Co-operative Building Plan Association, Architects, New York. See page 47.



FIRST FLOOR OF DESIGN NO. 562.

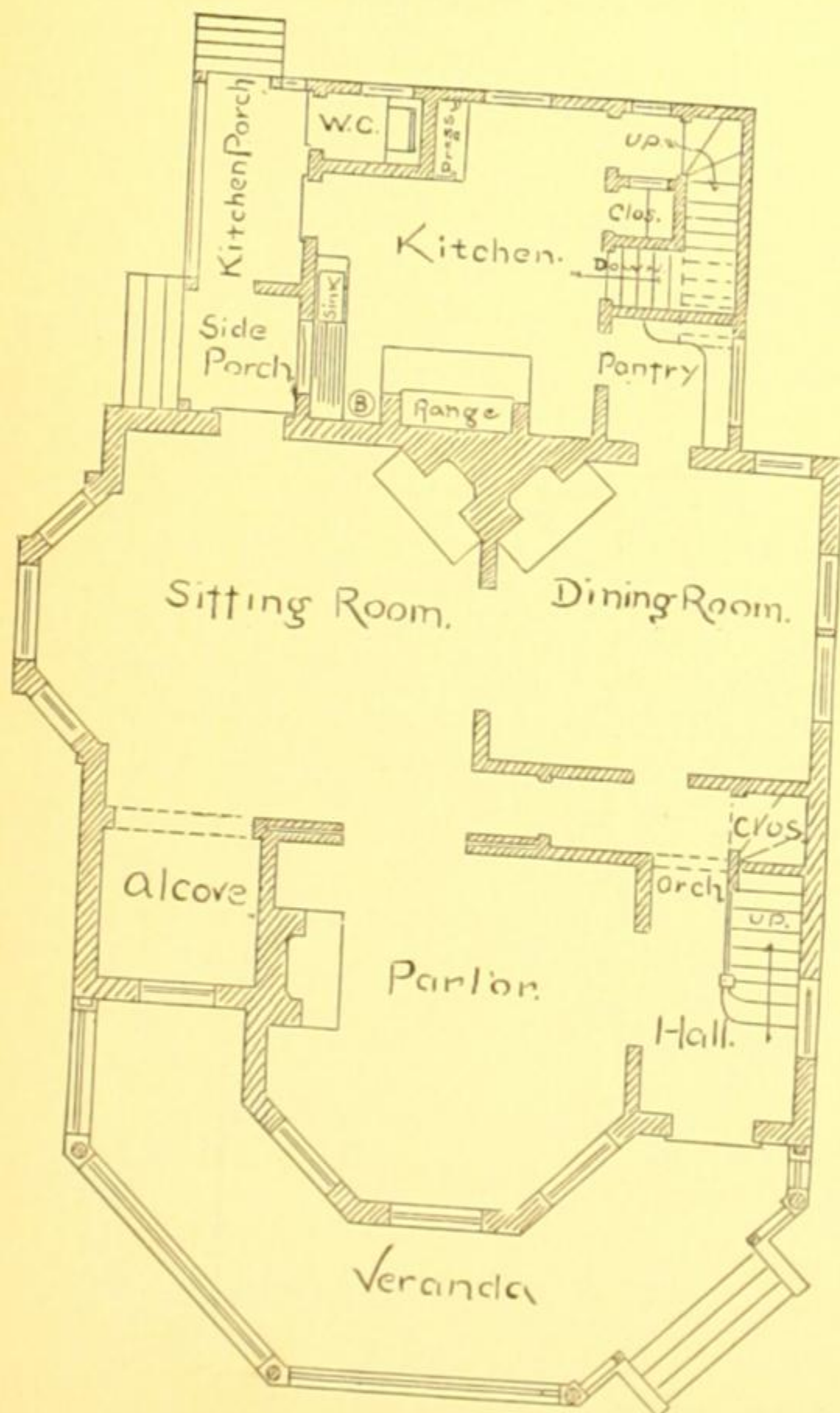


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DESIGN NUMBER 563—A BRICK RESIDENCE.

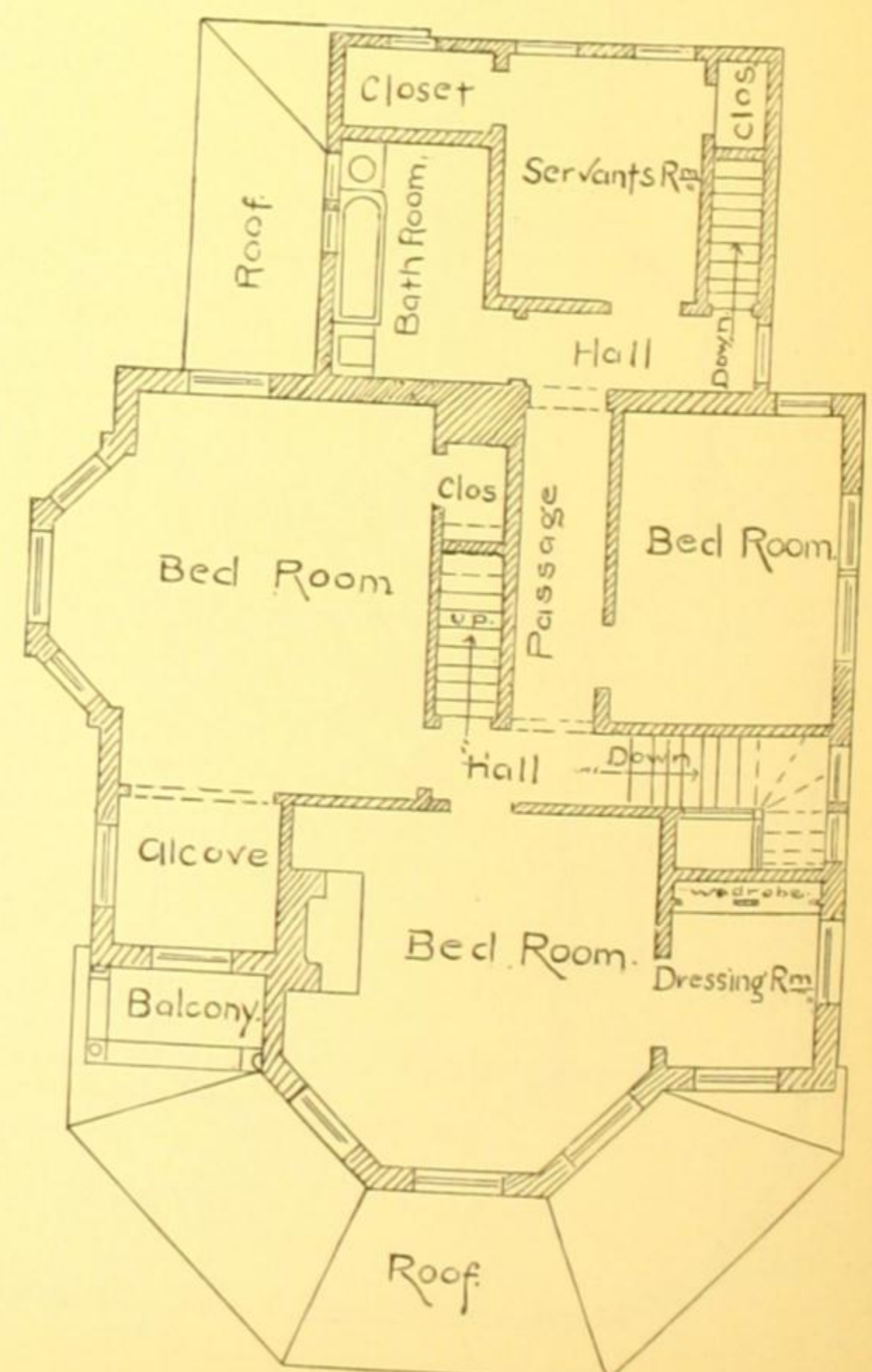


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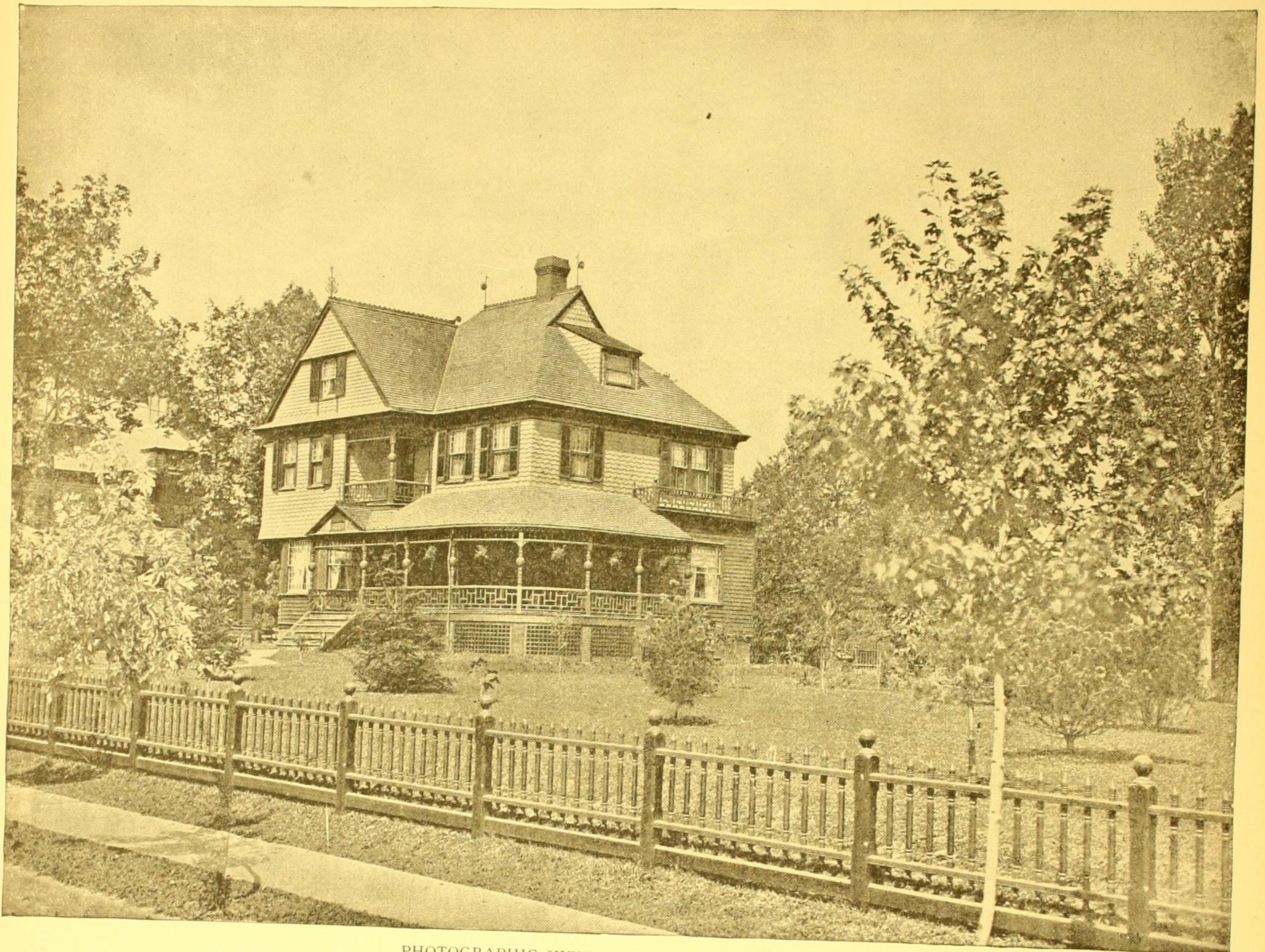
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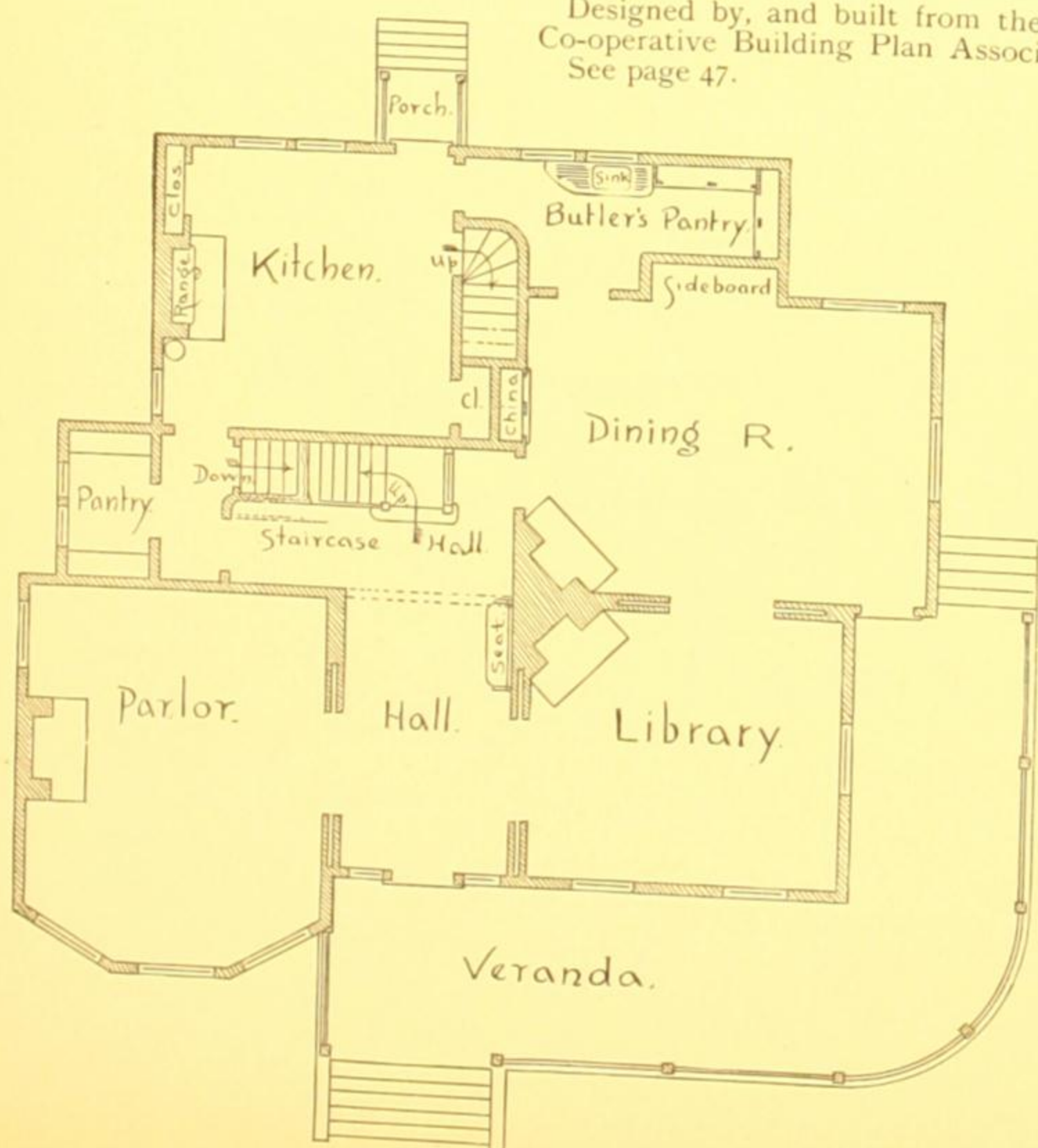
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DESIGN NUMBER 564—A FRAME RESIDENCE.

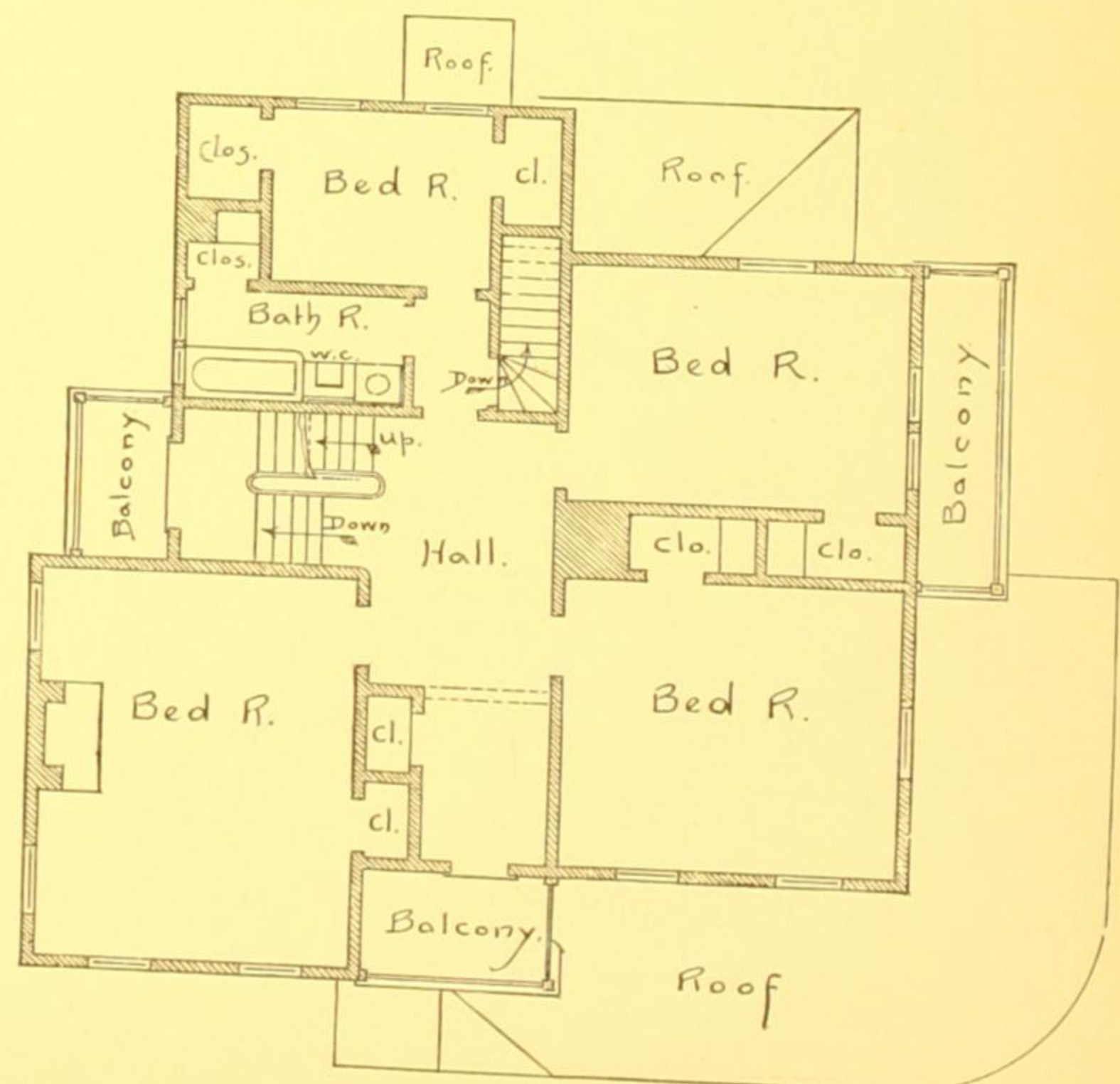


PHOTOGRAPHIC VIEW OF DESIGN NUMBER 564.

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FIRST FLOOR OF DESIGN NO. 564.



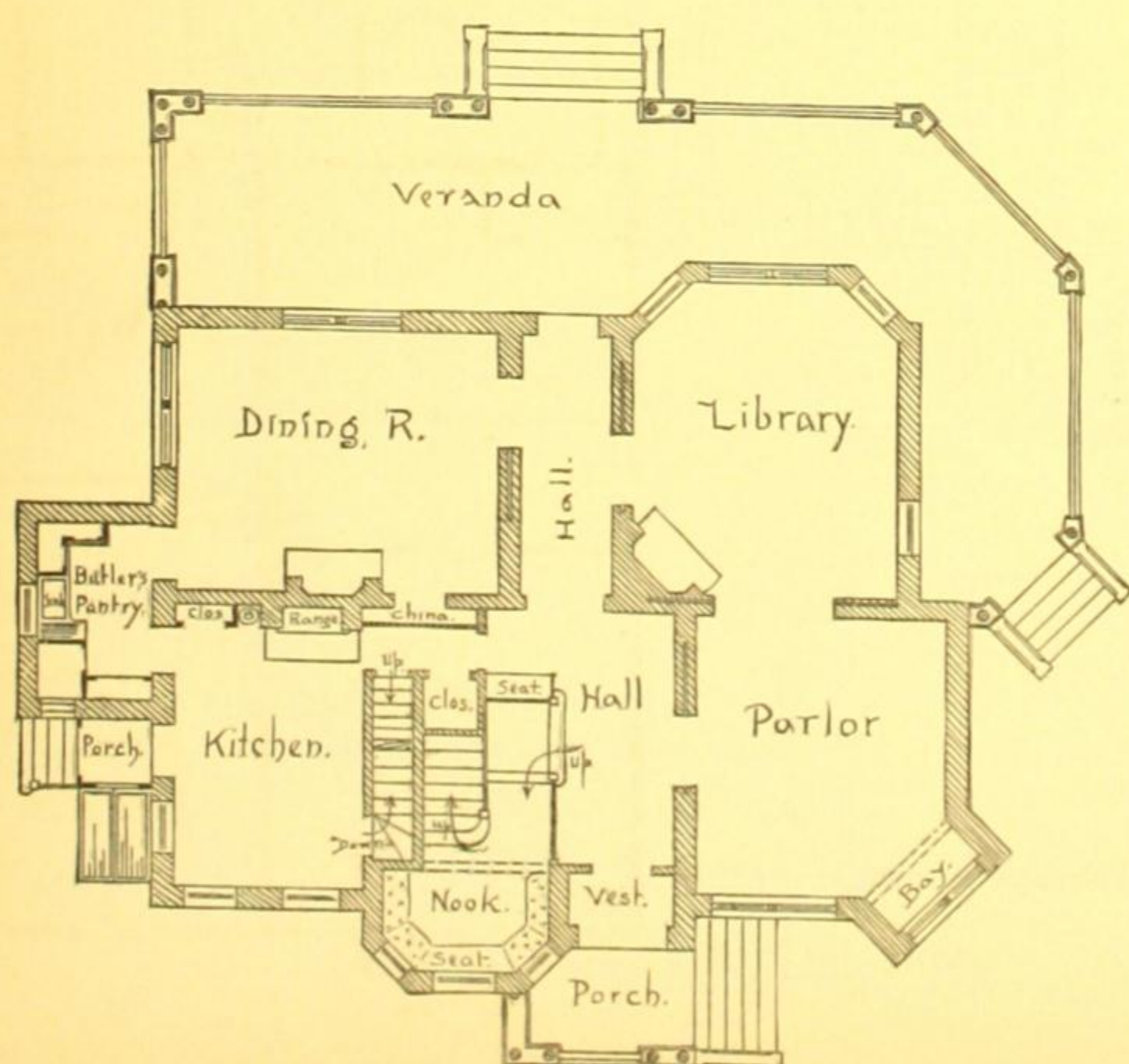
SECOND FLOOR OF DESIGN NO. 564.

DESIGN NUMBER 565—A STONE AND FRAME RESIDENCE.

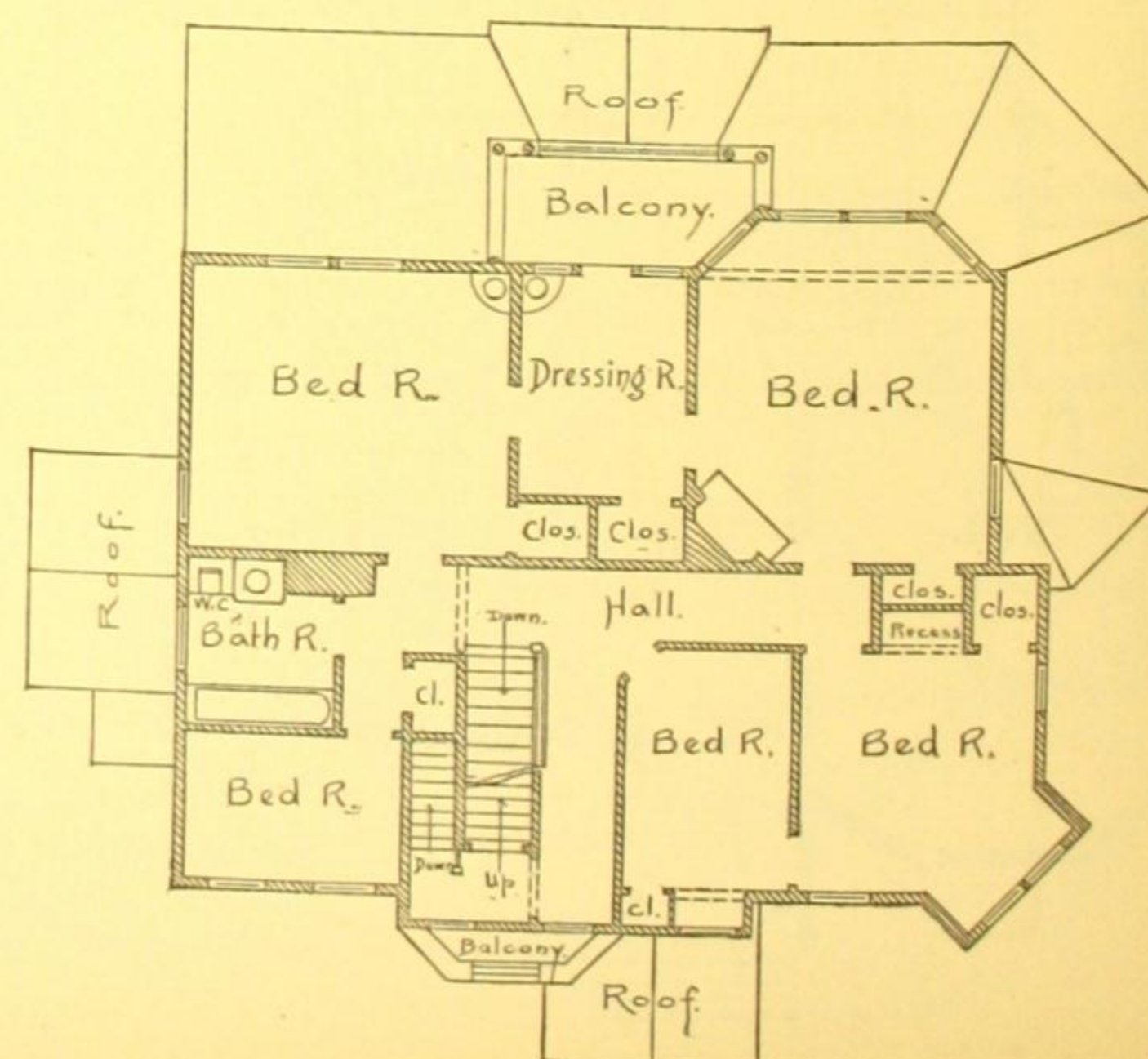


PHOTOGRAPHIC VIEW OF DESIGN NUMBER 565.

Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York.
See page 47.

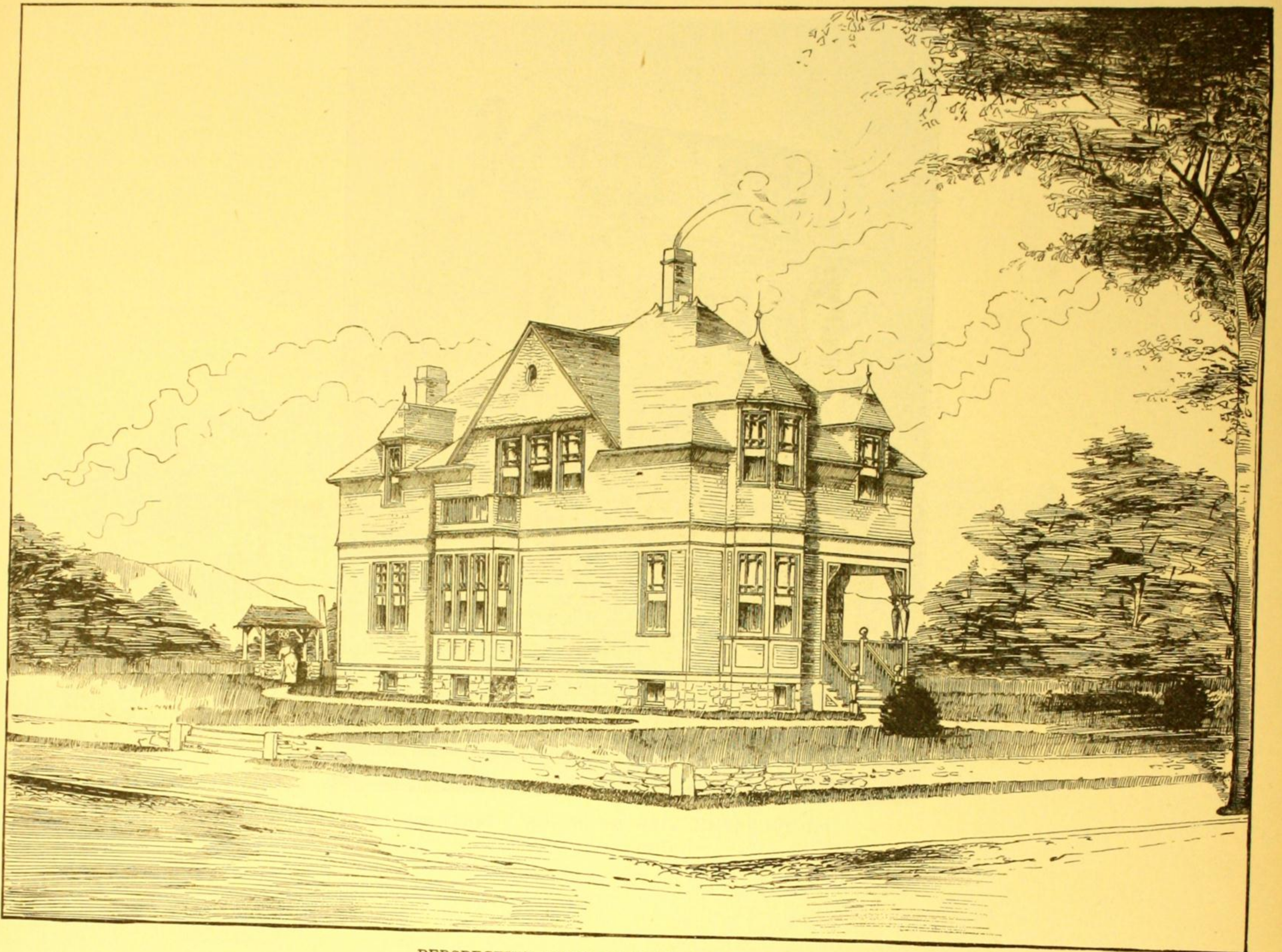


FIRST FLOOR OF DESIGN NO. 565.

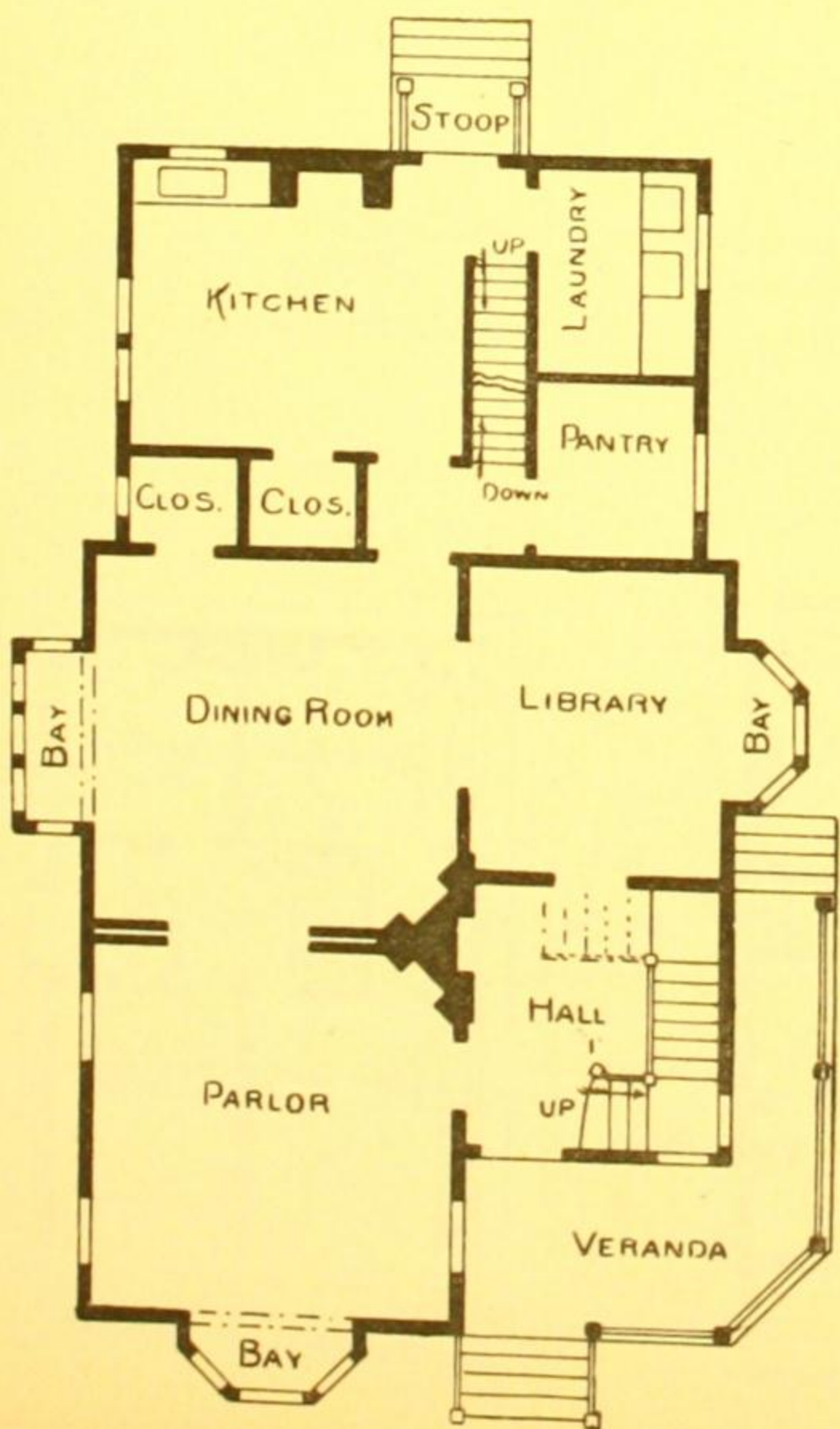


SECOND FLOOR OF DESIGN NO. 565.

DESIGN NUMBER 566—A FRAME RESIDENCE.

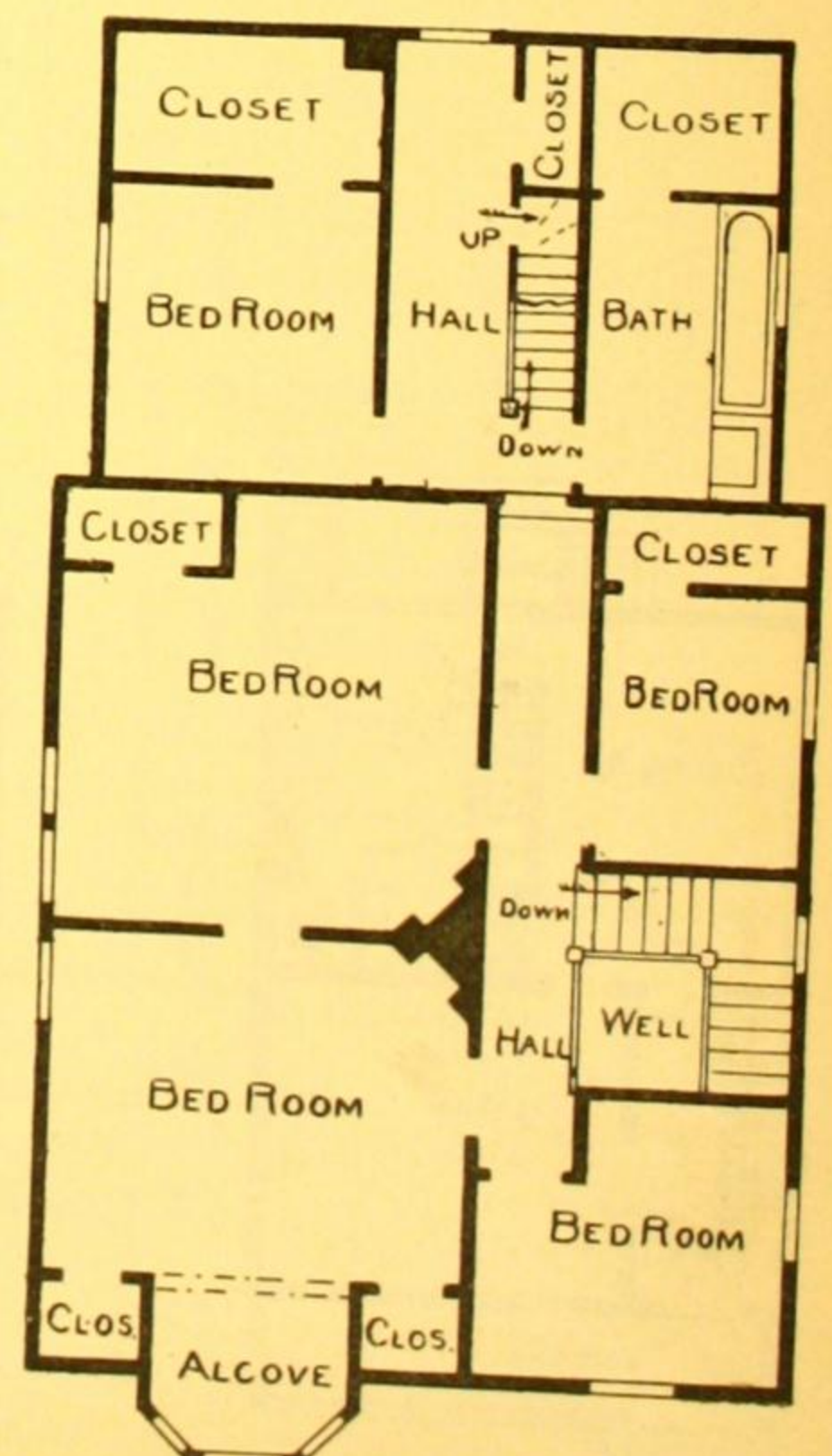


PERSPECTIVE VIEW OF DESIGN NUMBER 566.



FIRST FLOOR OF DESIGN NO. 566.

Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York. See page 47.



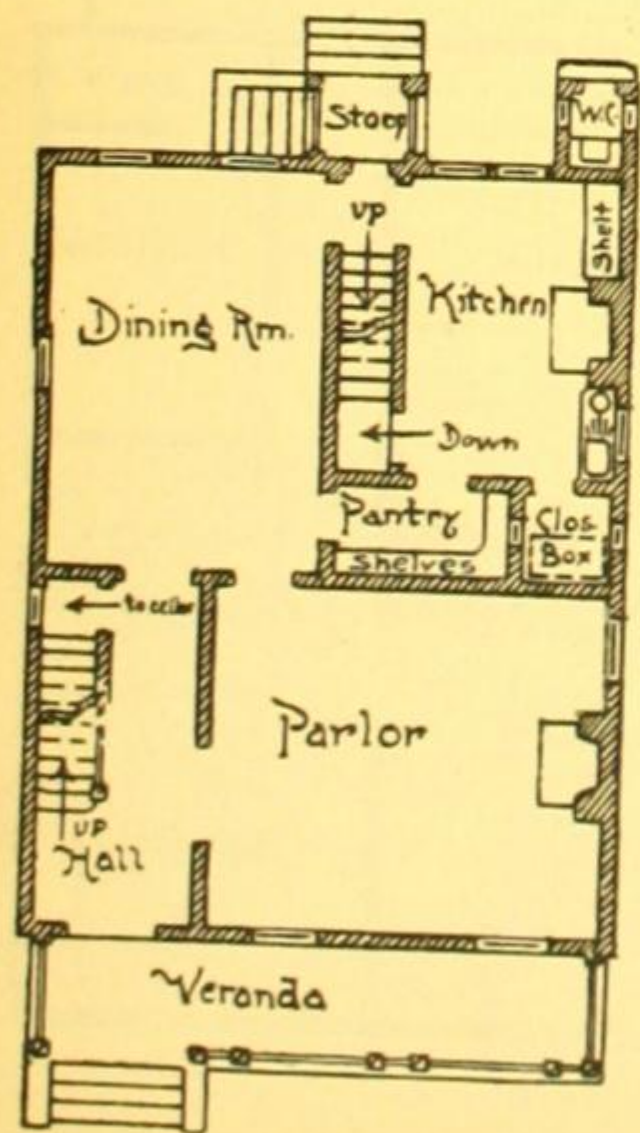
SECOND FLOOR OF DESIGN NO. 566

DESIGN NUMBER 567—A FRAME BOARDING-HOUSE.

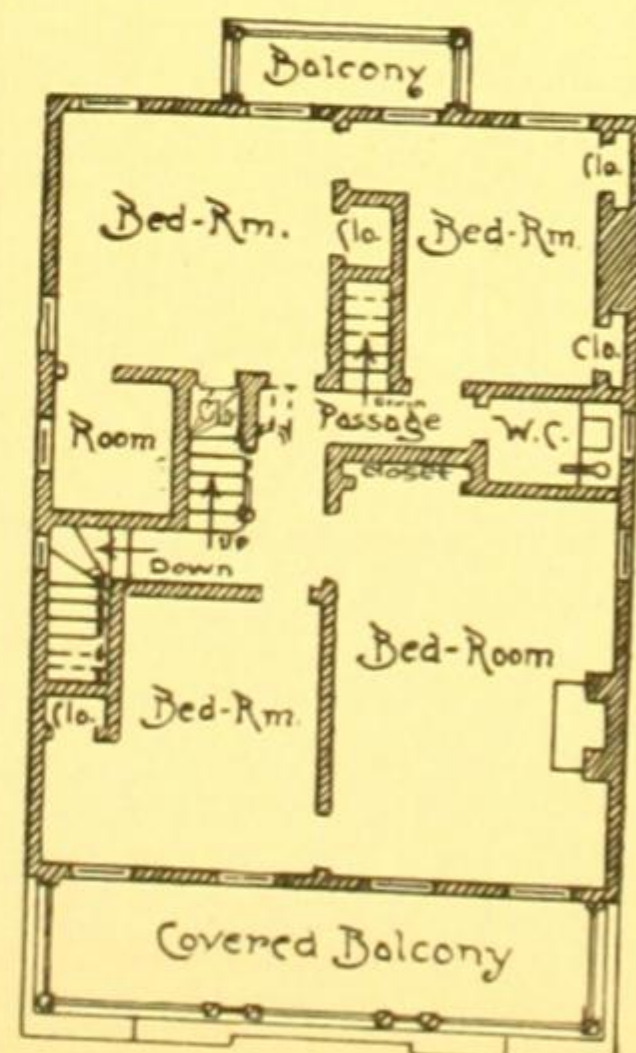


PHOTOGRAPHIC VIEW OF DESIGN NUMBER 567.

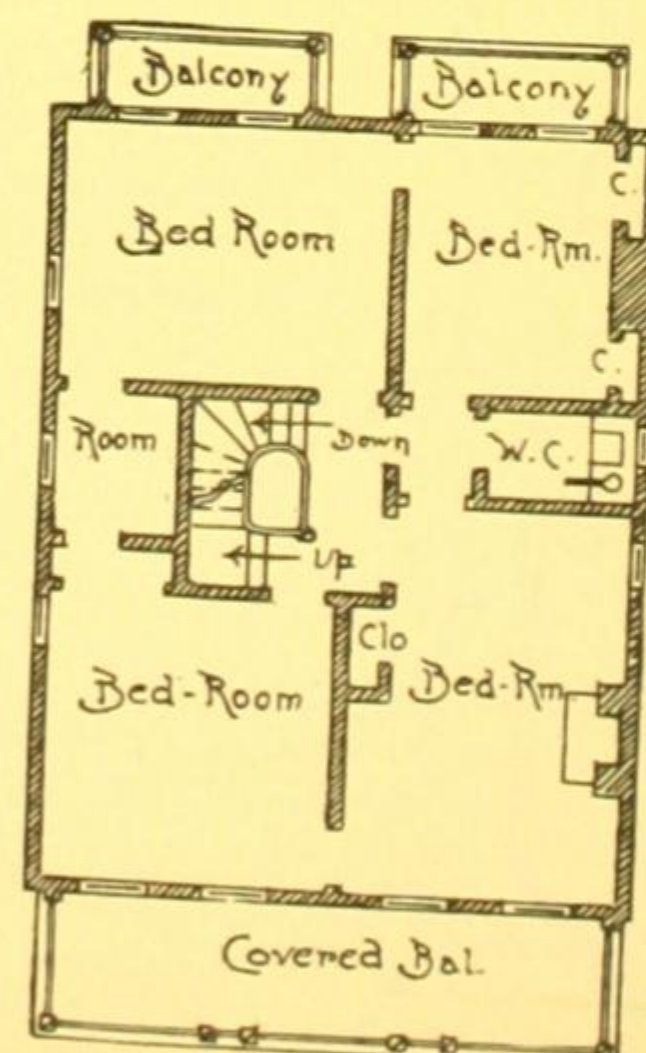
Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York.
See page 47.



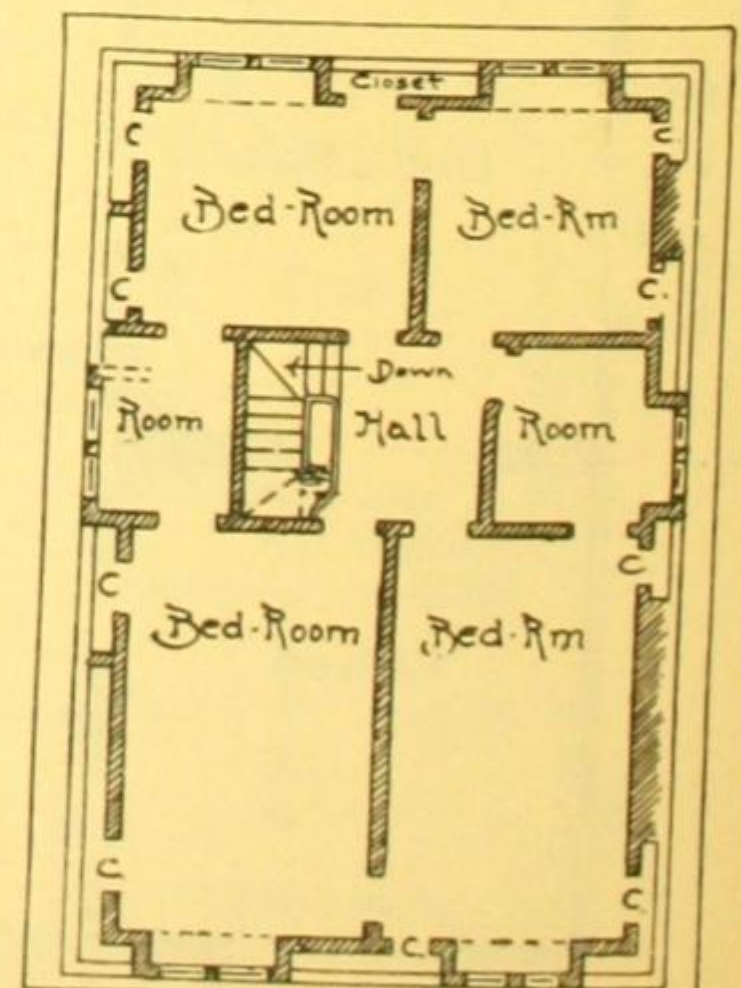
FIRST FLOOR OF DESIGN NO. 567.



SECOND FLOOR OF DESIGN NO. 567.

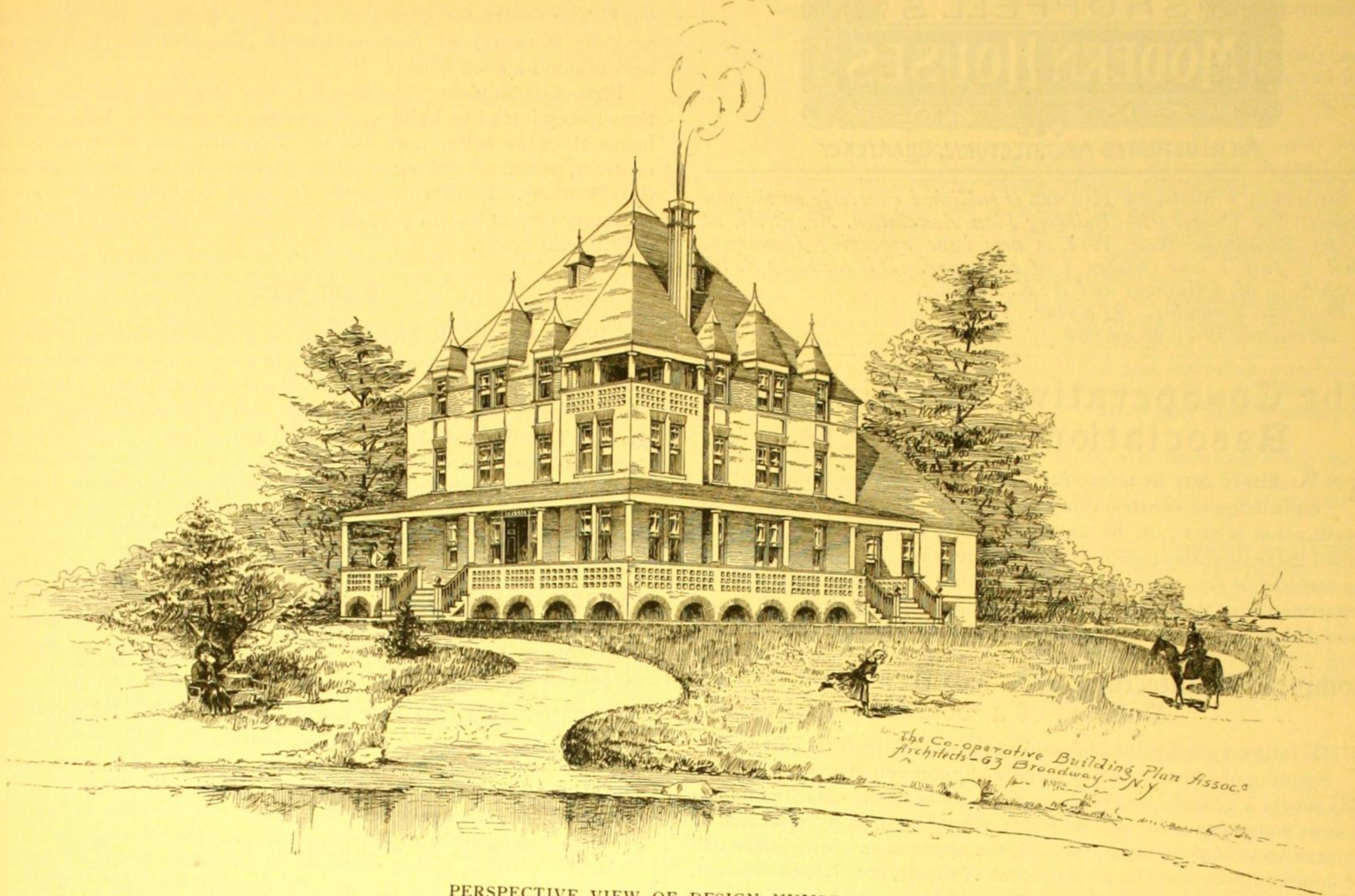


THIRD FLOOR OF DESIGN NO. 567.

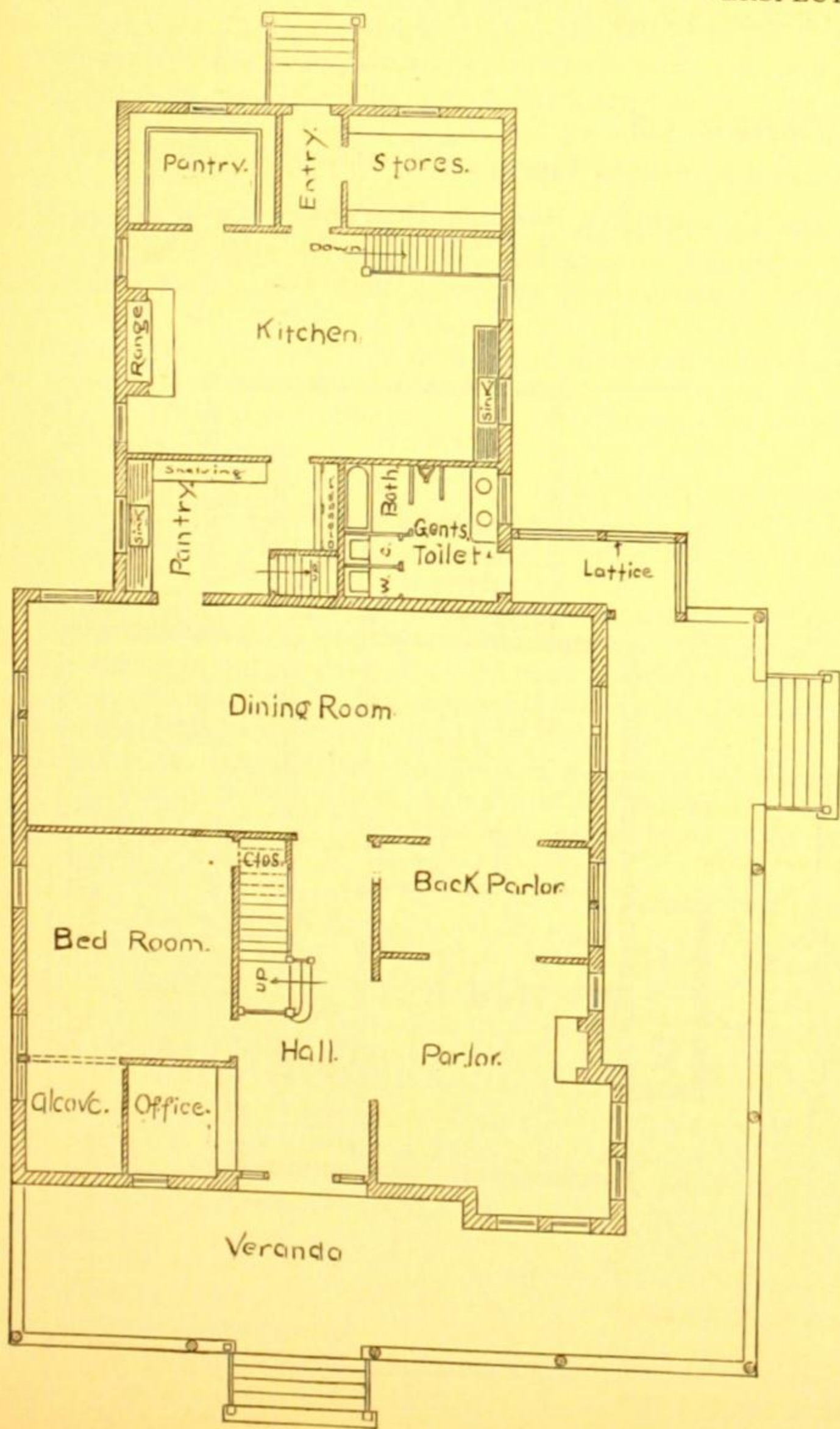


FOURTH FLOOR OF DESIGN NO. 567.

DESIGN NUMBER 568—A SMALL HOTEL.

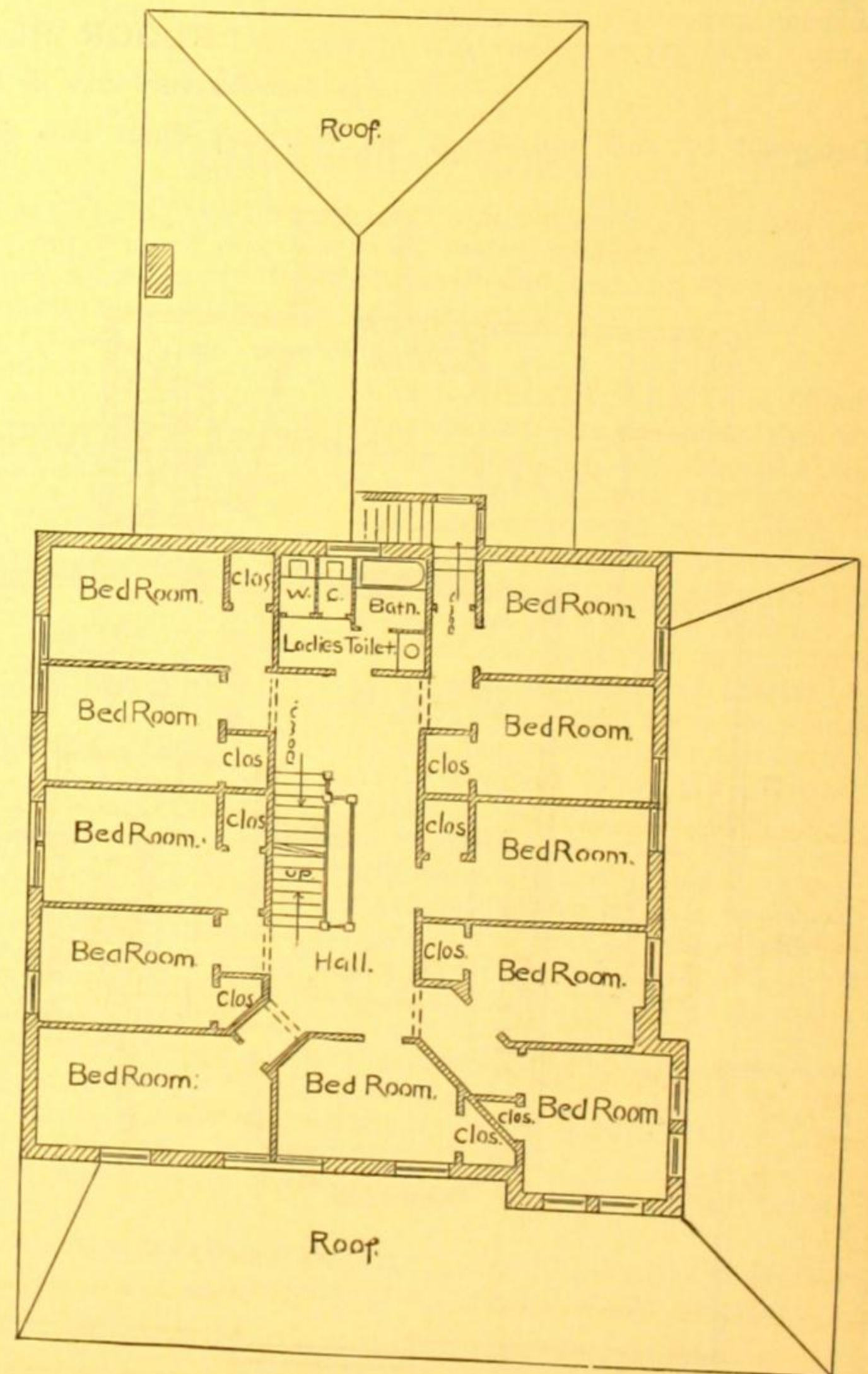


PERSPECTIVE VIEW OF DESIGN NUMBER 568.



FIRST FLOOR OF DESIGN NO. 568.

See page 47



SECOND FLOOR OF DESIGN NO. 568.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

SHOPPELL'S MODERN HOUSES is published quarterly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York, a new issue appearing January 1, April 1, July 1 and October 1 of each year. It is edited by R. W. Shoppell, C. M. Dissosway and W. K. Benedict.

Price 25c. a number. \$1 a year.
Advertising rates, \$6 an inch.

The Co-operative Building Plan Association, Architects.

AN Architect may be a tasteful designer; or he may have special knowledge of construction; or he may be a clear and accurate specification writer; or, be unerring in his estimates. Very rarely are all these qualities combined in one person. The special value of the services of this Association arises from the fact that all of these departments, as they may be called, are filled by Architects who have special skill and practice in their respective lines.

Complete Architectural Aids and their Cost for the Building of a House.

THE following is a full and complete list of architectural aids for the building of a house: When prepared by competent architects, these aids insure a graceful and pleasing appearance to the exterior and the utmost convenience for the interior; when prepared by workmen or by architects of poor taste and skill, the appearance of the house will be commonplace and the arrangement of rooms, etc., less convenient.

In addition to advantages stated, properly prepared Drawings and Specifications insure the use of *good materials and workmanship*; without

them, or when they are badly prepared, the owner is sure to suffer in this respect. What is the use of building a house unless it be a good one? The contractor always charges for a good house. Why not have the Drawings and Specifications so prepared that he is firmly held to build a good house?

First-class builders prefer to work from Drawings and Specifications; they intend to build good houses and the more definite their instructions the better they like it. They will, also, bid lower for a contract, when everything is clearly expressed by Drawings and Specifications. Beware of the builder who says these aids are not necessary or that he will prepare them himself—that usually means a poorly built house.

First Aid.

A WATER-COLOR SKETCH of the proposed building (showing its exact appearance) prepared in accordance with the owner's requirements as to style, size and cost, and accompanied by drawings of one or more sets of floor plans, with sizes of rooms, etc., accurately given. The Water-Color Sketch and floor plans are carefully prepared and are apt to show just what is wanted; if not, they can be easily altered to embody further requirements or changes.

Second Aid.

WHEN the style, size and arrangement of the proposed building are finally decided upon, answer all the questions that are pertinent, on the blank form that we furnish, and then we will prepare the following:

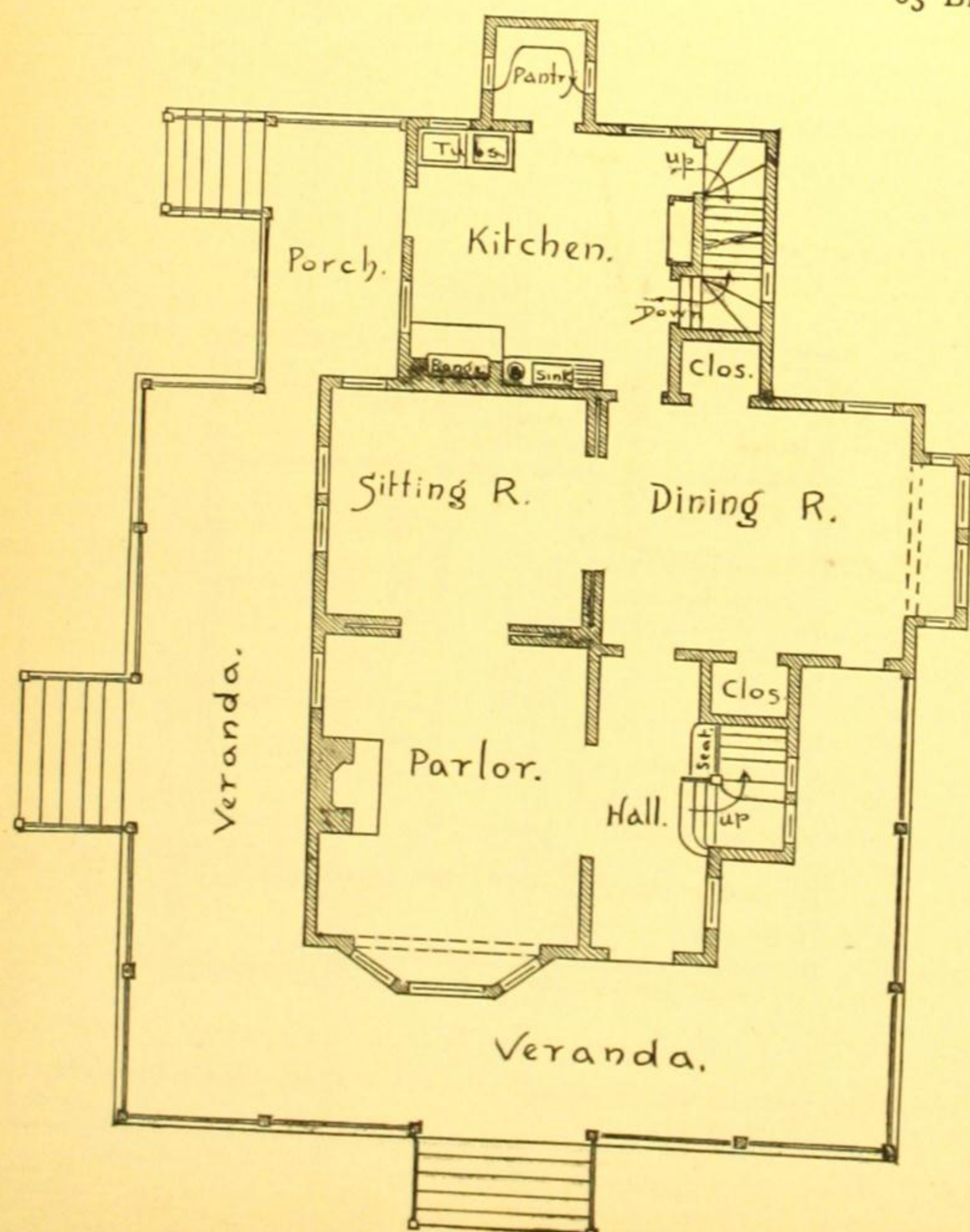
WORKING PLANS of the foundation, floors, roof and elevations, figured and drawn to a scale one-fourth inch to the foot.
DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.
SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.
COLOR SHEET, giving examples of elevations properly colored, with directions for mixing and applying the paints, the right kind of brushes to use, etc.

FLOOR PLANS OF DESIGN NUMBER 548

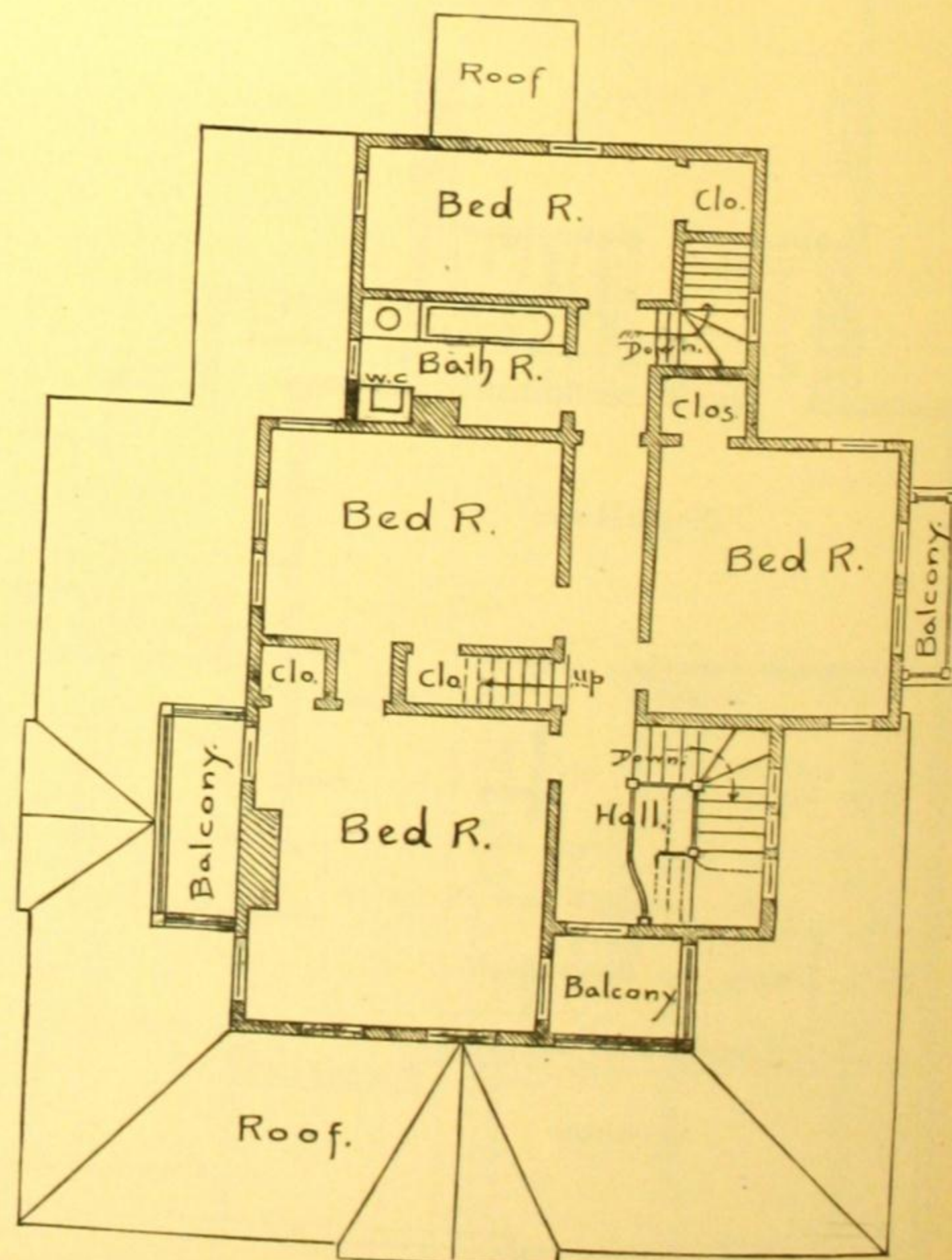
SEE PHOTOGRAPHIC VIEW OF EXTERIOR ON PAGE 25.

SEE RANGE OF COST ON PAGE 47.

Designed by, and built from the Working Plans and Specifications prepared by the Co-operative Building Plan Association, Architects, 63 Broadway, New York.



FIRST FLOOR OF DESIGN NO. 548.



SECOND FLOOR OF DESIGN NO. 548.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth-closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

BLANK AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

The first use to be made of the above is to submit the Drawings and Specifications to different builders and get their bids for the contract. This competition may save the owner a large sum.

After the contract is awarded, their second use is to fully and constantly instruct the contractor in properly carrying out the work.

Charges.

OUR charge for the First Aid (Water-Color Sketch and floor plans) is \$6. See "Extraordinary Offer."

Our charge for the Second Aid (Working Drawings, Specifications, etc.) varies in accordance with the work involved, and will be made known upon application. Among the advantages of first making the Water-Color Sketch and floor plans is that their preparation acquaints us with the owner's requirements, and when they are sent to him we can then state the lowest price for the preparation of the Second Aid. When the Second Aid is ordered the \$6 paid for the First Aid is allowed in rebate.

Superintendence and Visits.

THE Plans, Specifications, Contracts, etc., are so accurate, full and explicit that the work of construction usually goes on satisfactorily, and the business relations between the owner and the contractor are amicable; therefore, visits of inspection, especially for houses of low and moderate cost, are usually unnecessary. When visits are requested they will be made for a very reasonable charge, depending on distance. For large and important work superintendence will be furnished, if required.

Range of Cost of Designs in this Book.

DESIGN No. 548 (varying in size, finish and materials used for walls) may be built at a cost of \$3,500, \$4,300, \$5,000, \$6,000, \$7,000 and \$8,500. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 549 (varying in size and materials used) may be built at a cost of \$700, \$1,000, \$1,500 and \$2,200. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 550 (varying in size and materials used) may be built at a cost of \$800, \$1,000, \$1,500 and \$2,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 551 (varying in size and materials used) may be built at a cost of \$700, \$900, \$1,300 and \$2,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 552 (varying in size and materials used) may be built at a cost of \$700, \$1,000, \$1,300 and \$1,700. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 553 (varying in size and materials used) may be built at a cost of \$700, \$900, \$1,300 and \$1,800. Frame or Brick. This design makes a good double house, which may be built at \$1,300, \$1,700, \$2,500 and \$3,500. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 554 (varying in size and materials used) may be built at a cost of \$1,000, \$1,500, \$2,000 and \$3,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 555 (varying in size, finish and materials used) may be built at a cost of \$900, \$1,200, \$1,500, \$2,300, \$2,700, \$3,000, \$3,300, \$3,500 and \$4,000. Frame or Brick Veneer. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 556 (varying in size, finish and materials used) may be built at a cost of \$1,500, \$2,000, \$2,500 and \$3,000. Frame. Send for Water-Color Sketch, stating preferences as to cost.

DESIGN No. 557 (varying in size, finish and materials used) may be built at a cost of \$2,500, \$3,000, \$3,800, \$4,500, \$5,000 and \$5,500. Frame, Brick or Brick Veneer. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 558 (varying in size, finish and materials used) may be built at a cost of \$1,200, \$1,800, \$2,500 and \$3,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 559 (varying in size, finish and materials used) may be built at a cost of \$1,800, \$2,500, \$3,000, \$3,500, \$4,200, \$5,000 and \$5,500. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 560 (varying in size, finish and materials used) may be built at a cost of \$3,000, \$3,700, \$4,500 and \$5,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 561 (varying in size, finish and materials used) may be built at a cost of \$3,500, \$4,200, \$4,800, \$5,500, \$6,300 and \$7,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 562 (varying in size, finish and materials used) may be built at a cost of \$4,000, \$5,500, \$6,500, \$8,000 and \$9,500. Frame. Send for Water-Color Sketch, stating preferences as to cost.

DESIGN No. 563 (varying in size, finish and materials used) may be built at a cost of \$2,500, \$3,000, \$3,800, \$4,500, \$5,000 and \$5,500. Frame, Brick or Brick Veneer. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 564 (varying in size, finish and materials used) may be built at a cost of \$5,000, \$6,000, \$7,500 and \$9,000. Frame. Send for Water-Color Sketch, stating preferences as to cost.

DESIGN No. 565 (varying in size, finish and materials used) may be built at a cost of \$6,000, \$7,500, \$9,000 and \$11,000. Frame, Brick or Stone and Frame. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 566 (varying in size, finish and materials used) may be built at a cost of \$3,500, \$4,000, \$4,700 and \$5,500. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 567 (varying in size, finish and materials used) may be built at a cost of \$2,000, \$2,700, \$3,500, \$4,300 and \$5,500. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

DESIGN No. 568 (varying in size, finish and materials used) may be built at a cost of \$4,500, \$5,500, \$7,000, \$9,000, \$12,000, \$15,000 and \$18,000. Frame or Brick. Send for Water-Color Sketch, stating preferences as to materials and cost.

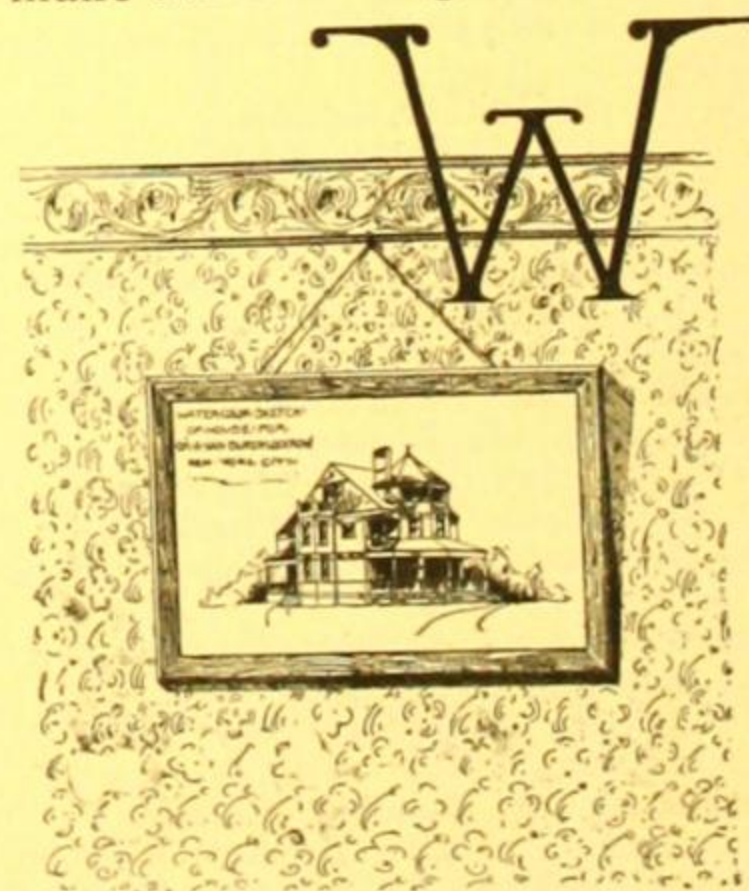
Value of Water-Color Sketches.

LAST year, in our practice, we found that the most satisfactory preliminary service we could render a client who was thinking of building, was to make for him a Water-Color Perspective Sketch (showing the exact appearance of the proposed building) in accordance with his requirements as to size and cost, accompanied by a set of floor plans with all dimensions accurately marked; when the problem admitted, by two or more sets of floor plans, giving a choice of arrangement at the same cost.

Our charge for studying the special requirements and making the Water-Color Sketch and floor plans varied from \$15 to \$25, according to the work involved. This charge was rather under than over the usual charge for such work.

* Extraordinary Offer.

THIS year (during the spring and summer months), to widely introduce our Water-Color Sketches, believing that, above all other things, they must clearly show our skill and taste as Architects, we make the following offer. We will prepare a



WATER-COLOR SKETCH (Hand-Painted) of any design in this book (or in any of our other books) according to the required size and cost, and accompany the same with one or more sets of floor plans with all dimensions accurately marked, for the nominal price of six dollars. The Water-Color will be protected by glass and be neatly framed; forwarded by express, carriage prepaid.

If the owner builds and employs us to prepare Working Plans and Specifications, the \$6 will be allowed in rebate; if he does not build he will have a Water-Color Painting of more value than its cost.

The best way to order is to give the number of one of our published designs as indicating about the style wanted. Then state requirements as to materials for walls and cost. The arrangement of floor plans should be mainly left to us.

We beg to request that lady correspondents will state whether they are Miss or Mrs., and that gentlemen will give their titles—such as Judge, Hon., Gen'l, etc.—that we may inscribe their names properly.

Remit by check, draft, P. O. order, express order, or by registered letter. Address

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects (or, for a shorter address, simply, R. W. SHOPPELL), 63 Broadway, New York.

*The "Extraordinary Offer" does not include Churches, Public Buildings, Business Blocks, etc. Terms for Water-Color Sketches of such buildings and for Residences designed by other architects, or published in other books or papers, or to be worked up from description or rough sketches, will be made known when the requirements are stated.

THE TESTIMONY OF PRACTICAL MEN.

CERTAINLY no other architectural office, and but few great enterprises in any line, can equal the showing on this page. These are men who *know* what they are talking about.

(1) We have examined Working Plans, Specifications and Details made by the Co-operative Building Plan Ass'n of New York, and have found them to be very complete, practical and correct.

(2) We have thoroughly examined a number of Bills of Quantities and Estimates prepared by The Co-operative Building Plan Ass'n of New York, and have uniformly found them to be complete and correct.

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* Thos. Cogley, Builder, Utica.

* Clarence C. Conklin, Builder, Mariners' Harbor.

J. E. Corey, Builder, Southold.

* D. G. Corwin, Builder, Cortland.

* Chas. Crabbe, Builder, Oceanus.

Jno. A. Darling, Builder, Queens.

Michael Doll, Builder, Utica.

R. P. Fallon, Builder, New Rochelle.

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* Jno. J. Griffin, Builder, Cohoes.

* Alex. Hadcock, Builder, Johns own.

* B. T. Hall, Builder, Matteawan.

* Thos. D. Horsfield, Builder, Saratoga Springs.

* A. J. Hotaling, Builder, Coxsackie.

R. R. Hugg, Builder, Auburn.

* Chas. H. Hulse, Builder, Sayville.

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* Jas. C. Martin, Builder, Port Jervis.

J. E. Munger, Builder, Fishkill.

* Jas. A. McDonald, Builder, New York.

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* Neils Pederson, Builder, Richmond Hill.

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Jno. N. Proctor, Builder, Buffalo.

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A. B. Russell, Builder, Malone.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

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No. 2. }

NEW YORK, APRIL, 1889.

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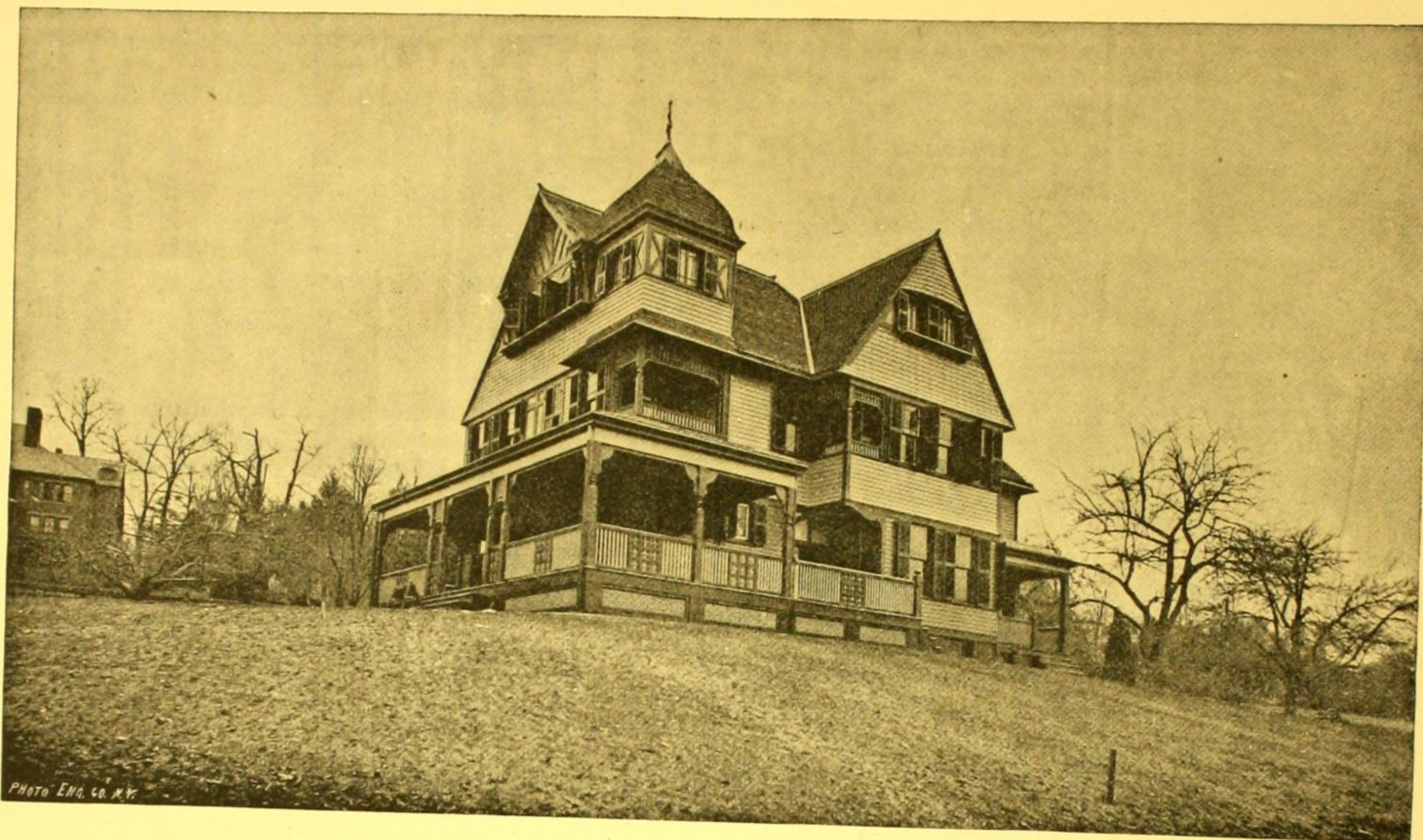
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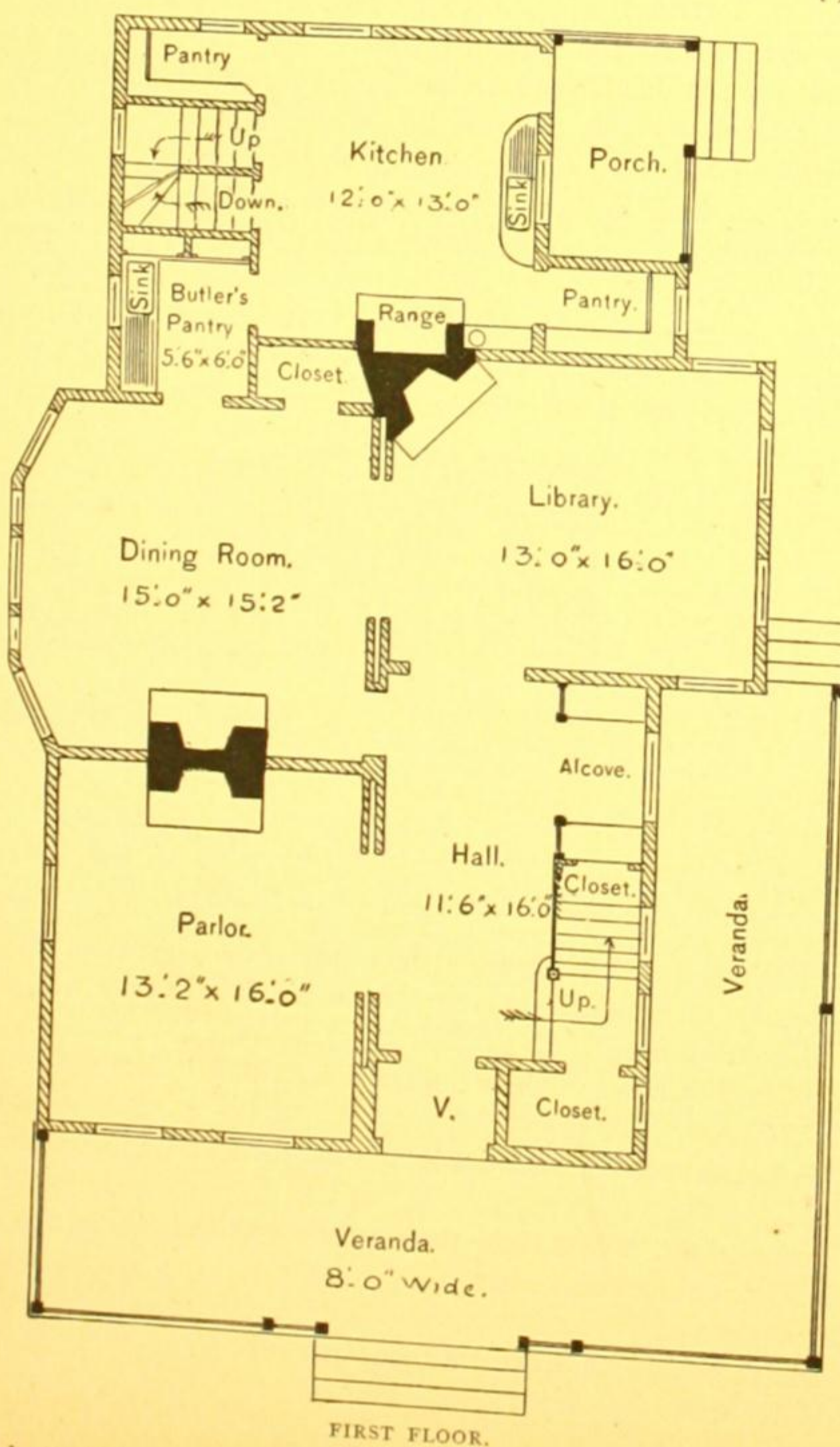
SEE PAGE 71.

SHOPPELL'S MODERN HOUSES

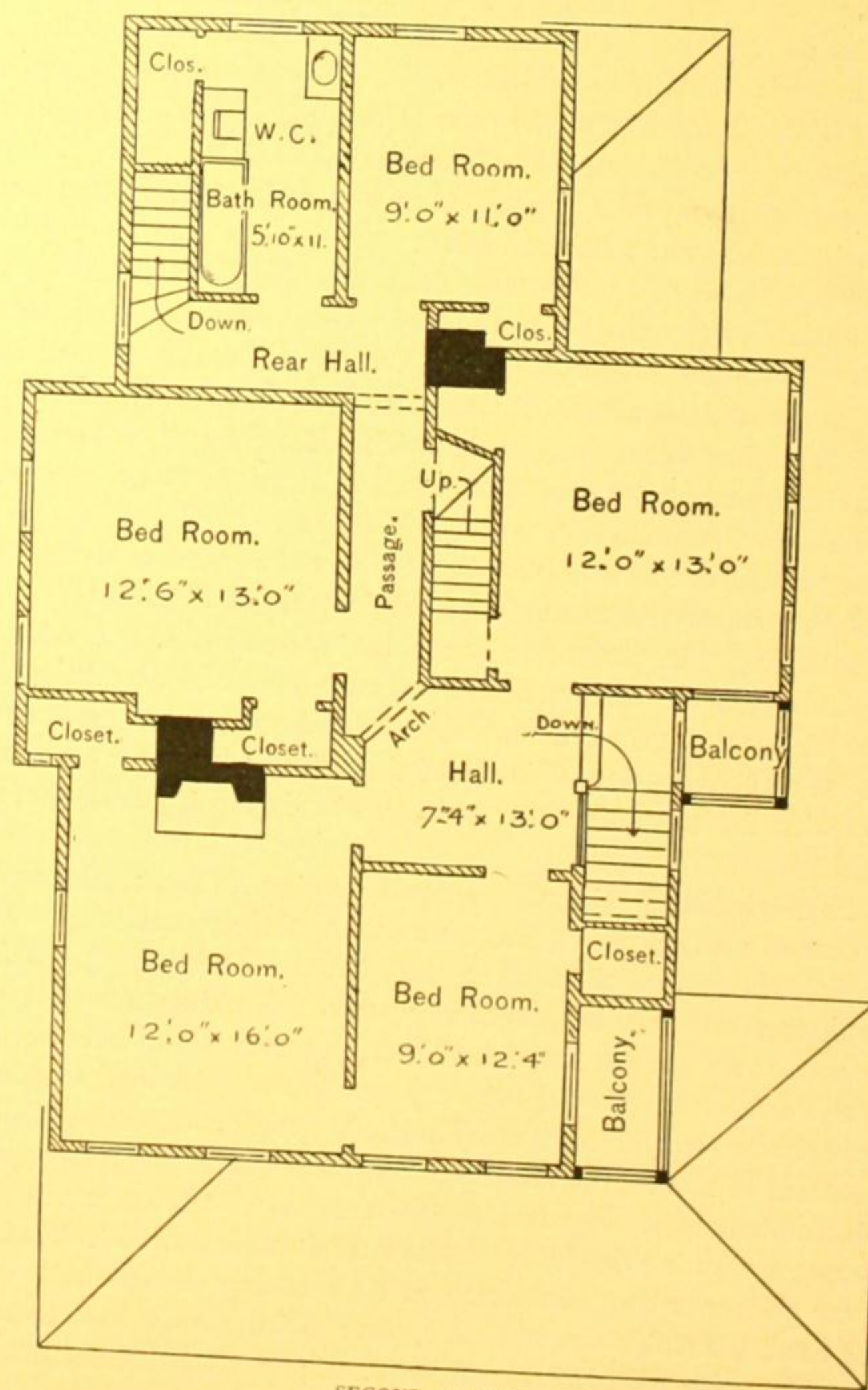
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The Habitations of Man in all Ages.

BY VIOLET-LE-DUC.

Translated by BENJ. BUCKNALL, Architect.

CHAPTER XXIII.

THE NAHUAS AND TOLTECS.

DIRECTING their course to the north-east, Epergos and Doxius for a long time traversed vast regions inhabited by men of the yellow race. But on advancing to the north, they reached the limit of the inhabited countries, and found themselves in the midst of icy deserts.

Having crossed an arm of the sea, they set foot on a new continent. For a long time they pursued a descending course towards the south, along the western slopes of a long chain of desert mountains, when they reached a region of remarkable beauty.

There they found busy races of peoples, among whom civilization had reached a considerable development.

They belonged evidently to two very distinct races, one very superior to the other and holding it in subjection. The inferior race, in some particulars, strikingly resembled the yellow race; not that which then occupied Cathay, but the peoples settled in the great islands of the Pacific Ocean—the superior race, whose skin was copper-colored, was tall and robust, and pretended to a divine origin. It could not, however, be confounded with that of the Aryas, any more than with that of ancient Egypt.

This vast country, wonderfully favored by nature, presents a great gulf on the side washed by the Atlantic Ocean, and is crossed from north to south-east by a lofty chain of mountains, whence flow numerous streams fed by great lakes.

The elevation of these mountains, and of the plateaus that form their base, causes a variety of climate. For, though the plains are extremely warm, the elevated parts are temperate, while the tops of the mountains are covered with snow. As there is no want of water in any part, the lower lands are immensely fertile. The peninsula, which encloses the gulf on the south, is the only part dried up during the hot season, for its mountains are of no great height; but deluging rains water this district during three months of the year, and the inhabitants have succeeded in constructing large tanks which preserve the water, or have hollowed out great caverns into which flow deep underground natural watercourses, which are hidden from view in the dry season.

These people are governed by kings and priests, who are versed in astronomy and sacred lore. The lower class are absolutely dependent, and are subjected to the most painful labors, for the country possesses neither horses nor beasts of burden, and the men of the inferior class are employed in the portage of goods, and in all kinds of manual labor. They are gentle and submissive; whilst the chiefs of the various states that occupy this region are often at war with each other.

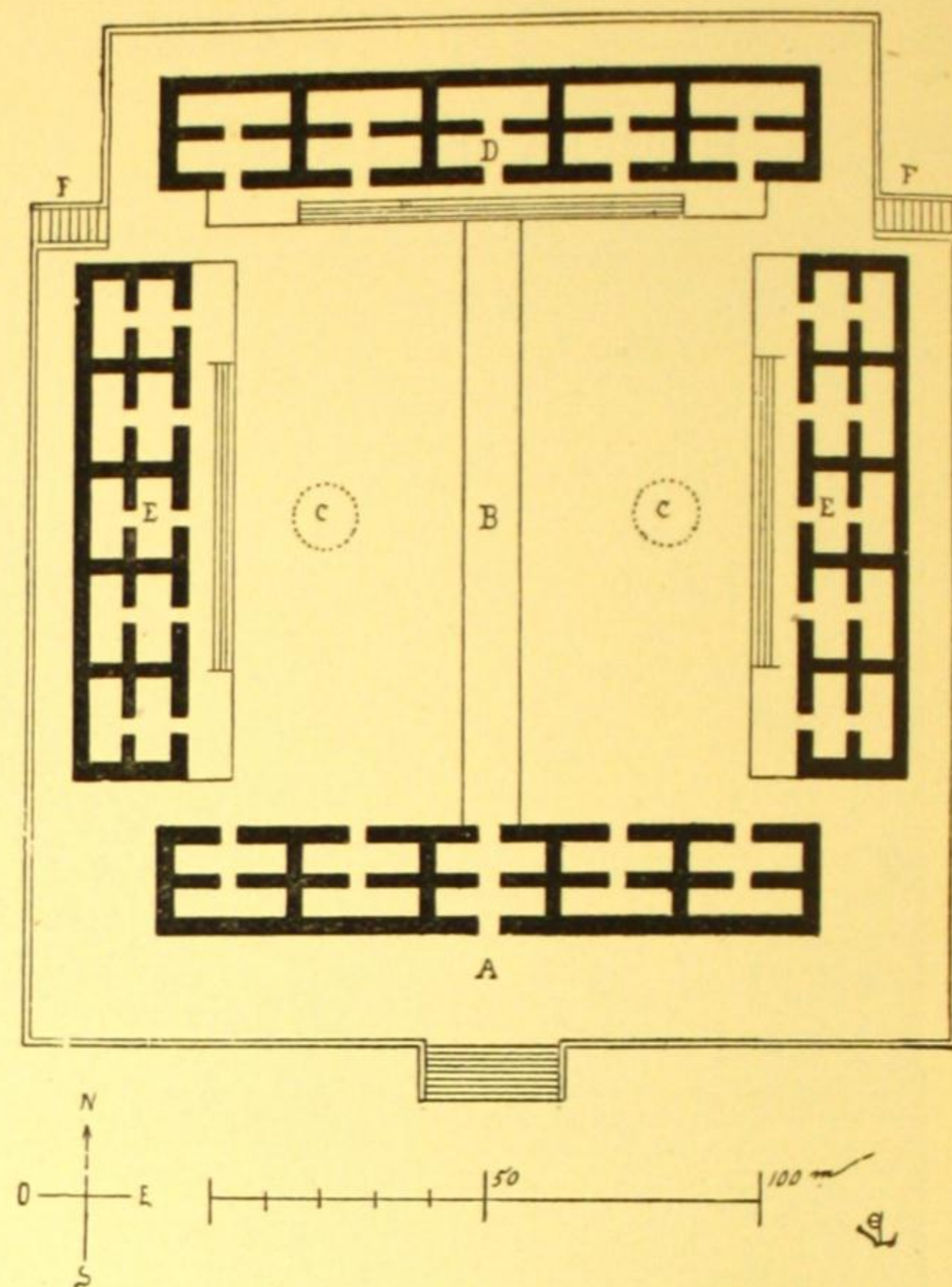
Epergos and Doxius found in these countries important cities, where all the arts had been long cultivated, and bore testimony to a civilization of ancient date. Had this civilization been developed in these countries, or had it been imported from abroad? It was evident that its sources were very ancient, for at the time when our travelers visited the country of the Olmecas and the Nahuas they had proof that the buildings contained records of traditions already corrupted.

Epergos, inquisitive as usual, wished to learn the opinion of the priests and sages of the country respecting their origin, and easily found an opportunity for satisfying his curiosity; for these peoples are not hostile to foreigners, having never had occasion to complain of ill-treatment from them. One of these sages named Nimak, who discharged the functions of supreme judge at Uxmal (one of the chief cities of the peninsula), contracted a friendship with the travelers, and undertook to inform them of the origin of the Olmecas.

"In the beginning," said Nimak, "all was immovable; calm and void was the immensity of heaven. There was then neither man nor beast, no woods, birds, fish, stones, or valleys; the heaven alone existed. The face of the earth was covered by peaceful waters. Nothing was connected; nothing moved; no sound was heard. All remained in darkness. The Creator, the Former, the Ruler, the Serpent covered with feathers, and the germs alone, were on the water. They concerted with each other and caused the earth to rise out of the waters; on this earth they caused trees to shoot forth, the waters to flow and the mountains to stand erect; then they created beasts, assigning its place to each: but these could not utter the names of the gods nor do them homage. Then they determined to create man of red earth; but this was not successful, and the body was dissolved in the water. They afterwards made men of wood; these spoke, reasoned, and reproduced their kind; but they had not intelligence, and did not retain the remembrance of their Former and Creator; yet they existed in large numbers on the earth. All the creatures rose against them and they were almost all

destroyed. Their posterity may be seen in the little apes that live in the woods, because their flesh was of wood alone.

"There was little light on the face of the earth, for the sun was dim, and man was made of flesh; he was proud of his power, and ruled over the apes and all the beasts. When they had greatly multiplied, these men came down from the north in tribes, and occupied these countries, as also a great land situated towards the rising sun beyond the sea; for they knew already



PLAN OF NAHUAN PALACE.—FIG. 84.

how to make use of boats. But this great land was swallowed by the waters . . . and a flood destroyed all the cities of the Nahuas, leaving only a few men alive."

"You are certain of it?" objected Epergos.

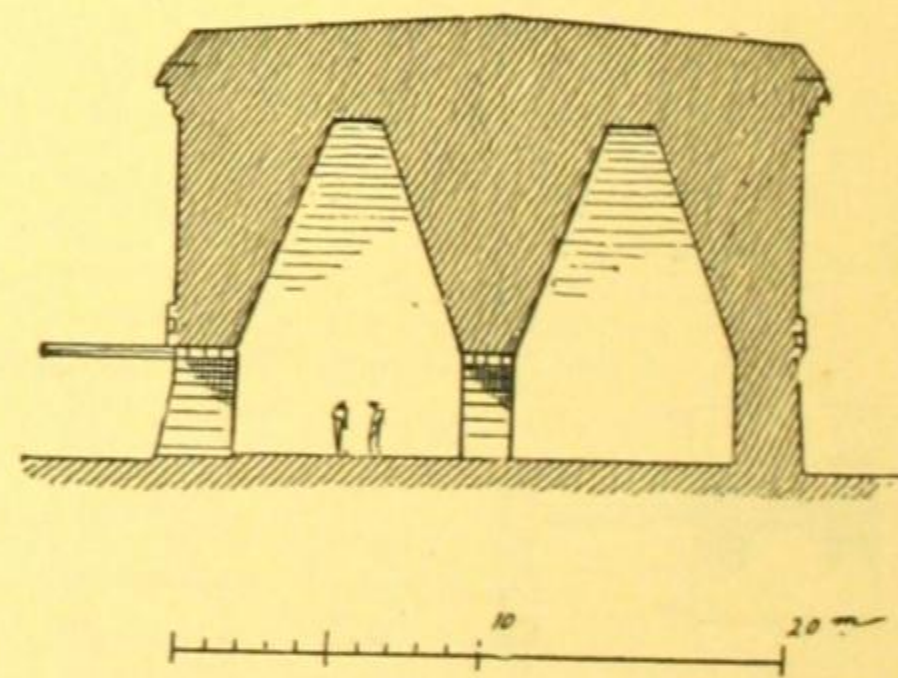
"Our writings say so," replied Nimak.

"Ah! was not this land that was swallowed up Atlantis?" said Epergos to his companion.

"Another fable of thy Greek friends," replied Doxius.

"I was thinking so," continued Epergos; "but here are people who have never heard of Plato, and who yet relate the same story; be so good as to continue, sage Nimak."

"Then the giant Cabrakou began to shake the mountains, to depress and to raise them; but he was killed by Hunahpu and Xbalanqué, who were the first civilizers of men, and destroyed the power of Xiballa.



SECTION OF NAHUAN PALACE.—FIG. 85.

Similarly in our time the Nahuas have conquered the Chichemecas-Quinames, whose tyranny they could no longer endure. It was they who rebuilt the cities of the peninsula."

"And how were those cities built which existed before the conquests of the Nahuas?"

"Their houses were rude and built of wood and unhewn stone joined by mortar."

"And who had taught those primitive peoples to build in that way?"

"The conquerors of Xiballa."

"And who were these conquerors?"

"Men of great stature and wickedness."

"And whence did they come?"

"From the North."

"And whence came the Nahuas?"

"Also from the North. They were and still are divided into tribes who elect chiefs, and who are masters of the Fox, the Jackal, the Parrot and the Crow, the Ant and the Toads."

"What are they?"

"It is thus that we designate the indigenous tribes that have been subjugated, and whose labor supplies us with all the necessities of life. It is they who cultivated the white maize and the yellow maize which serves for food; it was they who once showed us the road to Paxil."

"Where is Paxil?"

"It is the fertile and marshy country watered by the tributaries of the Uzumaciata and the Tabasco, between the sea and the mountains."

"And it was by that route that the Nahuas came hither?"

"Yes; they came down from the North—from countries where the tribes suffered greatly from the cold, and where they obtained the fire of the god Tohil."

"And for what consideration did the god Tohil grant fire to the tribes?"

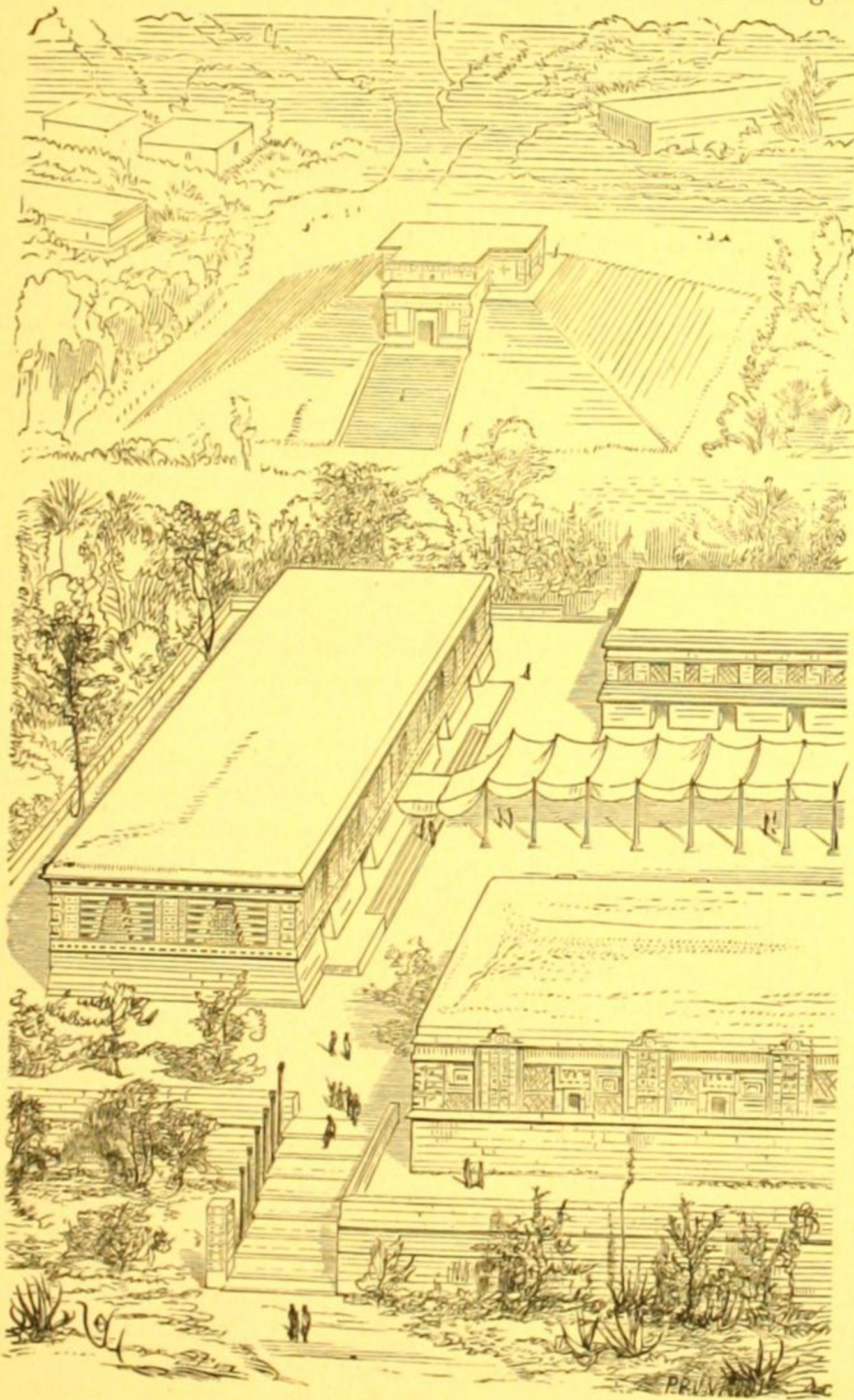
"On the condition that they should sacrifice human victims to him."

"And do you continue to offer these sacrifices?"

"We do; for it was on this condition that we received fire and the principle of all life—the sun to warm all nature and to give us light. Those who lived before Tohil had been invoked and fire obtained, were in darkness and ice."

"Well, but Doxius and I not long ago traversed dark and frozen countries and came southwards, just as your tribes did in former times; we have not sacrificed any human being to Tohil, and yet the sun does not refuse us either its heat or its light."

"Certainly, but the people generally do not look at things in that way: they must have a visible sign, and they expect nothing from the divinity if they offer nothing to him. Besides, the sun is sometimes extinguished in



VIEW OF NAHUA PALACE.—FIG. 86.

the clearest weather, as if Tohil were threatening men that he would withdraw light and heat from them. He must, therefore, be implored since he threatens, and it was he himself who demanded human victims before our entrance into Paxil."

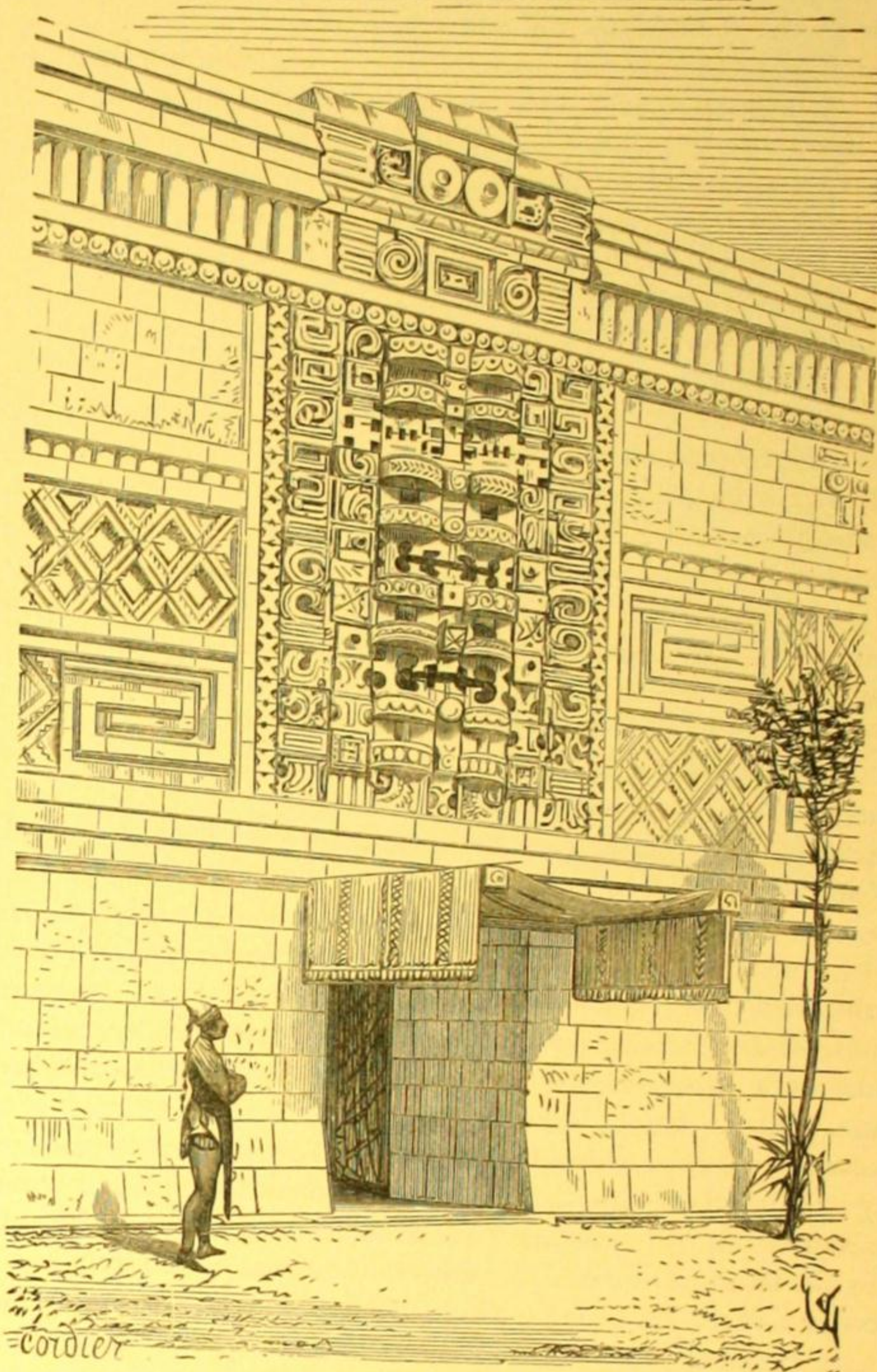
"Art thou certain of it, Nimak?"

"The sacred signs indicate it; and the signs can never deceive men, since they are exhibited in order to teach them the truth. Besides, it is certain that at the time of the deluge, which destroyed all men—except those who took refuge on the sacred mountain—there was a period of darkness which lasted twenty-five suns; and the human beings, and all the beasts that had not taken refuge on the sacred mountain, were changed into stone."

Epergos did not attempt to discuss these strange traditions, which greatly perplexed him; for in some points they agreed with those of other nations far remote from this country, and who could not have had, as it appeared, any connection with it.

Some days afterwards, Nimak, at the request of our travelers, secured an opportunity of showing them one of the finest palaces of the city of Uxmal—the residence of its governor Nahuatl.

It must be stated that these cities of the peninsula are very extensive, their streets wide and laid out in line, that the houses of the people are made of wood and clay, very low, and covered entirely by terraces which communicate with each other; so that while one may traverse its streets, one may also



PORTION OF EXTERIOR OF NAHUA PALACE.—FIG. 87.

go through the city on these terraces. In many cases these houses are partly hollowed out in the ground to mitigate the heat.

At various distances, wide flights of steps, hollowed out in the rock, lead down to tanks or rivulets below, thus affording a supply of excellent fresh water. But at the close of summer, these concealed but always abundant springs, which exist at a depth of thirty cubits and more, must be had recourse to.

The dwellings belonging to persons of distinction among the Nahuas are built on wide platforms, under which tanks are hollowed out in the rock, or built of stone and carefully lined with a very hard cement. These palaces are all built of stone and are very sumptuous. Figure eighty-four gives the plan of the residence of Chumucil-Chunil (principal centre). It is situated at one of the extremities of the city, and is surrounded by gardens.

Near it is a *léocalli*, or great truncated pyramid, surmounted by a temple. The avenue which leads to the palace is wide, and overlaid with cement. It ends in a fine flight of steps giving an ascent to the platform and the principal entrance A, which passes through a building in front.

Next we have a great court B, with a cemented alley in the middle, along which are poles for the support of awnings. At the farther end of the court is the principal building D, raised some steps above it. On either side, at E, are two other buildings nearly alike. At C are the openings of the two great tanks which extend under the court. Cellars are also made under the main building to store provisions in. The noble owner lives in the range of building at the farther end. The three other ranges are occupied by the dependants and menials. At F are two descents leading down to the gardens.

These blocks of building, arranged in the same way, present the section figure eighty-five. The structure consists of a great mass of rubble-concrete united by excellent mortar, with stones exhibiting designs and carvings of the strangest description. The interiors, which are lighted only by the

doors, are constructed with stone facings laid overhanging and supporting a narrow ceiling. These interiors are covered with paintings and hieroglyphics. The lintels of the doors are made of a very hard red wood of a durable nature. Two long beams projecting from the two sides of the principal doors are designed to support an awning for shelter. The roofs are terraced and cemented.

The aspect of this mass of buildings is carefully determined.

Figure eighty-six gives a bird's-eye view of the main building, with the extremity of the two lateral buildings, the platforms, the secondary entrances, and the great *tlacalli* close by, the gardens, etc. It will be observed that the central avenue is covered with awnings fastened to poles, and ending with the projecting shelter of the central portal.

This group of buildings did not fail to produce a lively impression on our travelers, for it is immense in extent, and covered almost completely with carvings. It seemed to have been the work of many generations, yet Nimak assured them that this palace had not taken more than four years to build. Epergos was astonished to find such a simple arrangement of plan with so advanced a style of art; the latter appearing to be even on the decline. He examined the façades of these ranges of building, which differed from each other, but were all very splendid. The exterior decoration of the principal range especially drew his attention; for it consisted of an imitation of wooden brackets, with trellis-work in the interspaces, although it was entirely of stone. Here there was doubtless the tradition of a structure of wood. At other points, billet-shaped stones, side by side in a vertical position, evidently represented an assemblage of trunks of trees close together. But the façade of the western building especially attracted his observation, for above each of the doors was carved the most singular decoration imaginable (fig. 87); and, above the surbase, a wide frieze formed of alternate scrolls and trellis-work. Each stone, with its carving, had been placed like the pieces on a chess-board. Some of these environing stones above the doors were hieroglyphs which Nimak explained to the travelers.

At each of the corners of the blocks of building were carved, one above the other, three enormous and grotesque heads.

Epergos, who remembered the productions of Egyptian, Greek, and Indian art, surveyed all this with more astonishment than admiration.

Doxius, on the contrary, who had felt no great interest in the accounts given by Nimak, remarked an air of grandeur, power, majesty, order, and regularity that charmed him. It should be observed that all these carvings were relieved by painting which, at a distance, gave this decoration the appearance of a most magnificent carpet. In the interior, the pieces of furniture, made of wood, were likewise covered with these strange carvings and coloring, enriched with gold and silver. The furniture consisted of beds or very wide benches, with a great number of small tables, highly ornamented stools, and vessels of terra-cotta, painted and gilded. The apartments occupied by the master and his family differed from the others only in a greater richness and profusion of these pieces of furniture, and the stuffs with which they were covered, which were finely woven of wool, bark of trees, or fibre of aloes, while elsewhere mats replaced these stuffs.

What especially struck Epergos was the absence of a room distinguished in size from the rest.

"Where are assemblies held?" he asked of Nimak.

"Chimucil-Chunil, the master of the house," replied Nimak, "following the custom of the great men of the Nahuas, when he wishes to assemble a considerable number of persons—and he never assembles any but his peers—convokes them in this vast court. All our assemblings are held out of doors, at sunset or sunrise; for in the daytime the heat is too oppressive to allow of persons remaining thus in the open air. The closed apartments are used only for rest or for meals; every one takes his repasts at home. Or if we have meals in common, it is under tents: but that takes place only on certain solemn occasions—sacrifices, for example. In ancient times the human victims sacrificed to Tohil were eaten, but this custom is abandoned. The viands are prepared outside by specially appointed servants, and brought to each guest, according to his rank and quality."

"I understand. But the Nahuas did not bring this architecture and this skill in art with them?"

"No. The lower class of people that live in these countries were already advanced in the arts when the Nahuas conquered the country, but what they produced was irregular and unworthy of the conquerors. The latter have brought these artisans to work voluntarily or by force, and so have had temples, cities, and palaces built for them, worthy of the race of the Nahuas. They have established rules for everything—buildings as well as the rest. They have appointed councils of sages, who are commissioned to maintain these rules, and to prevent any one from transgressing them. Thus the arrangements of dwelling houses, even for persons of distinction, cannot be altered; for the law directs that they shall be exactly as you see. The sculpture itself is subjected to rules, which every one must observe. It is the same with the style of building, and the construction of tanks and roads. When a building is undertaken, the master-builder gives each one his task. One cuts the smooth stones, another the carved stones, and each must finish

within the day what is prescribed him; then the master has these parts of the work put together in front of the rubble backing."

"I cannot help remarking," said Epergos, "that these stones, which are of pretty much the same size, are none of them bonded together, but are placed side by side, and one upon another without breaking-joint."

"These facings are held by the mortar of the rubble backing."

"But tell me, Nimak, do you not think that the principal building, though of stone, simulates a structure of timber?"

"In former times, buildings were in fact thus made of timbers, superimposed and corbelling out; that is why we preserve this appearance."

"But what is the good of that, when the material has been changed?"

"Because we have seen ancient buildings thus fashioned, and we wish to preserve the remembrance of them."

"And why have you ceased to use timber in building your palaces and temples?"

"Because many of them were destroyed by fire; and because they harbor serpents, ants, and all sorts of vermin. Only the poor now employ wood in their houses, and they are careful to plaster it with earth."

On returning to their lodging, Epergos said to his companion:

"Do not these nations appear to thee, Doxius, to have passed without transition from infancy to old age?"

"Why so?"

"Because these edifices we have been looking at are little removed in point of arrangement from a primitive state of things, and yet in structure and decorations present symptoms of decadence."

"That grotesque sculpture, monotonous in its profusion, and reproducing forms which do not belong to the mode of construction adopted, denotes an art corrupted before it was developed."

"This can only be explained by the tyranny of a superior caste over a population of craftsmen and artists already advanced in the use of arts, but who follow the dictates of blind unreflecting caprice. What shocks me in everything is the absence of reasoning; one seems to be in a dream. What then are we to think of the life of these grandees among the Nahuas or Toltecs who live in cells, all exactly alike, just as compartments for animals would be made? And yet these habits, which by implication are so simple, are accompanied by a prodigious exterior show of luxury—a luxury which is simply decorative, and has no concern with any real requirement. We have seen nothing like it on the face of the earth."

Doxius looked grave and did not answer. He was asking himself whether these men would be in a condition to comprehend and accept the law of Buddha; for he was still inflamed with the apostolic zeal which had proved so unsuccessful in Cathay.

Doxius attempted, therefore, to preach to the people; but the chiefs and the Nahuas priests gave his companion to understand, that if his proceedings were continued, they would be under the necessity of tearing his heart from his bosom, as an offering to Tohil; and Doxius took the hint.

They, therefore, diverged westwards, to the shores of the Pacific. There they found populations of harmless disposition, of whiter skin than the Nahuas, subjected to a sacerdotal government, and who appeared to belong to a purer branch of the same race. In this country, as in the peninsula of Yucatheca, there existed an inferior class, brown-skinned, short, robust, and subjected to labor of all kinds.

The ordinary habitations of the country consisted of a walled inclosure built of unhewn dry stones, covered with trunks of trees laid close together horizontally, and on which was compacted together a thick bed of earth mixed with gravel and carefully plastered.

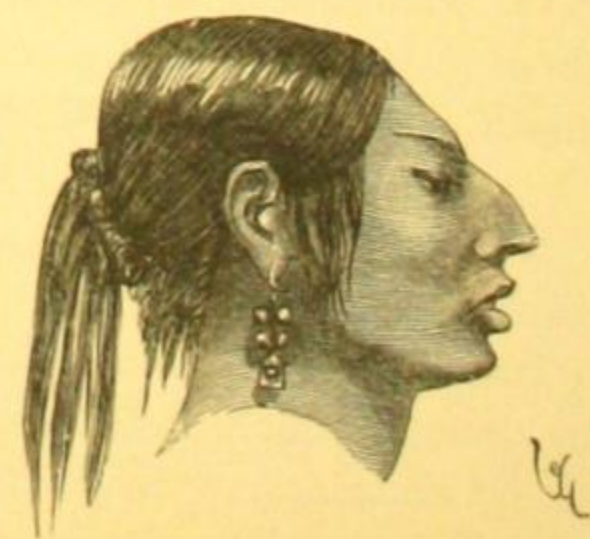
The doors and windows of these dwellings were formed of two stones meeting at the top; the interior, divided into two or three compartments, gave shelter to a family.

Despite his regard for authority and dislike for discussion, Doxius himself experienced an excessive weariness amidst these inert populations. There also he attempted to preach; they listened or appeared to listen to him, but his words glided from their minds like water on polished marble. He felt that his labor was thrown away; and, contrary to what was generally the case, it was he who persuaded Epergos to make a move, and to quit this continent.

Beneath this lovely sky, and amidst scenery of enchanting beauty, Epergos began to meditate on all he had seen. To him this country seemed like a garden formed for restful ease; he reviewed his recollections and let the days glide by, looking at the flowers in the fields, and the sky through the foliage, listening to the countless voices of the forest, and asking himself whether he had not found the Elysian Fields of the Greeks.

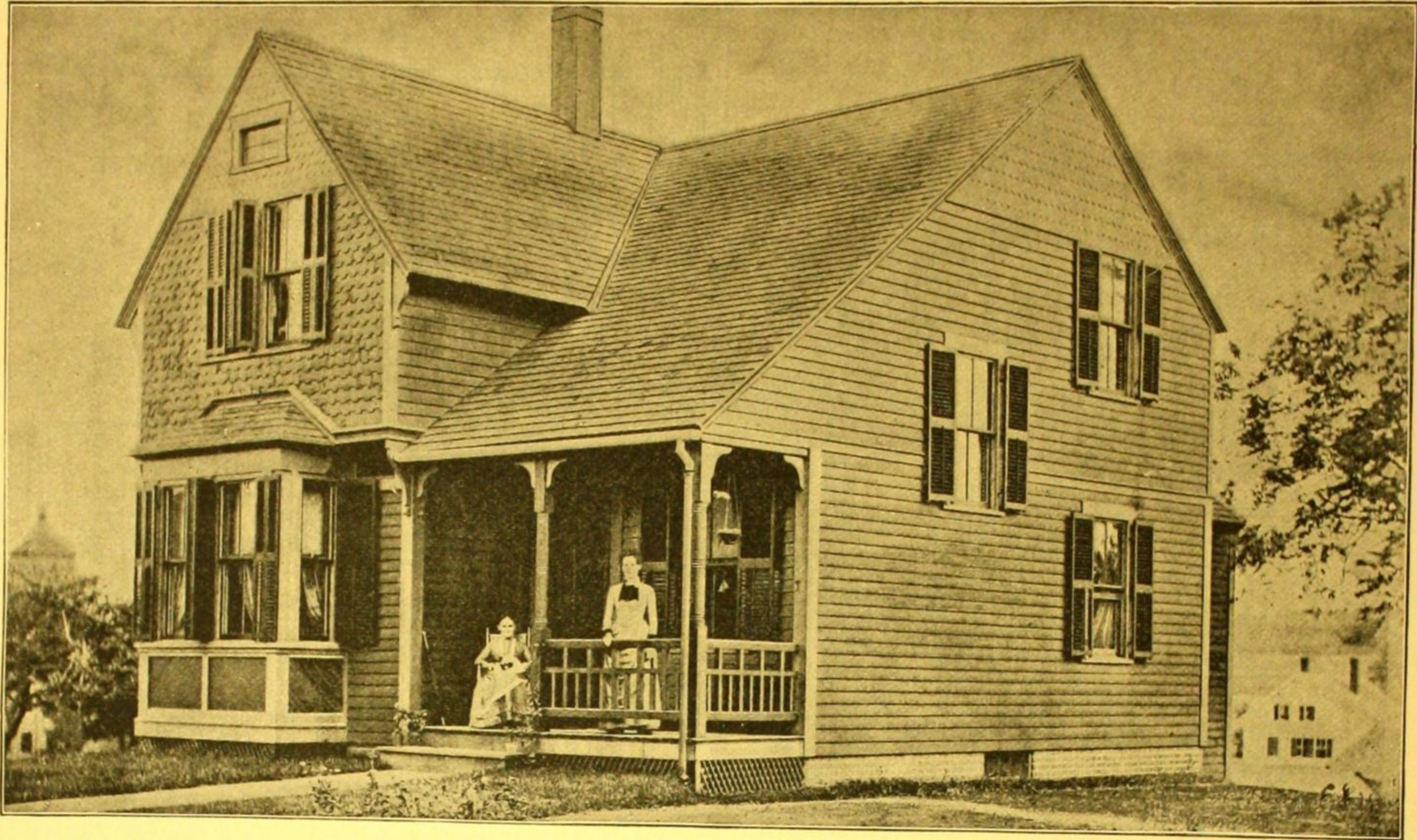
When Doxius informed him of his wish to quit this land, Epergos smiled and contented himself with answering:

"Let us go!"

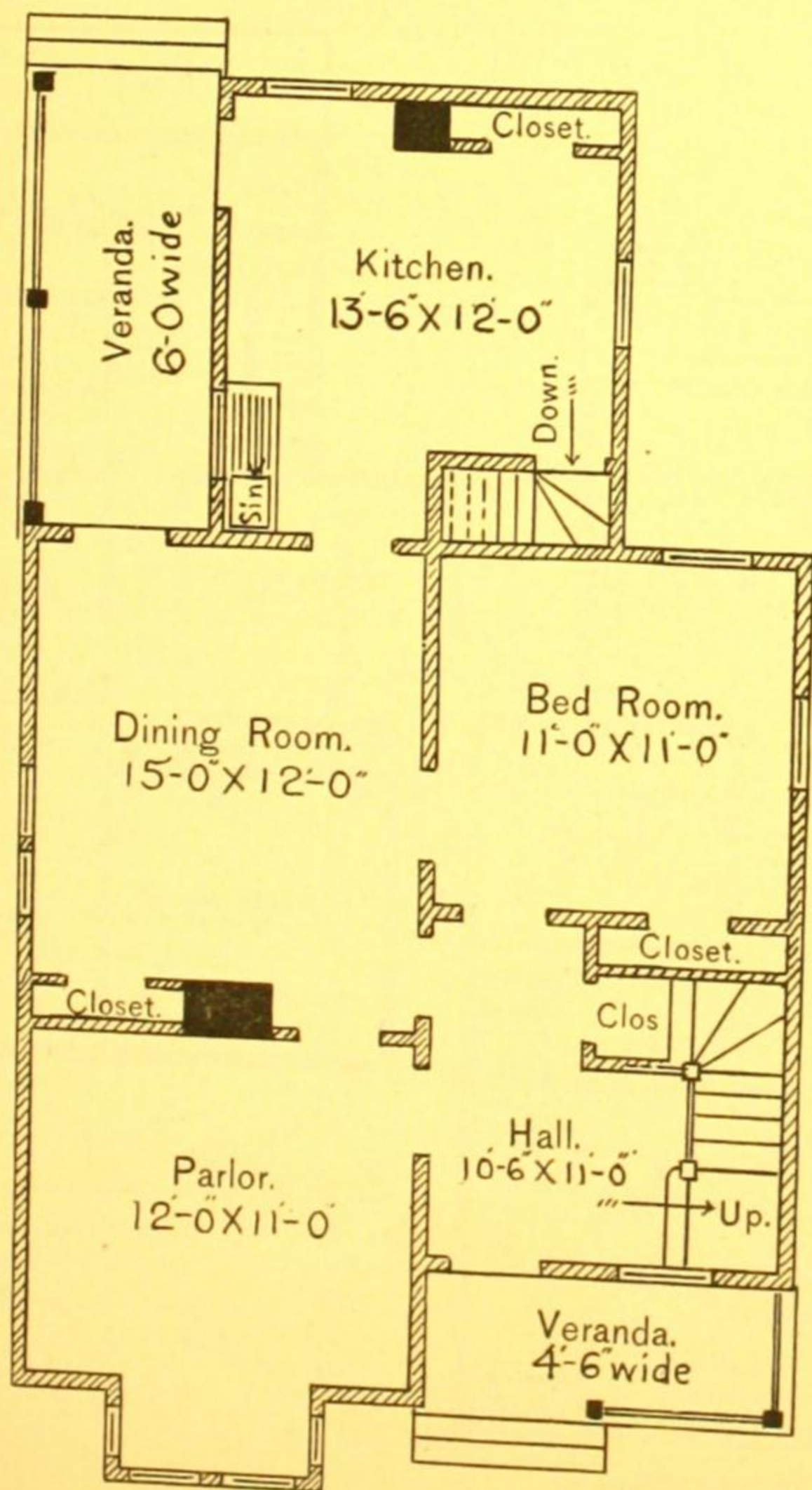


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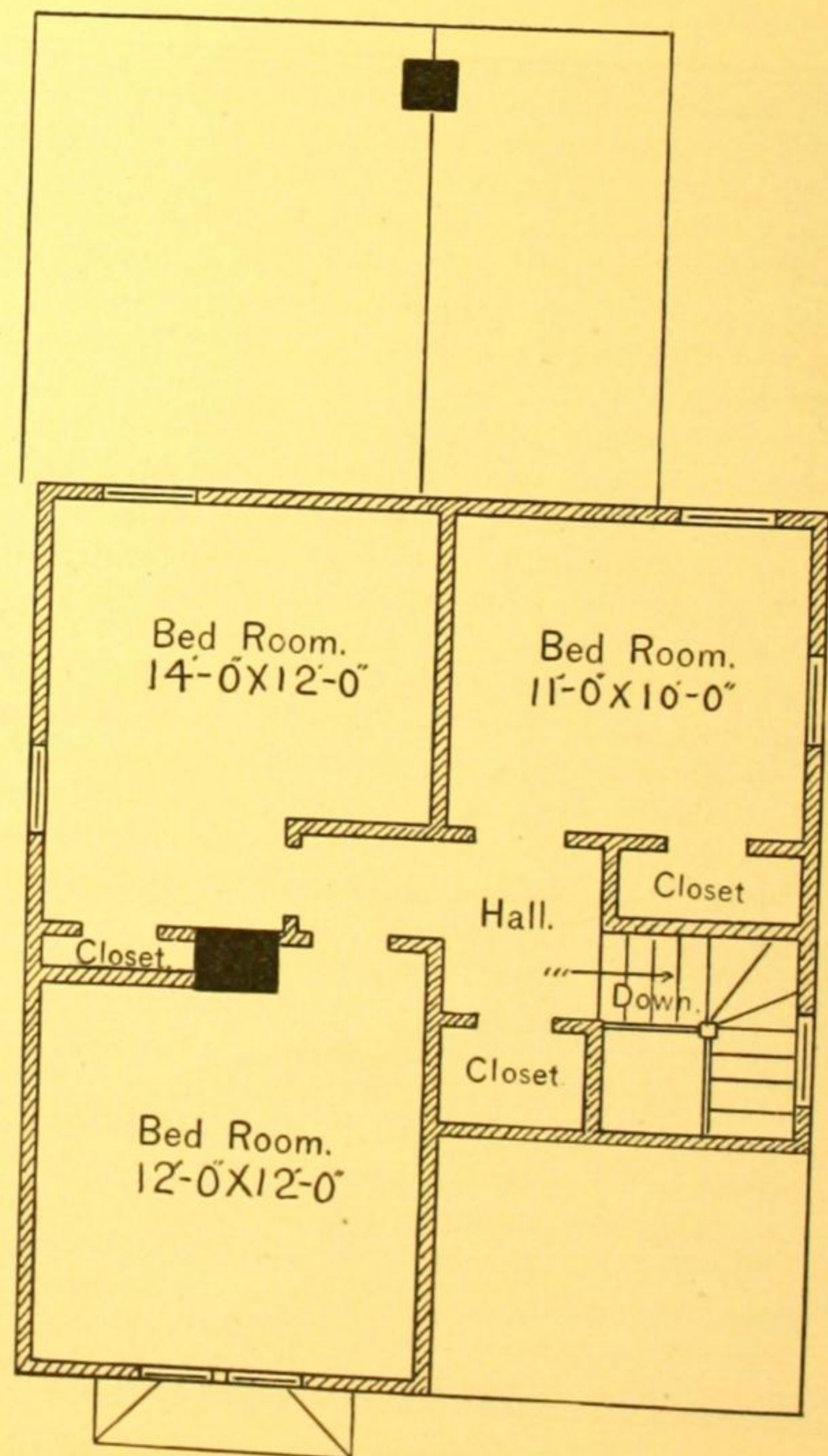
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PHOTOGRAPHIC VIEW.



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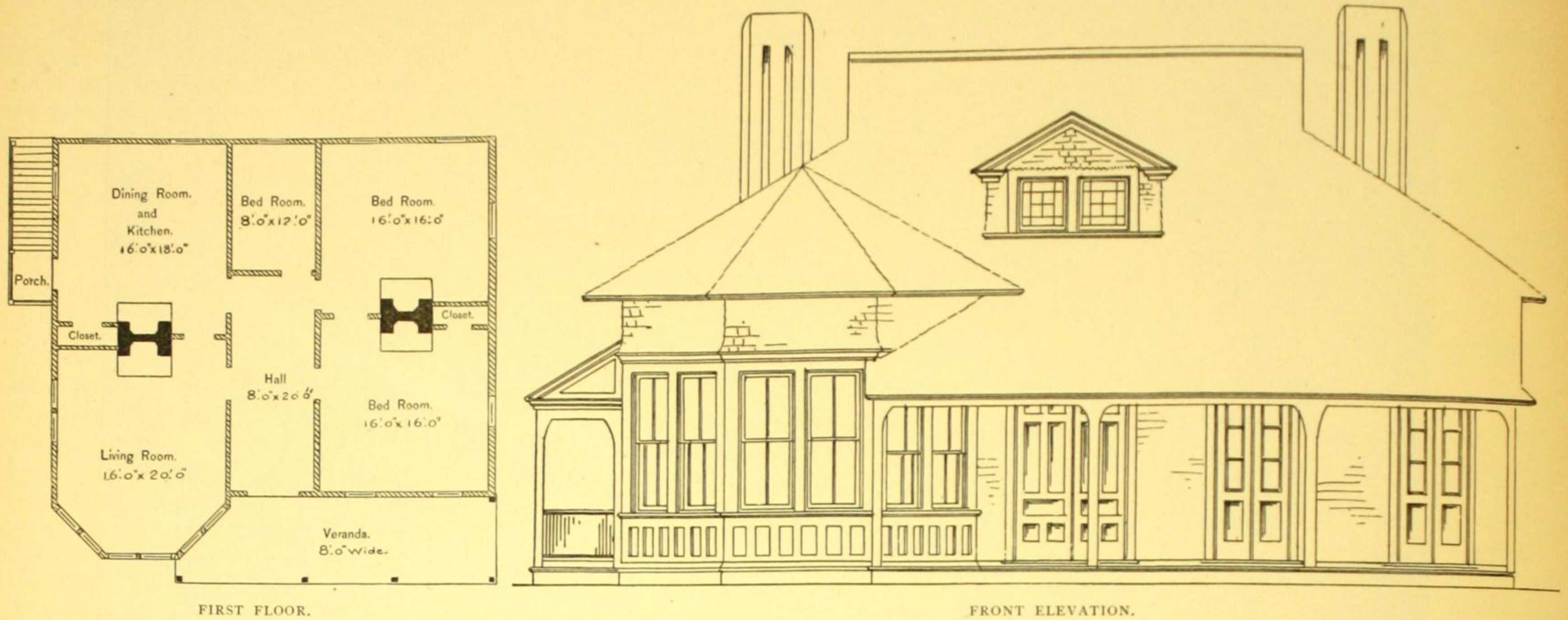


SECOND FLOOR.

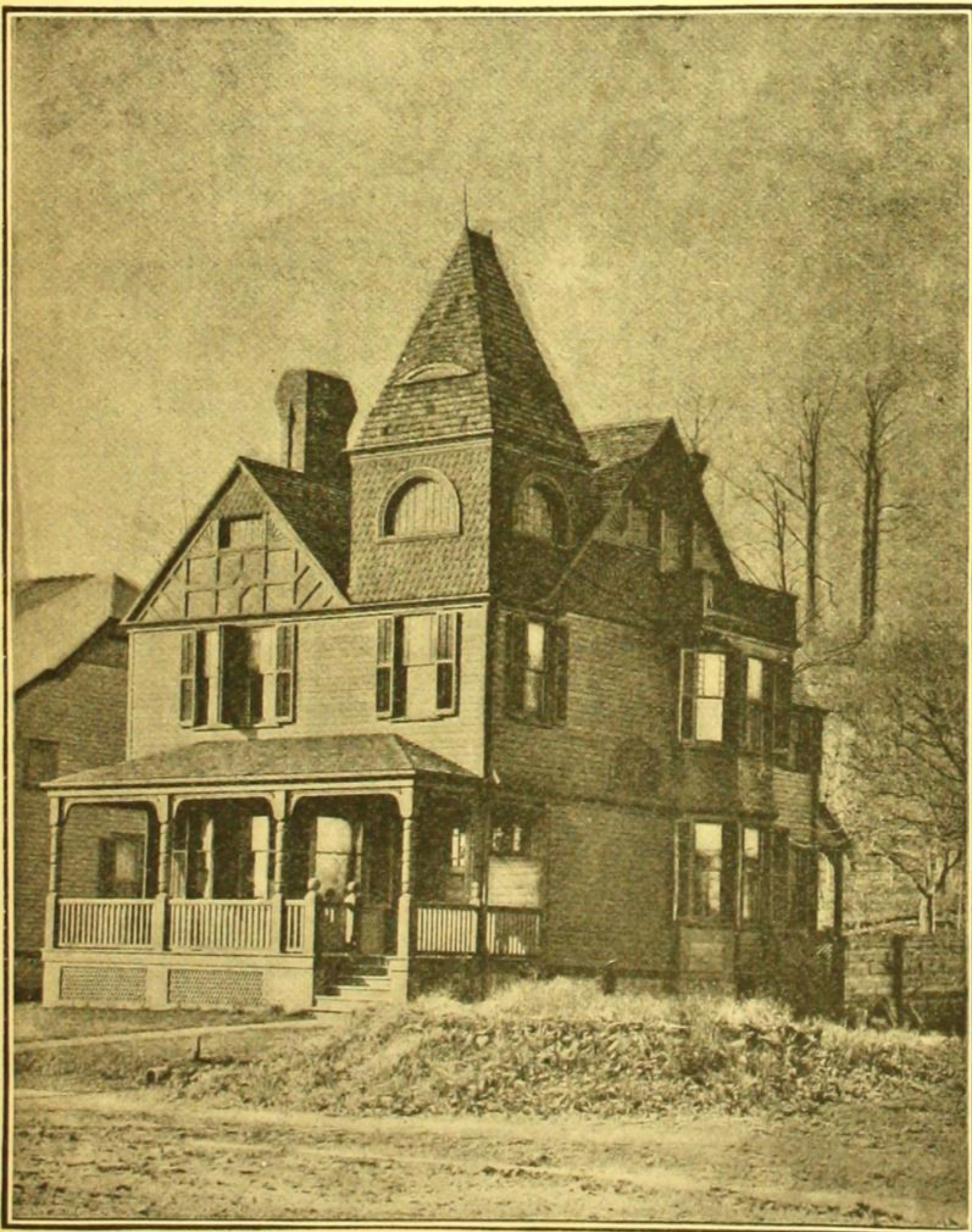
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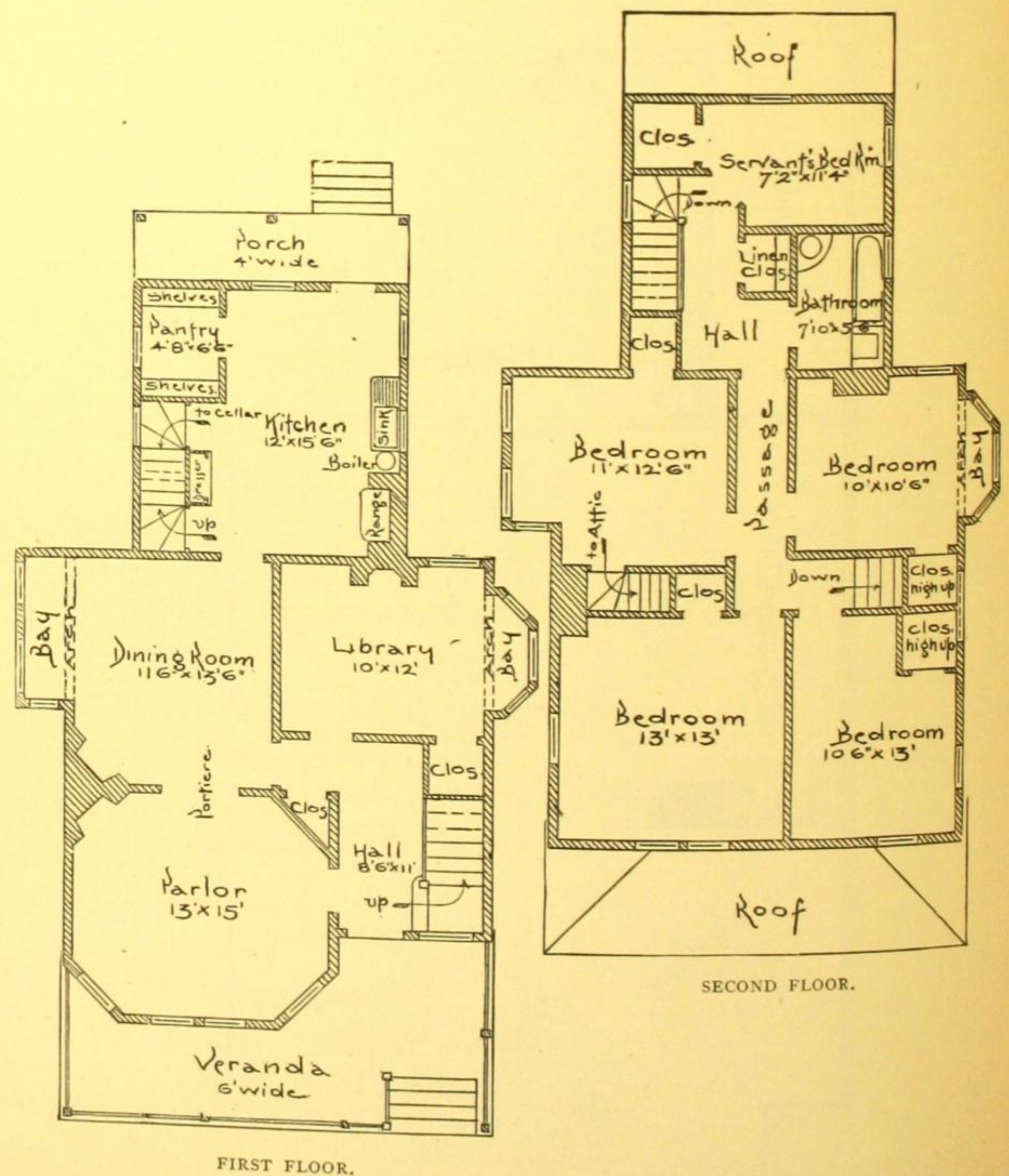
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DESIGN No. 572



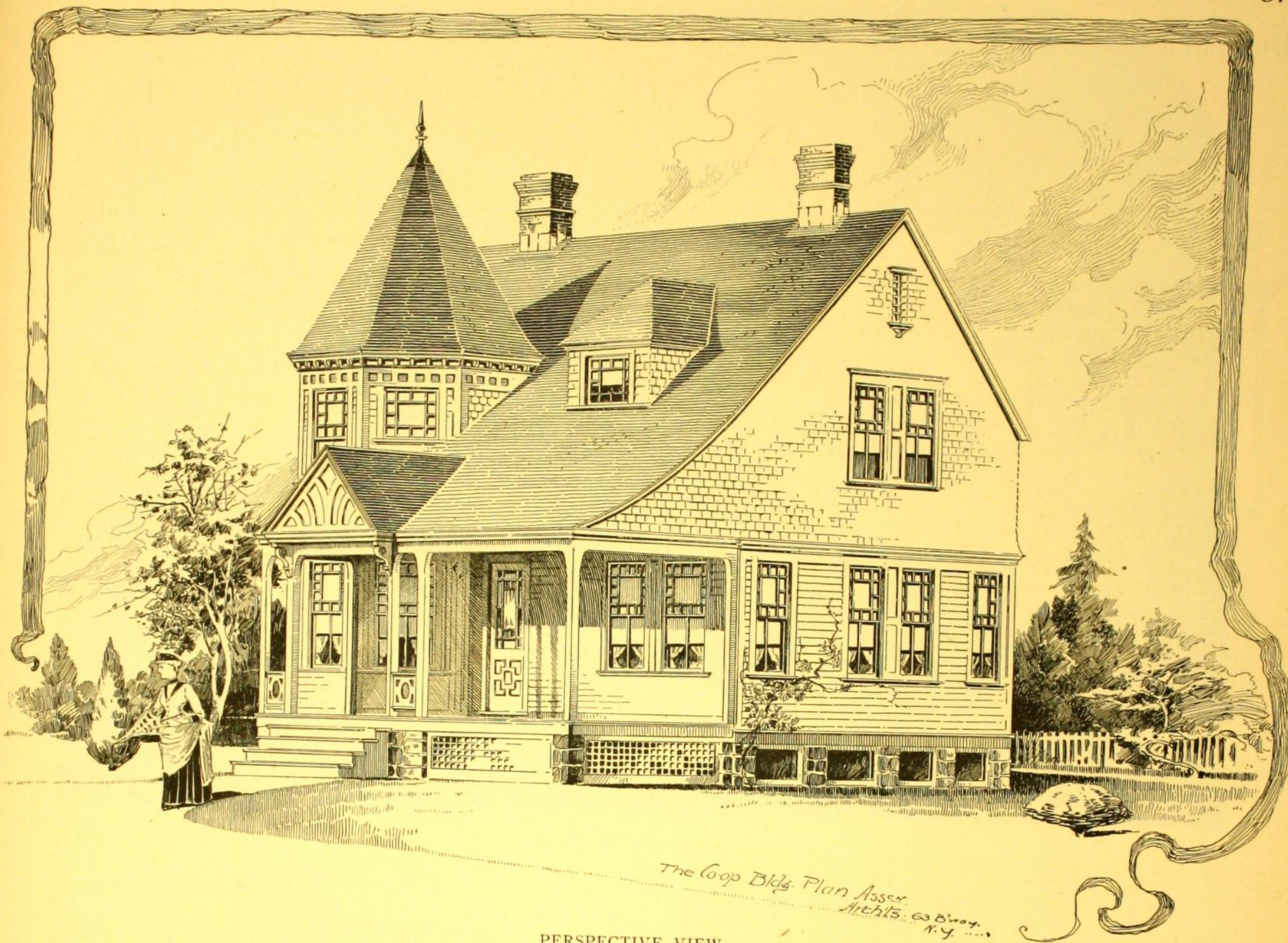
PHOTOGRAPHIC VIEW.



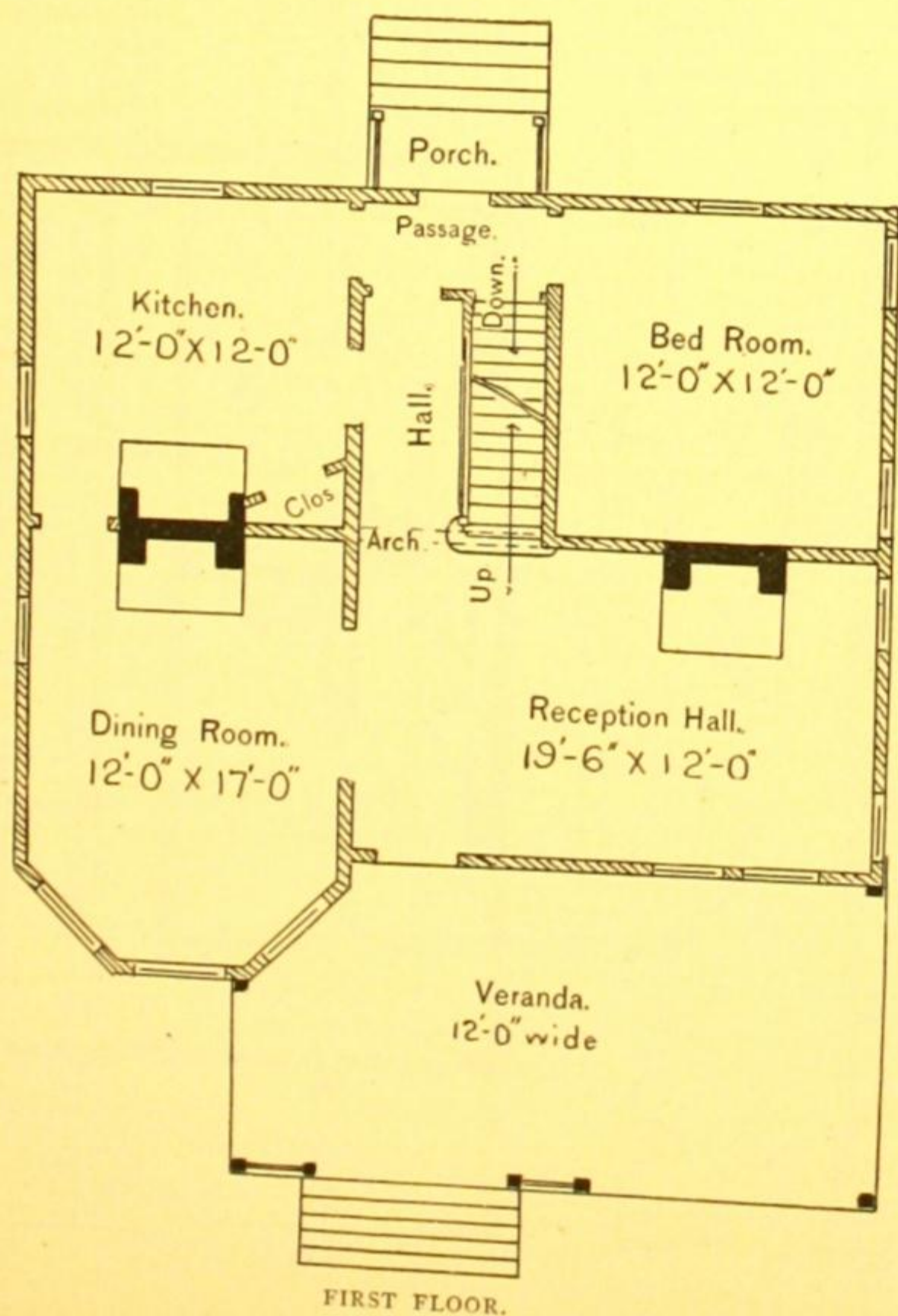
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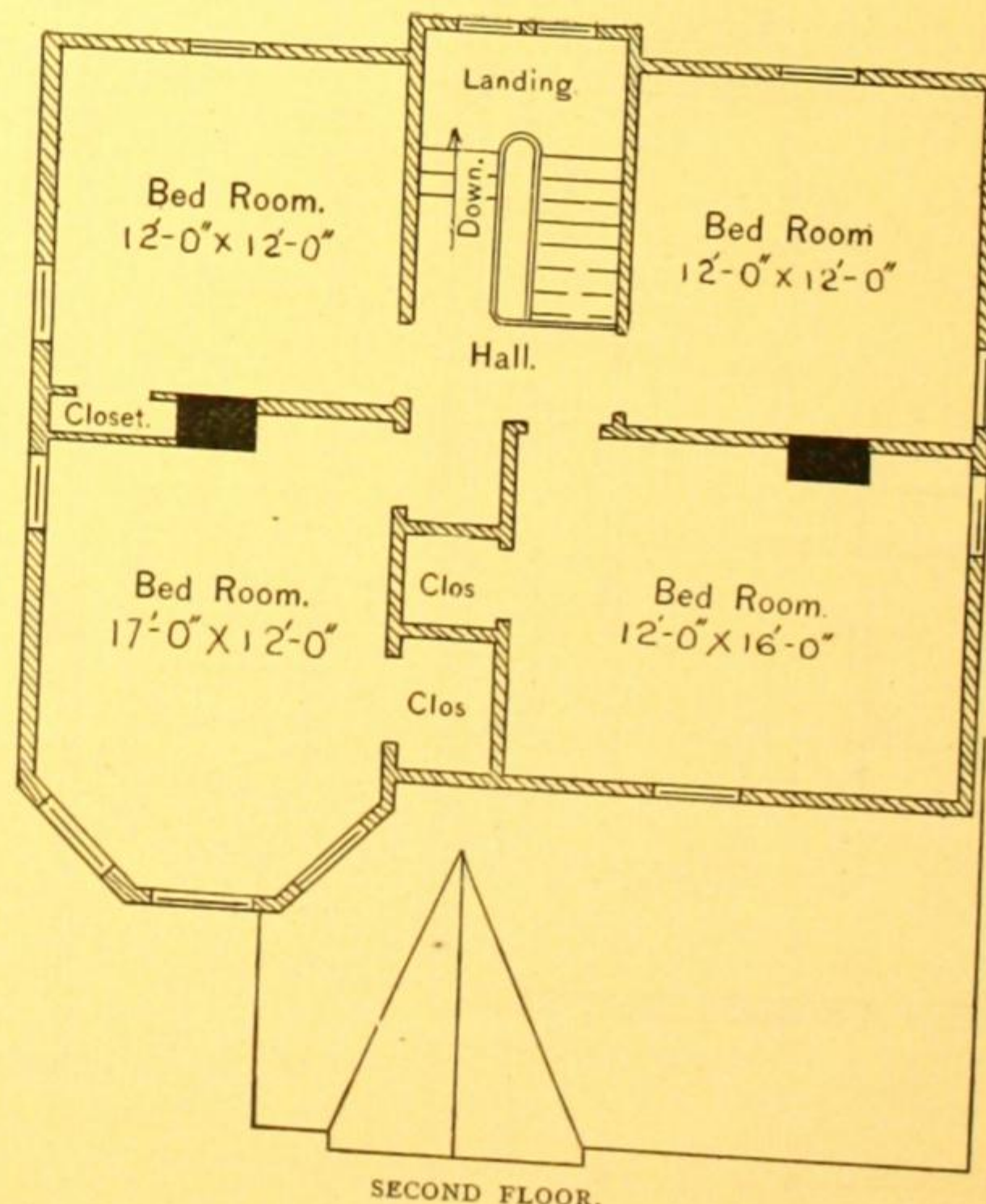
DESIGN No. 573



PERSPECTIVE VIEW.



FIRST FLOOR.

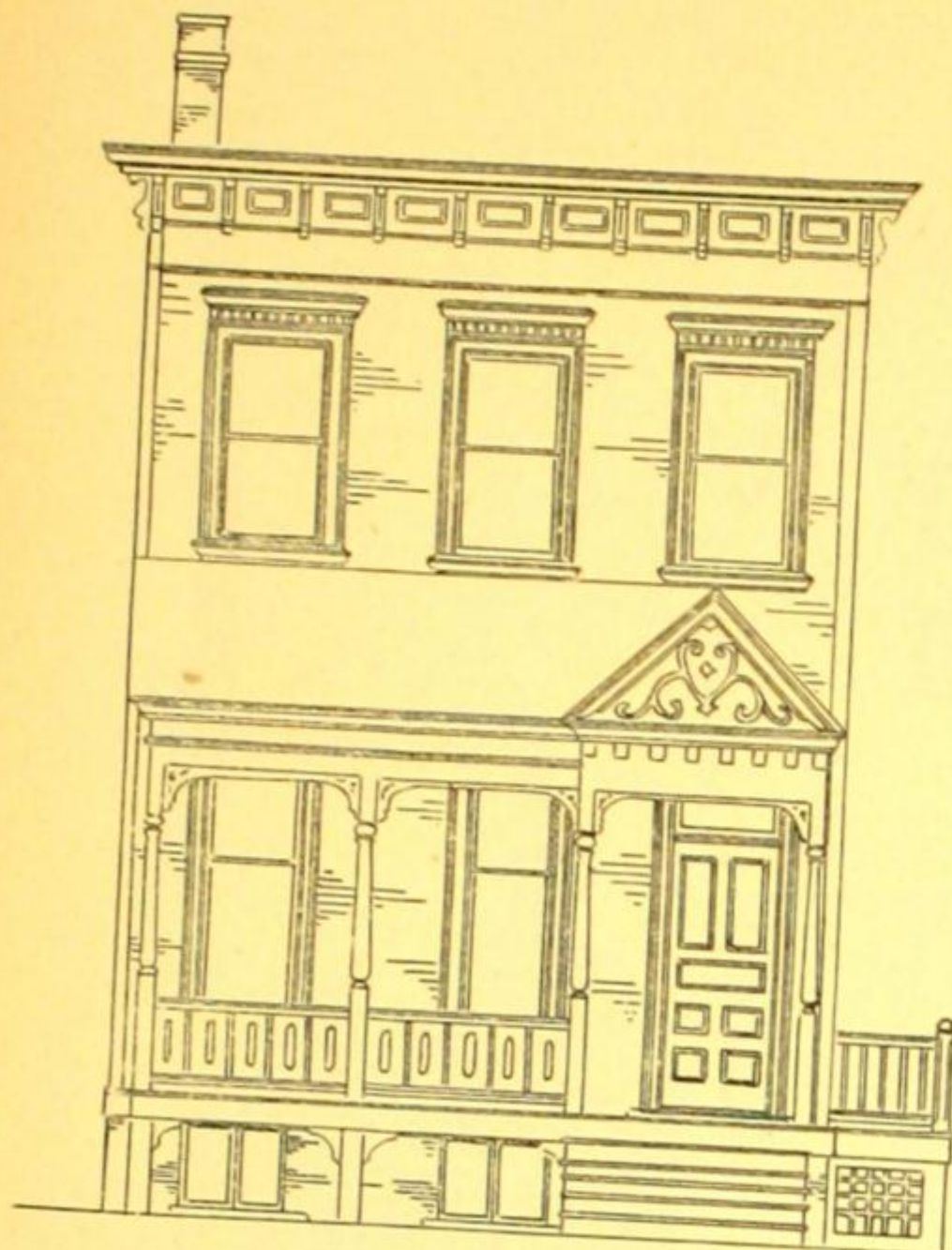


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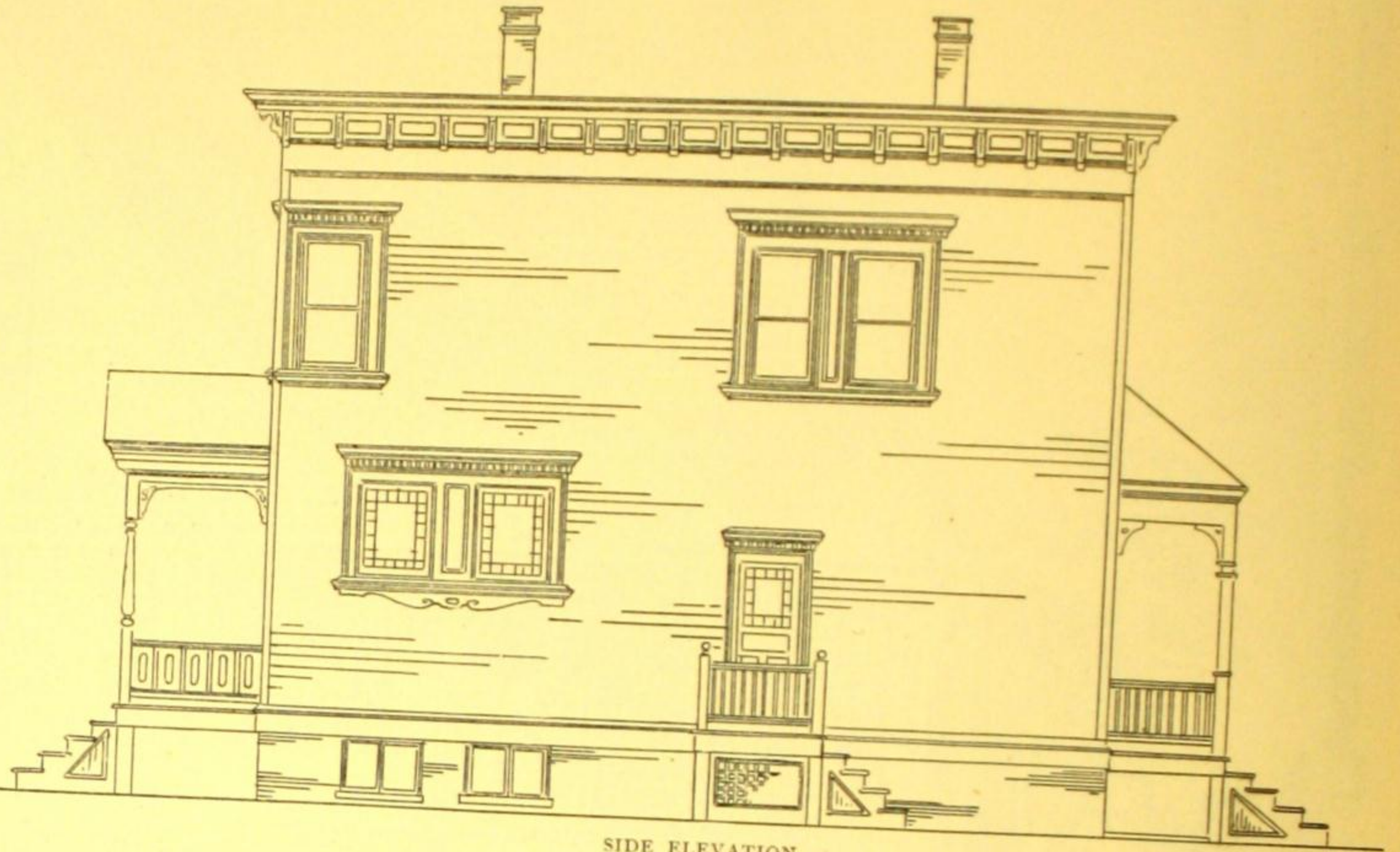
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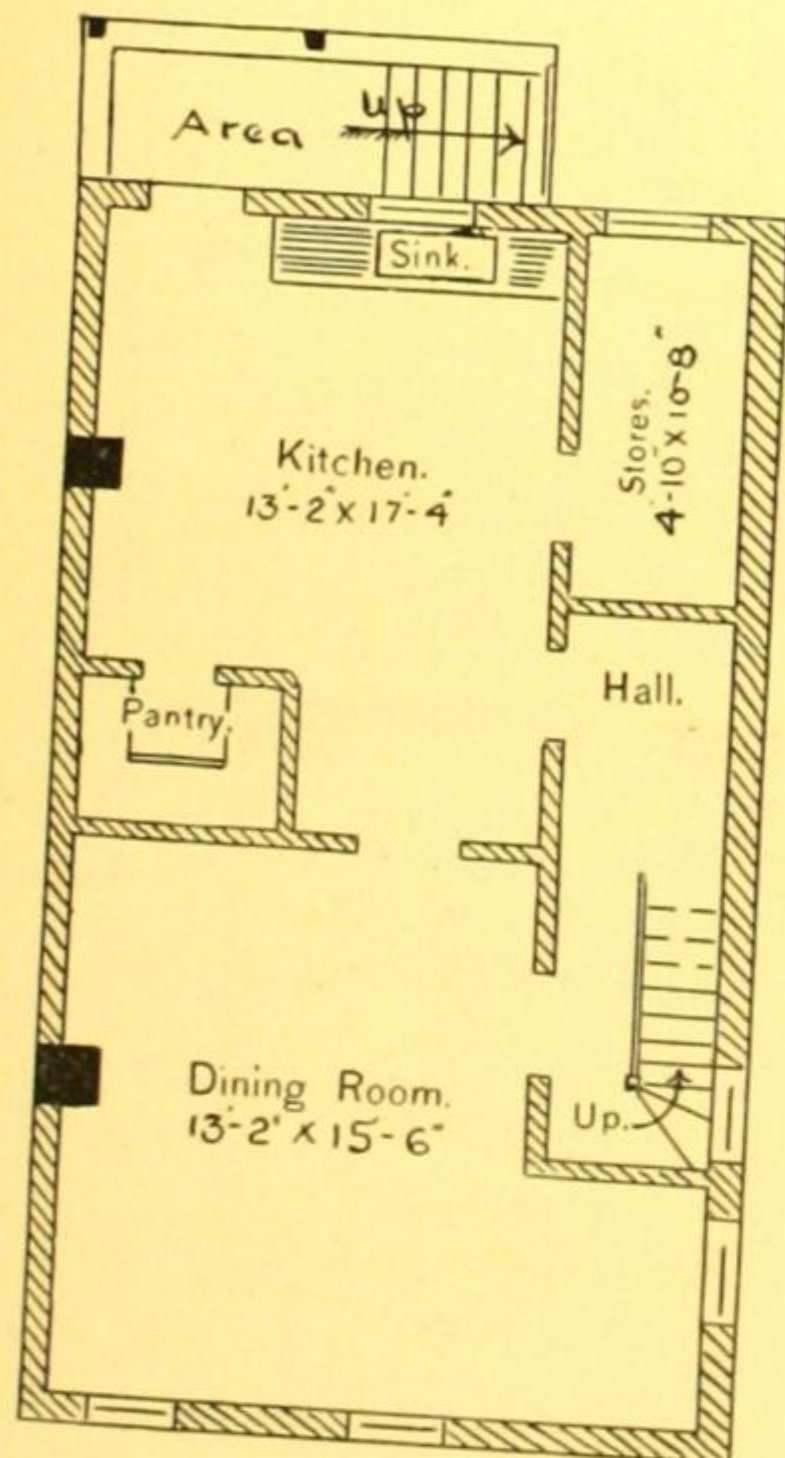
DESIGN No. 574



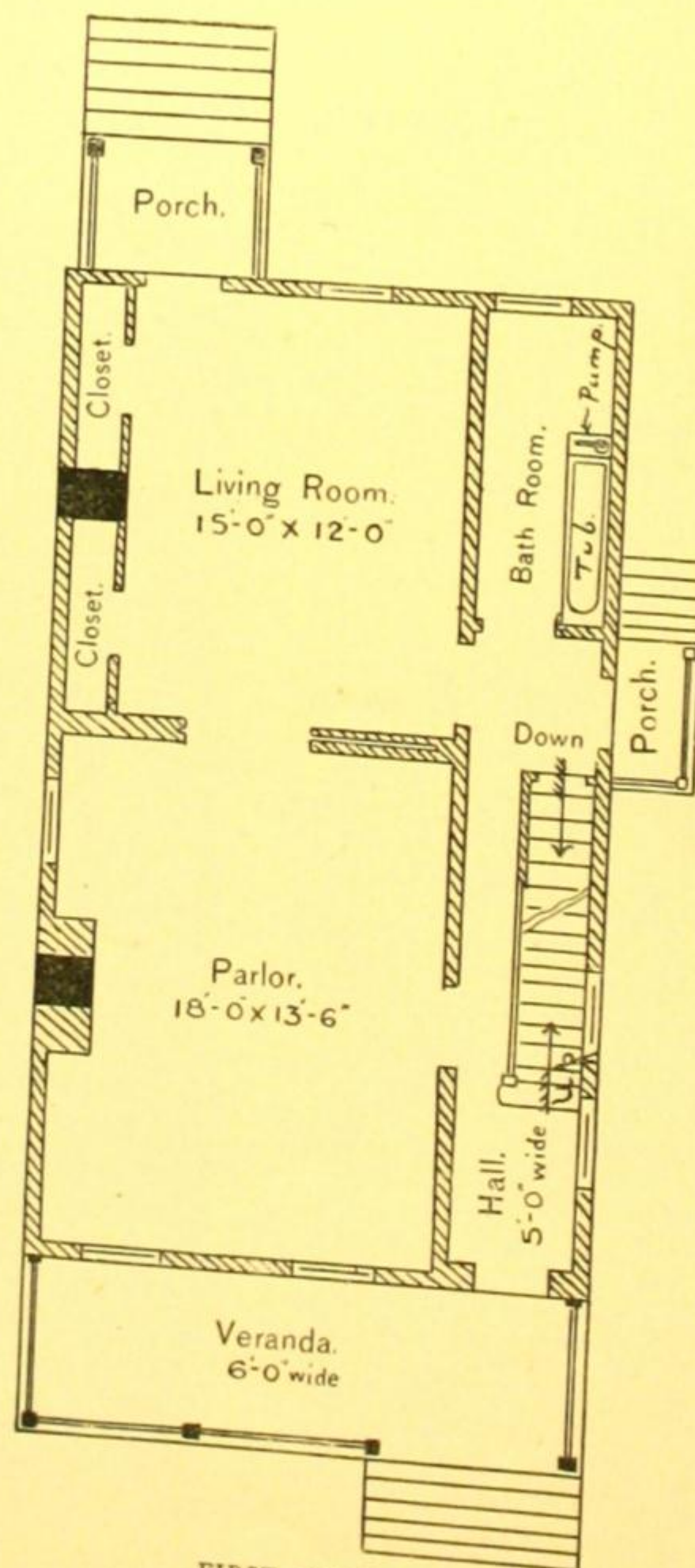
FRONT ELEVATION.



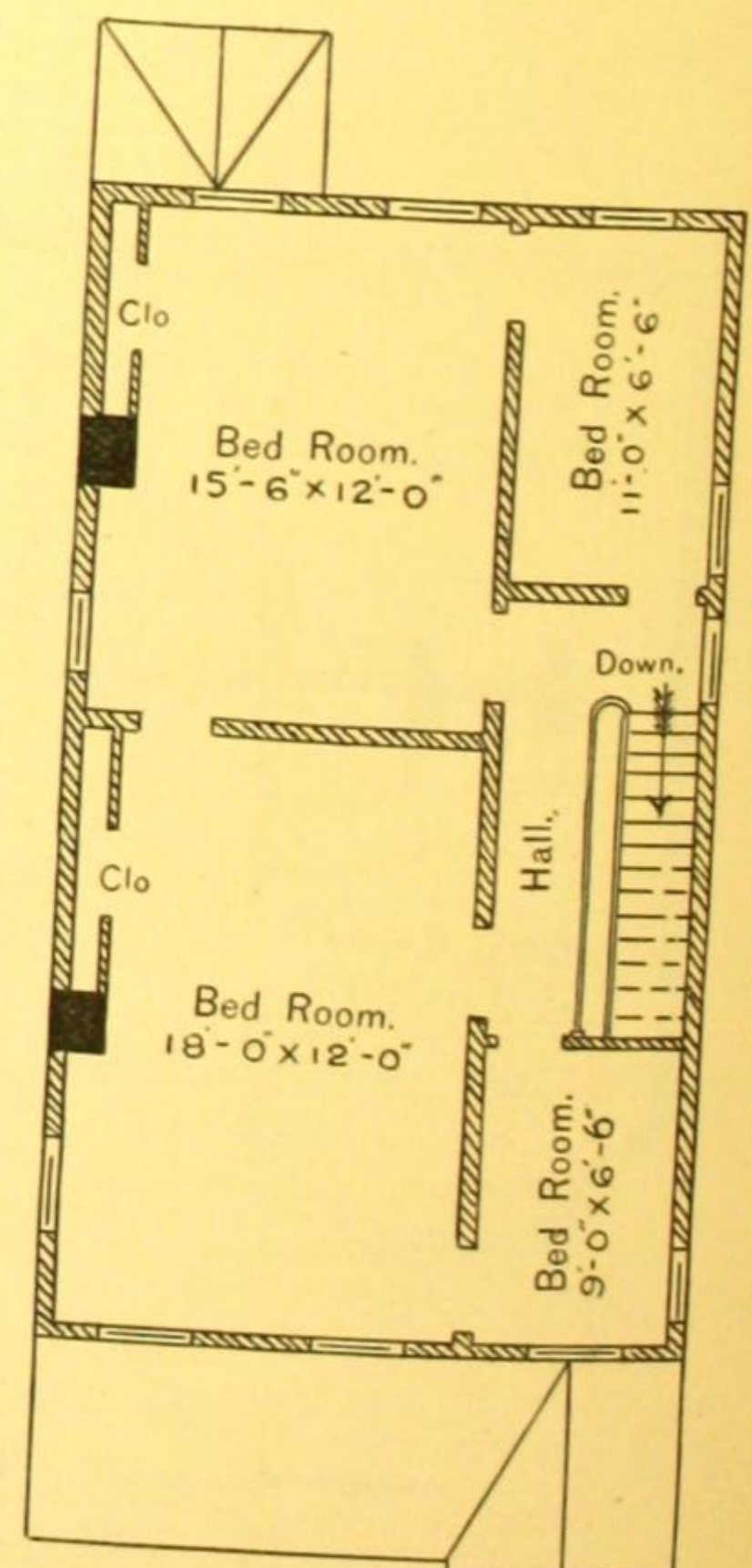
SIDE ELEVATION.



BASEMENT FLOOR.



FIRST FLOOR.



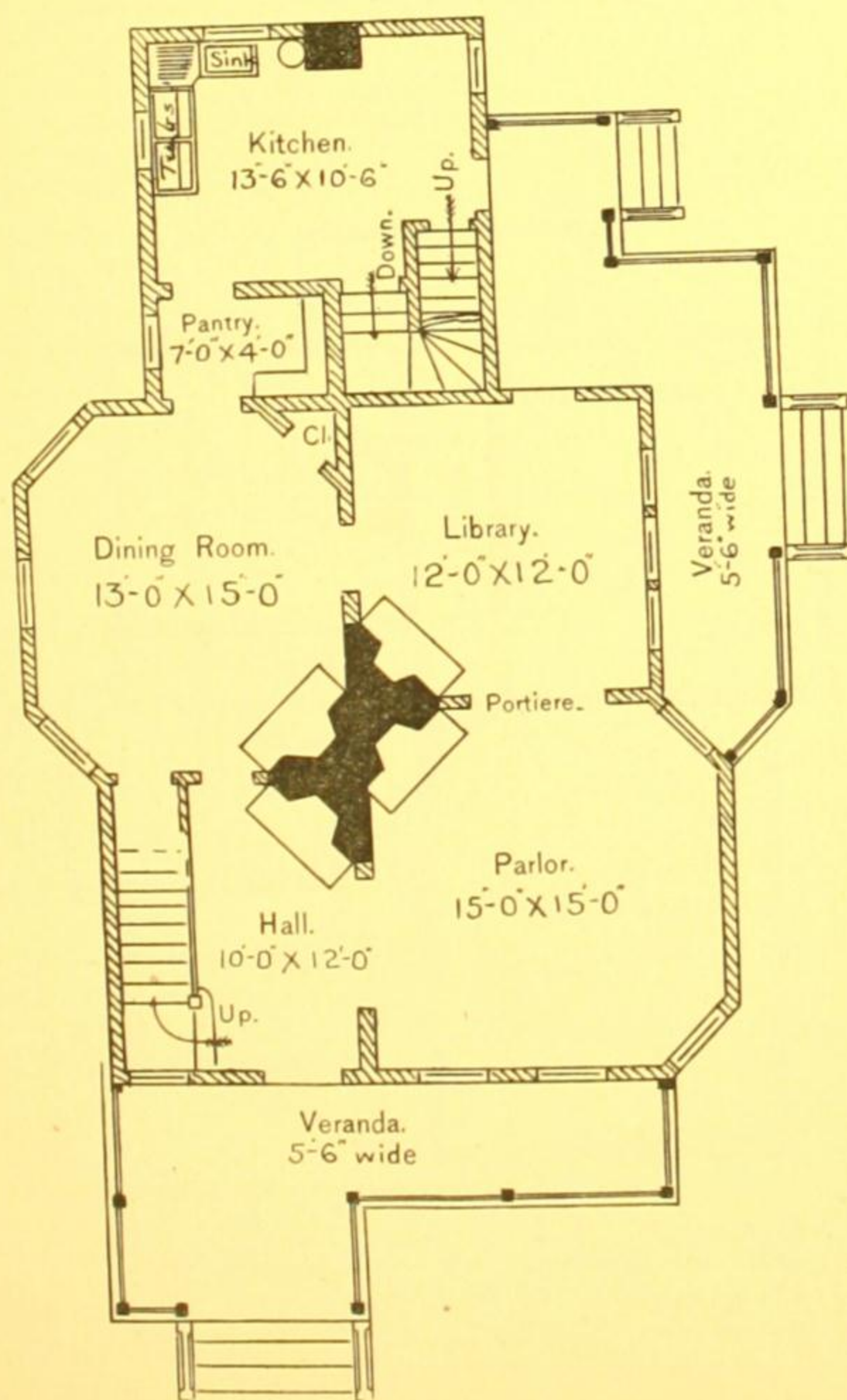
SECOND FLOOR.

The above design belongs to the "\$1500 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

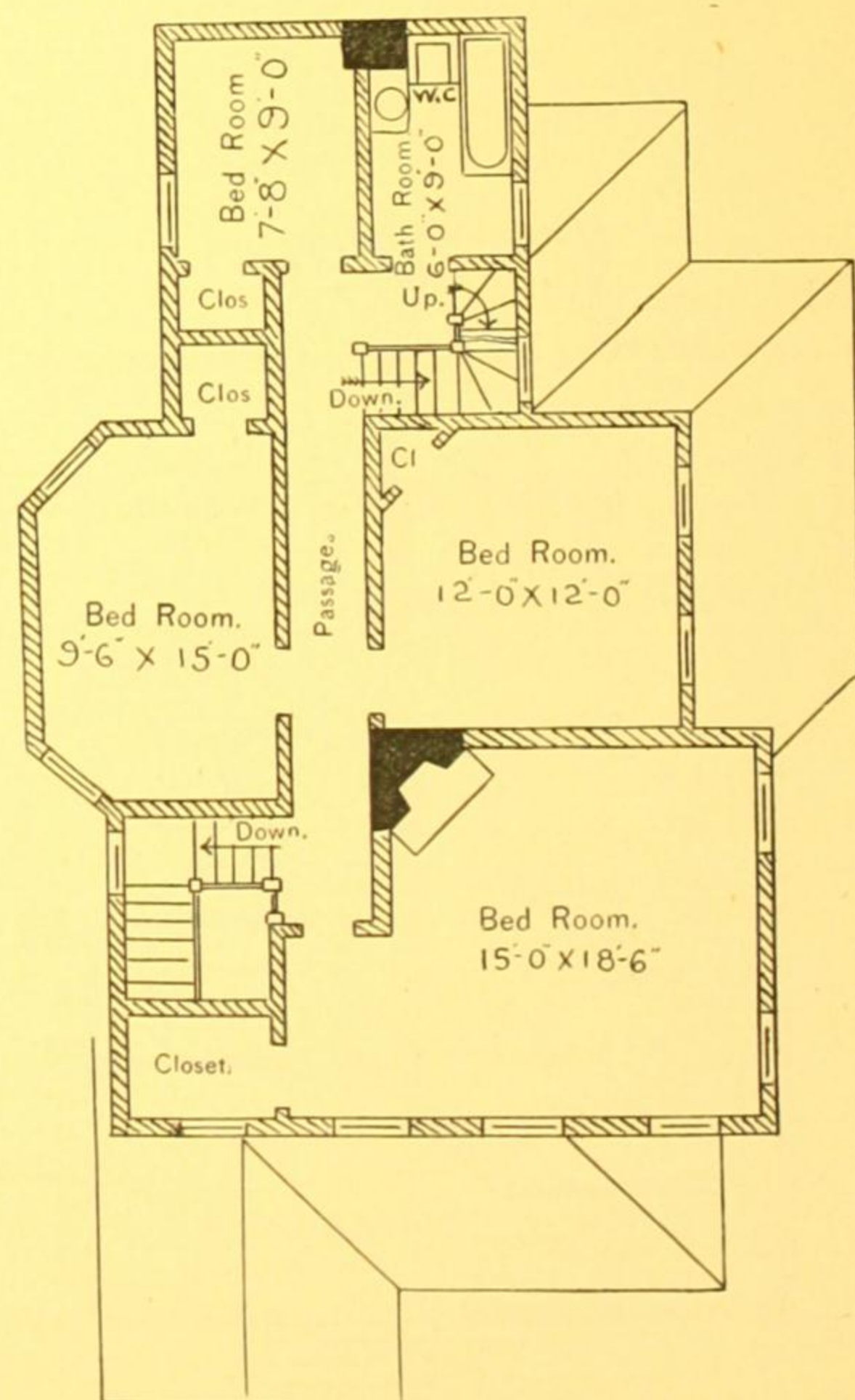
SHOPPELL'S MODERN HOUSES



PHOTOGRAPHIC VIEW.



FIRST FLOOR.

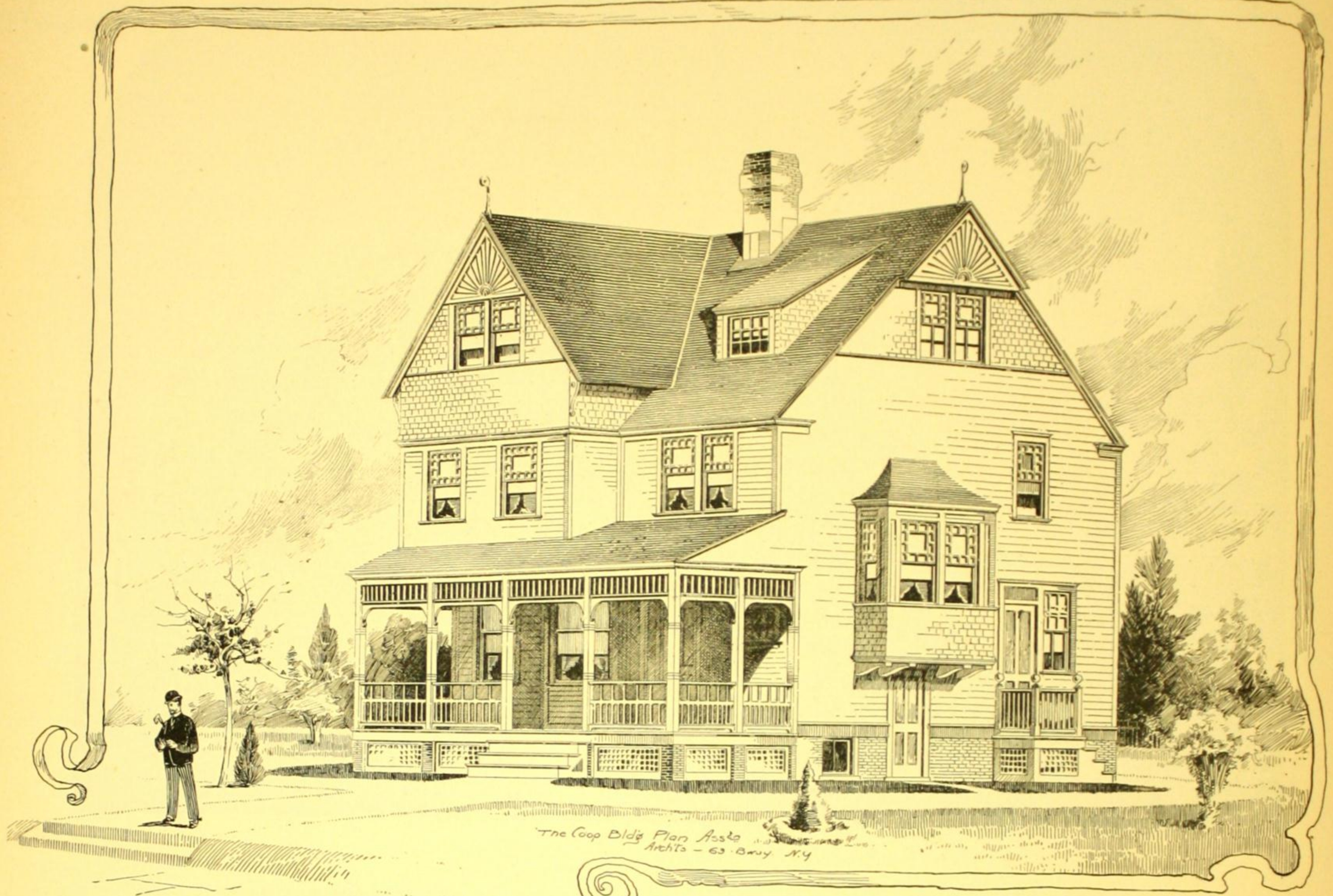


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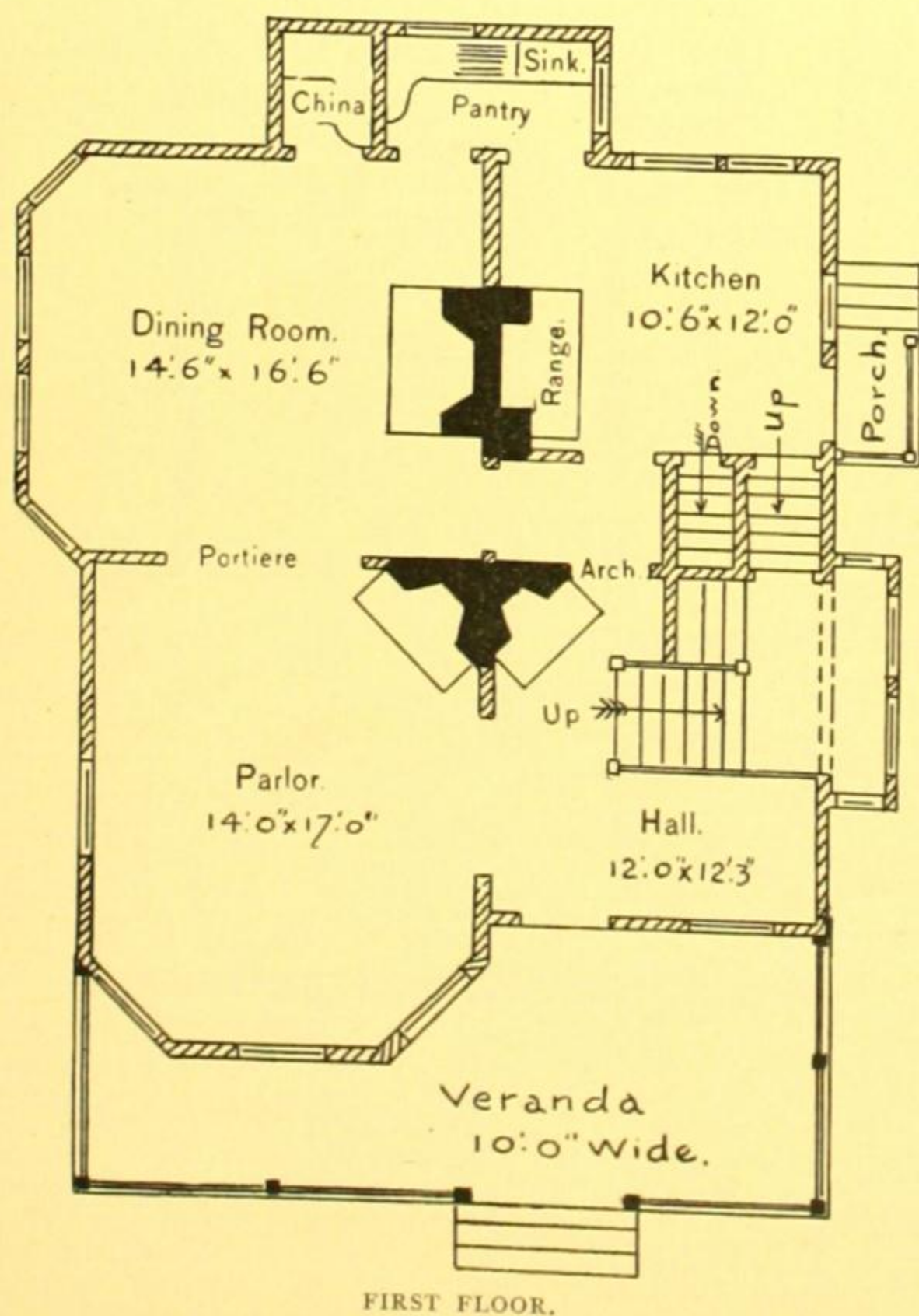
The above design belongs to the "\$3500 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

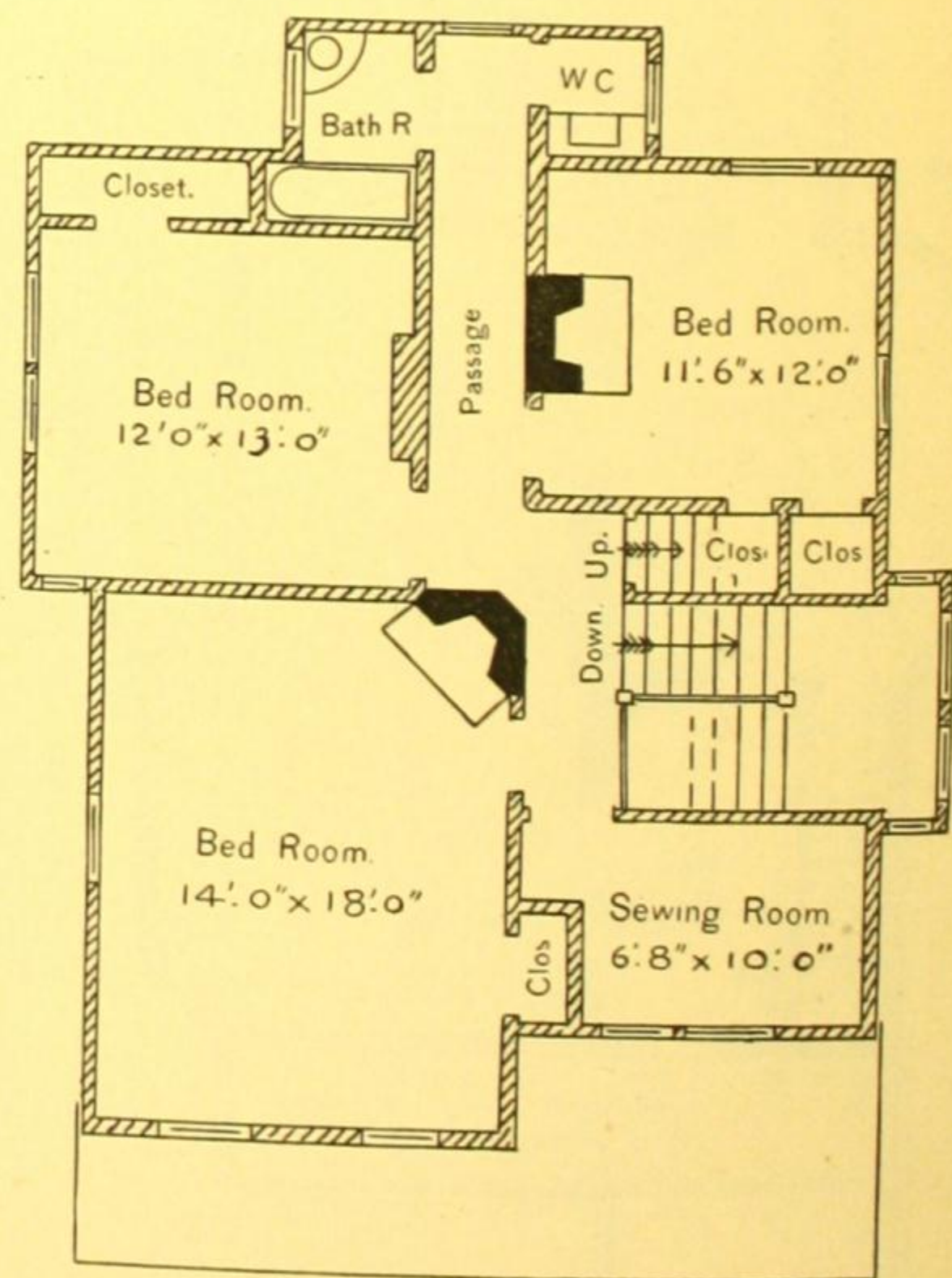
DESIGN No. 576



PERSPECTIVE VIEW.

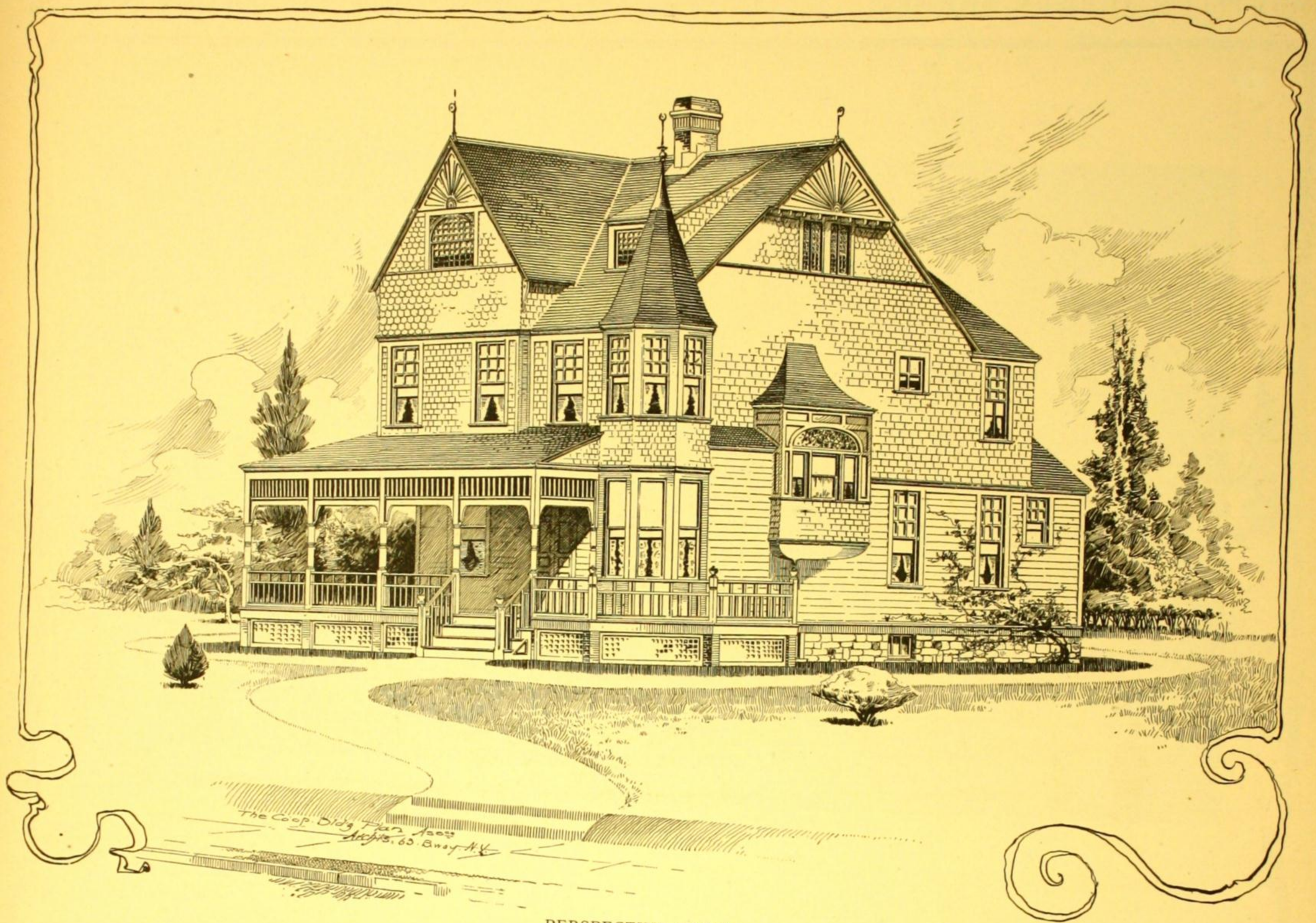


FIRST FLOOR.

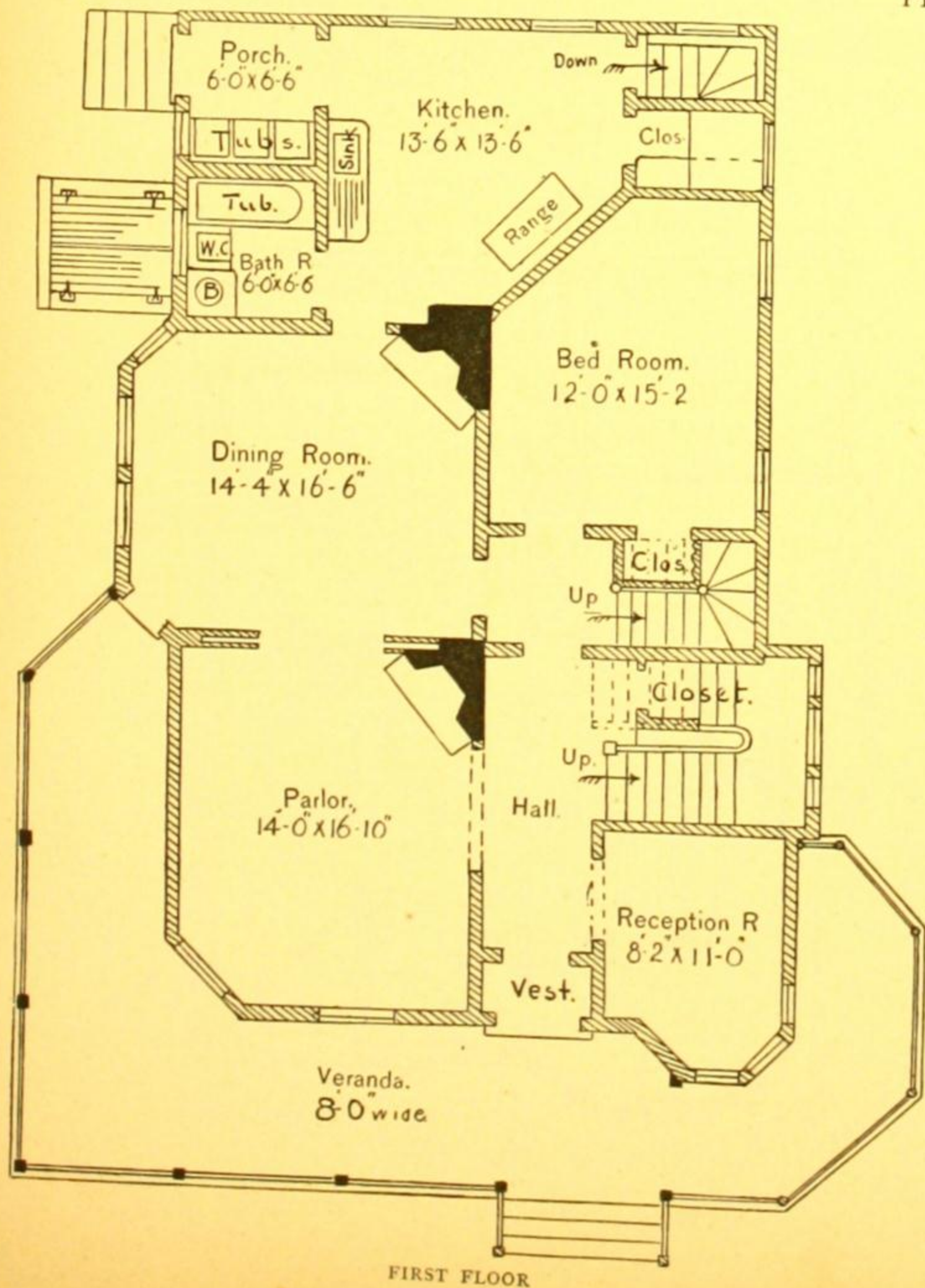


SECOND FLOOR.

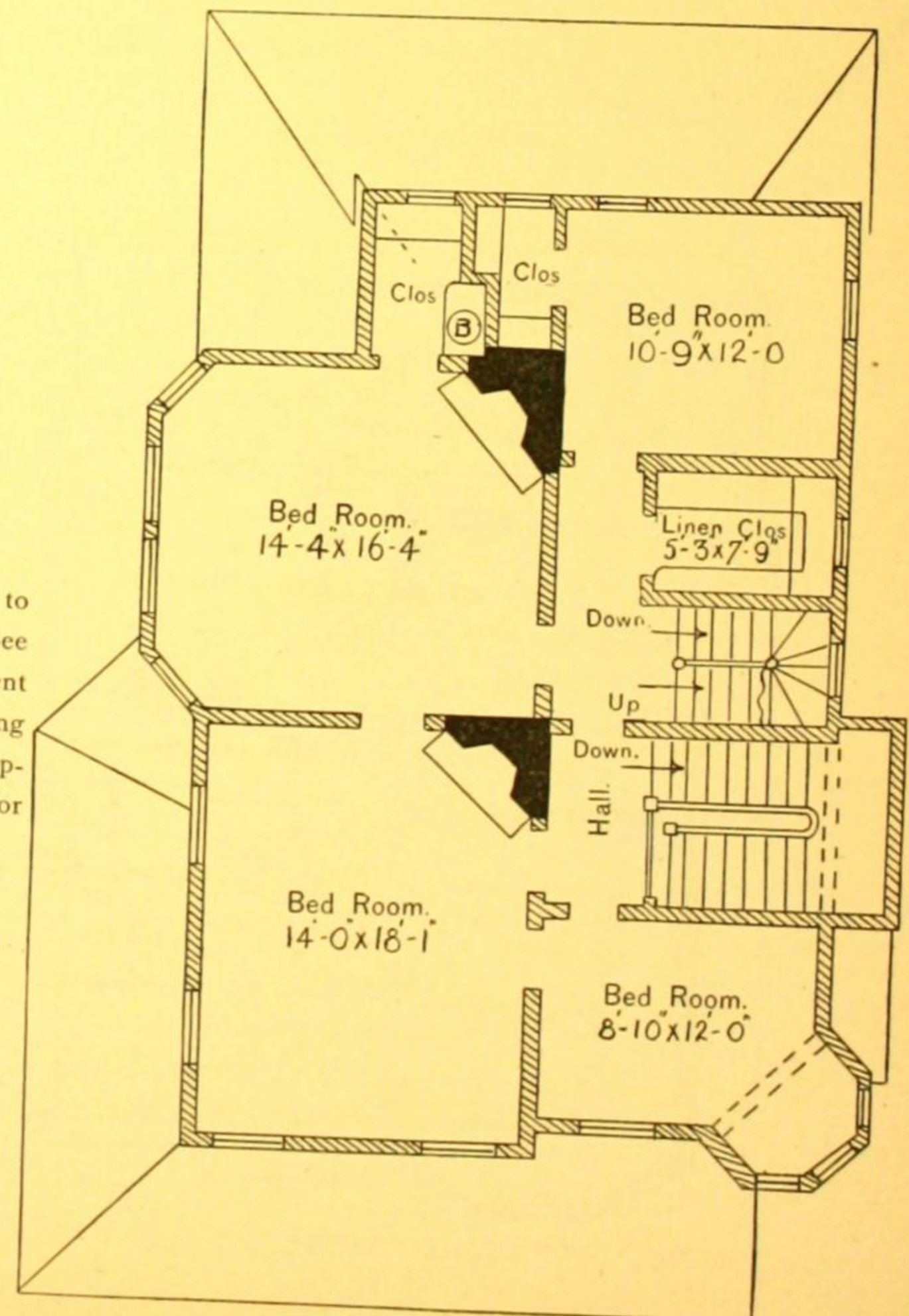
The above design belongs to the "\$3000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.



PERSPECTIVE VIEW.



FIRST FLOOR

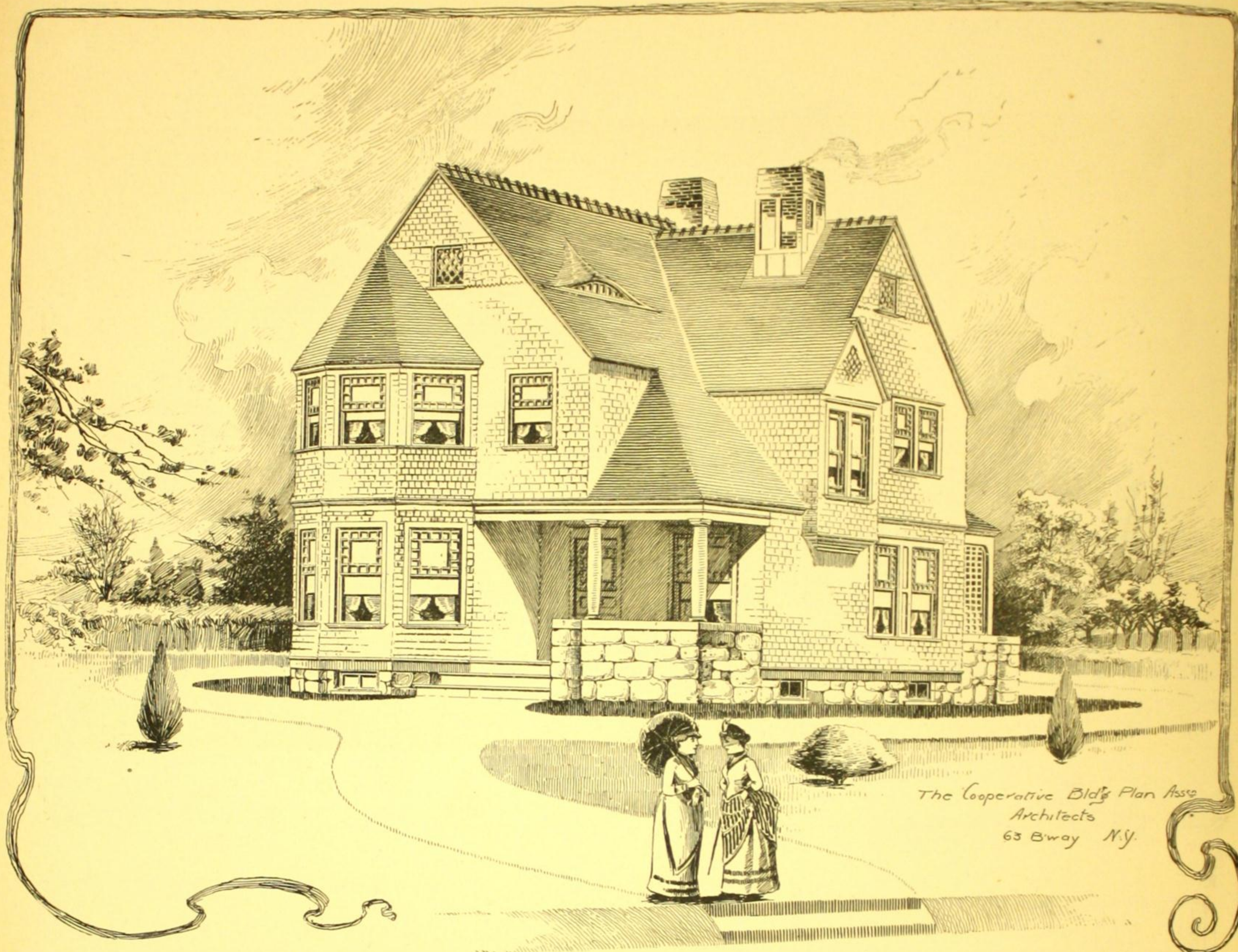


SECOND FLOOR.

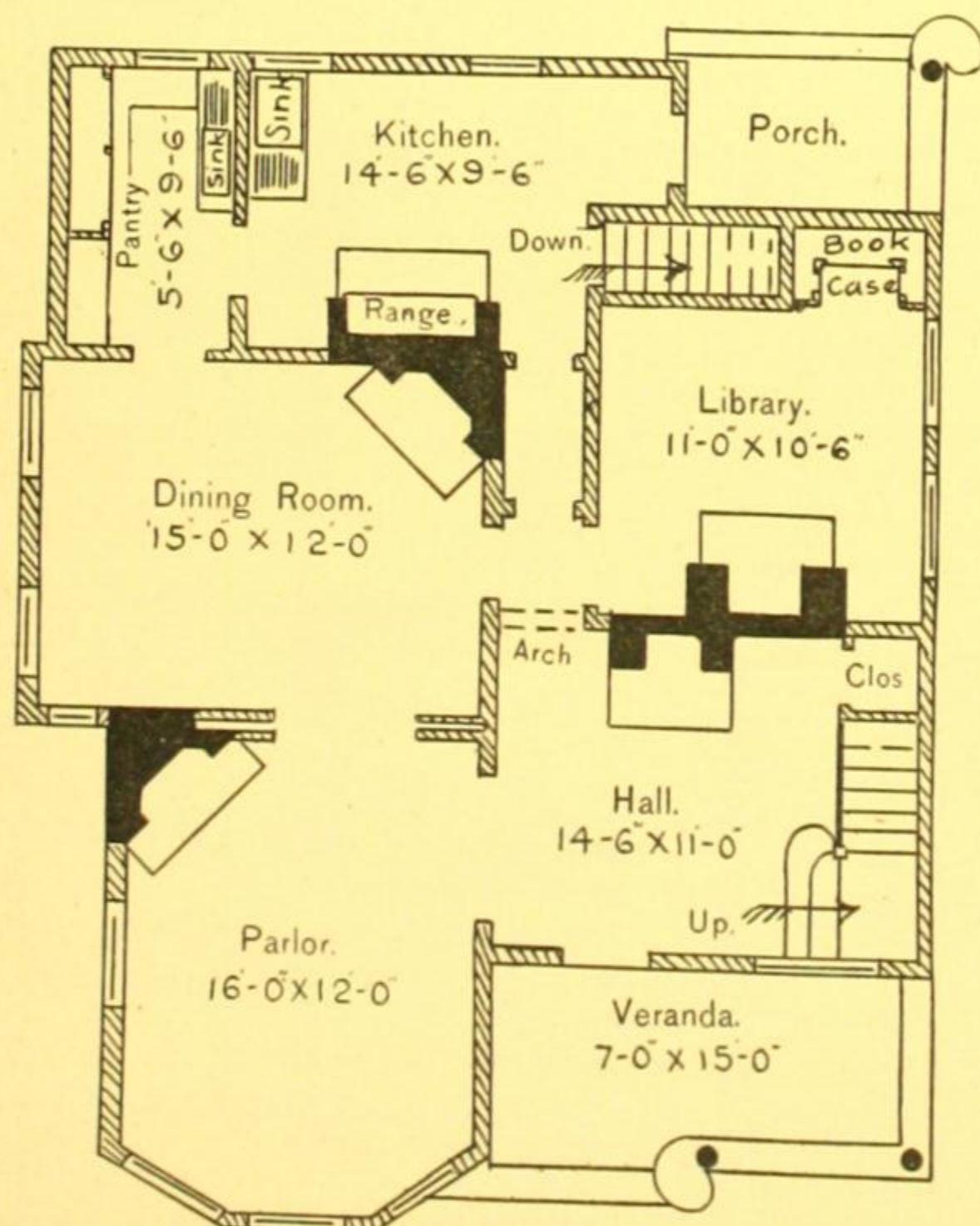
This design belongs to the "\$3500 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

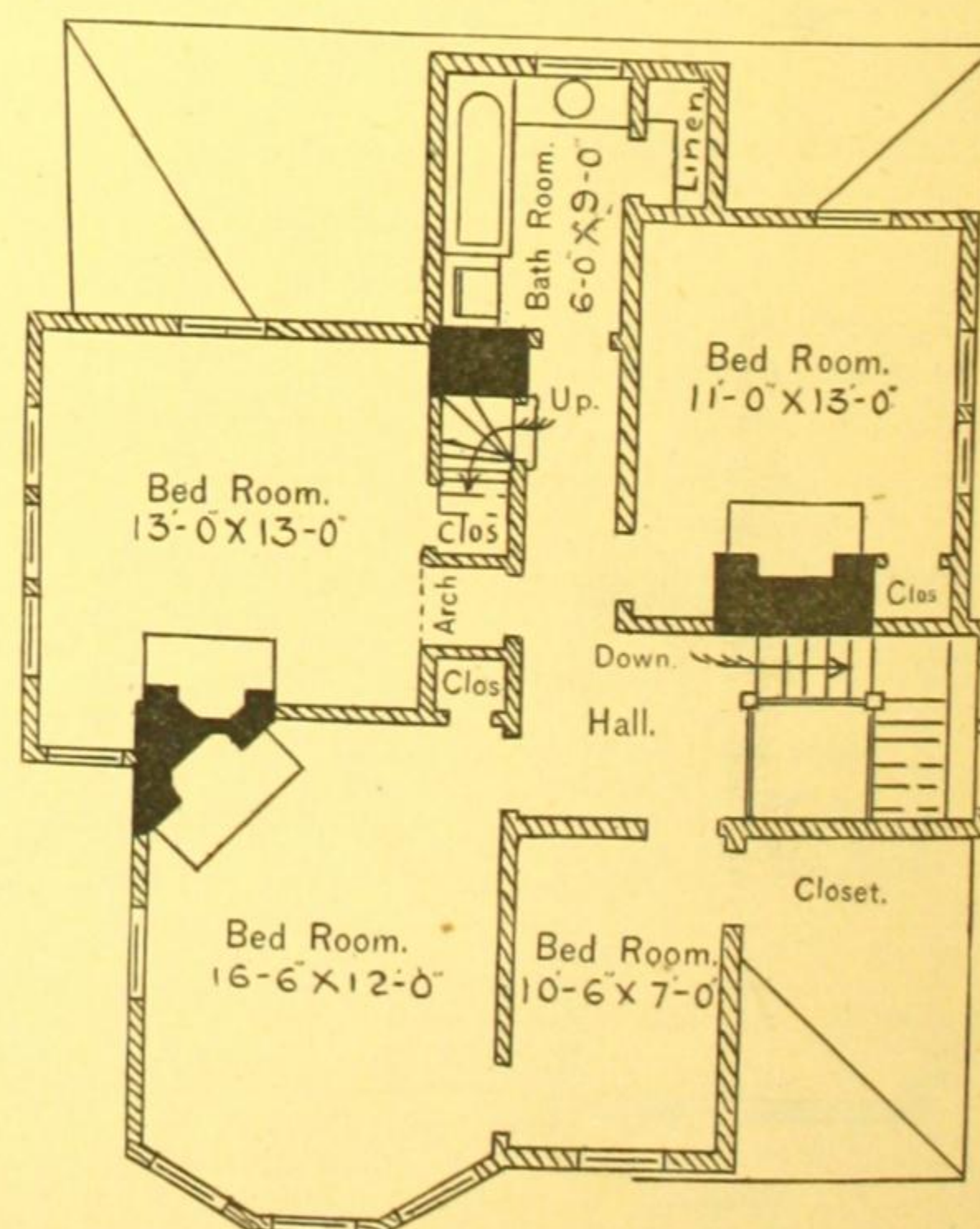
DESIGN No. 578



PERSPECTIVE VIEW.



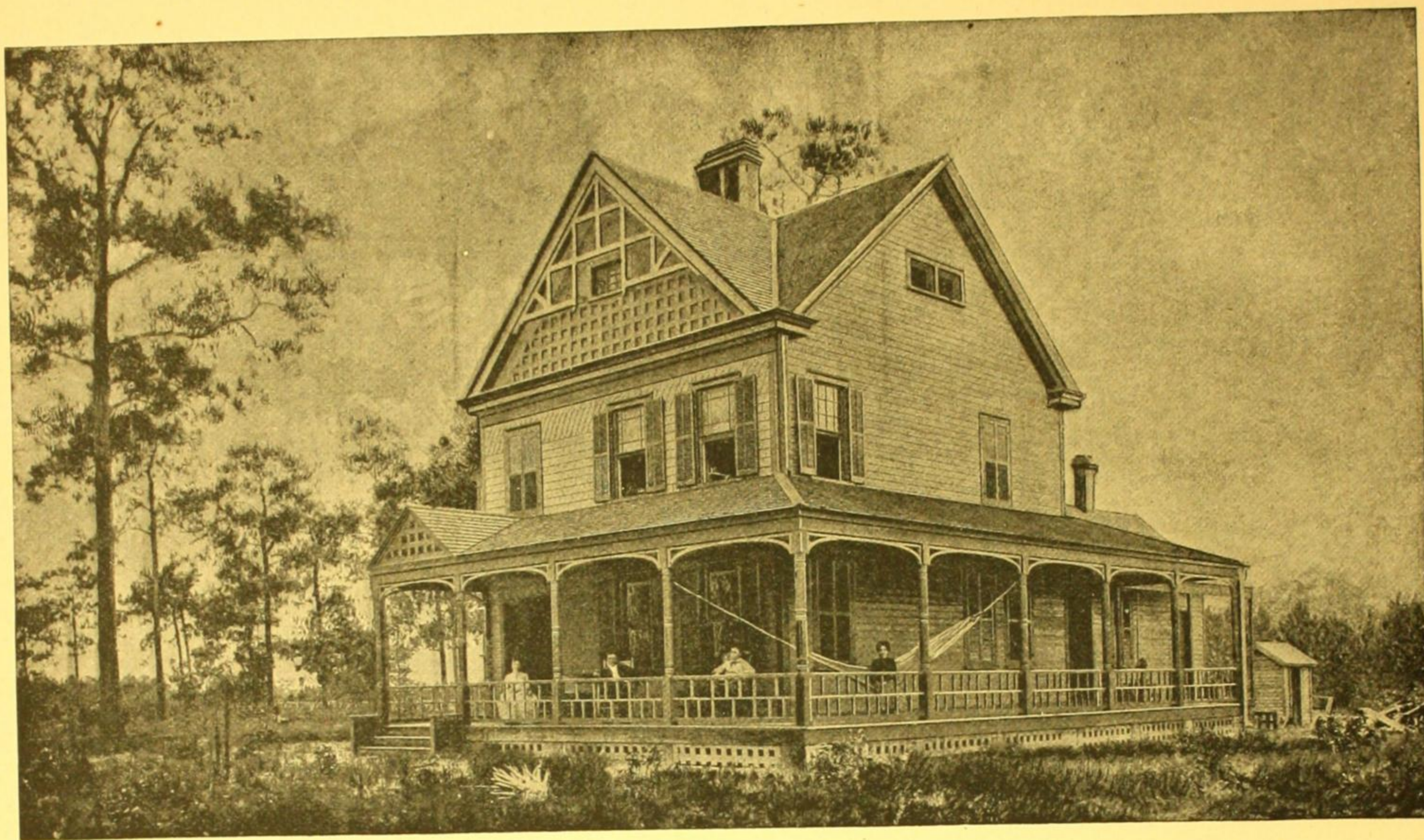
FIRST FLOOR.



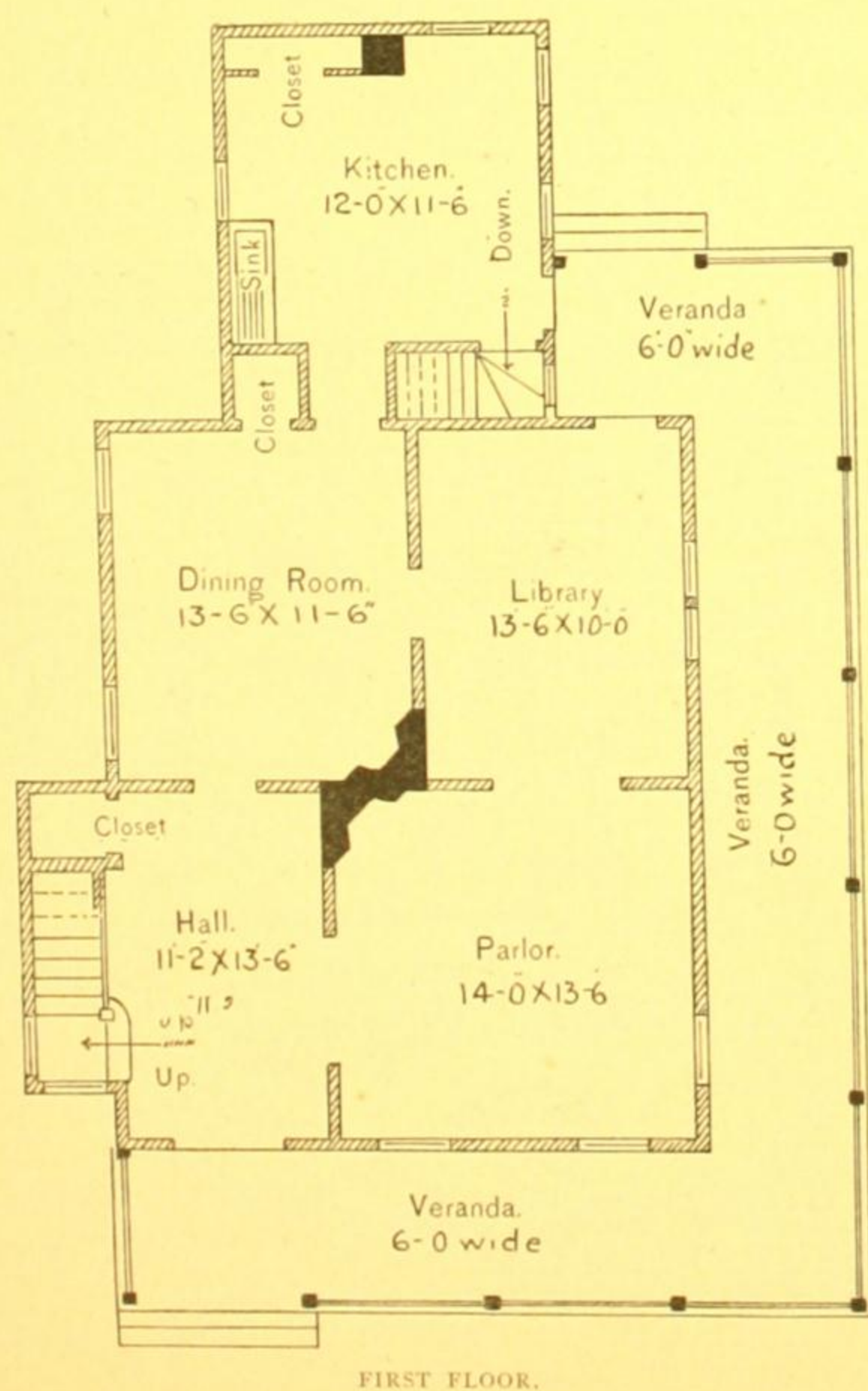
SECOND FLOOR.

The above design belongs to the "\$3000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for attending builders.

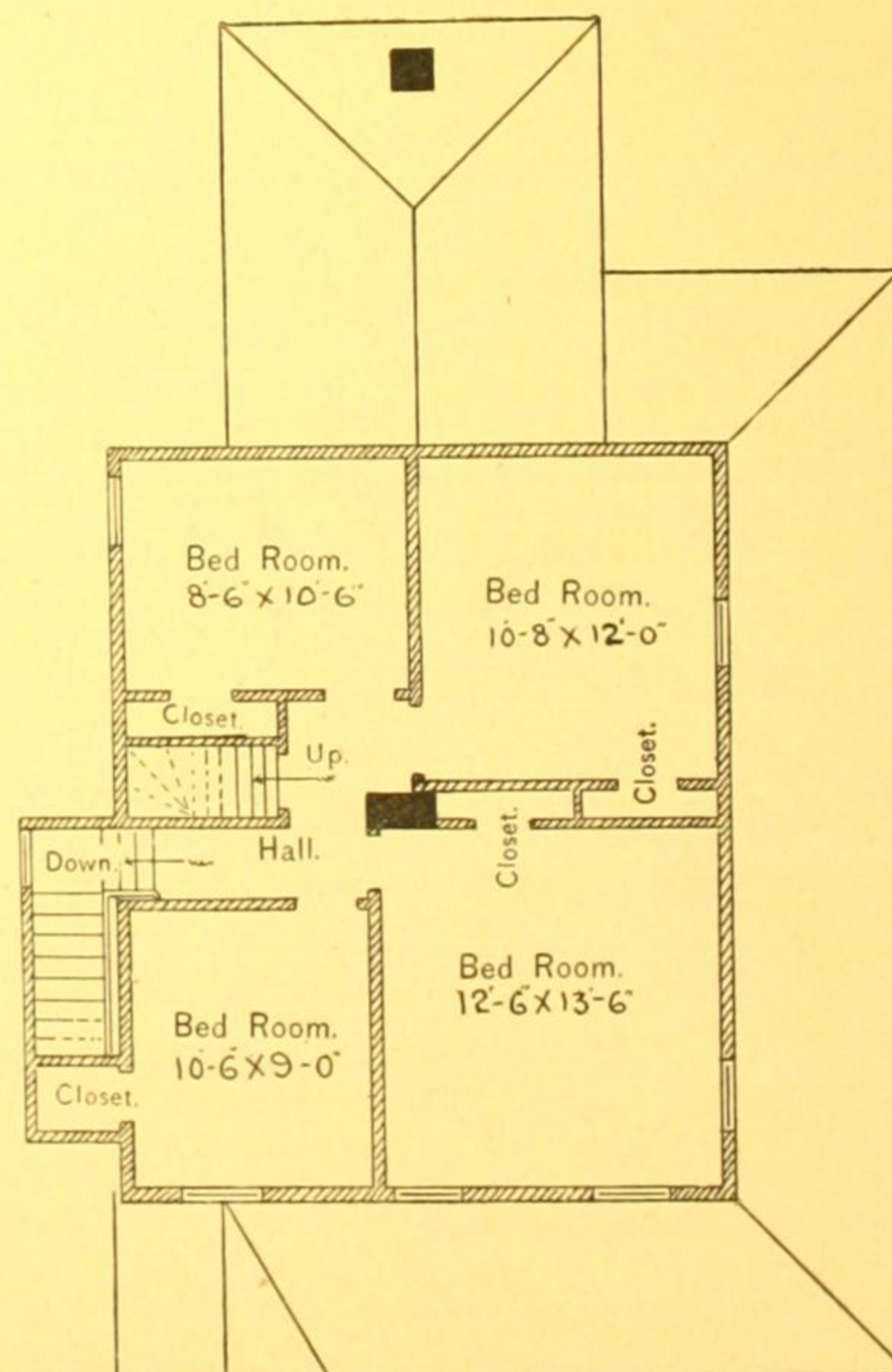
SHOPPELL'S MODERN HOUSES



PHOTOGRAPHIC VIEW.



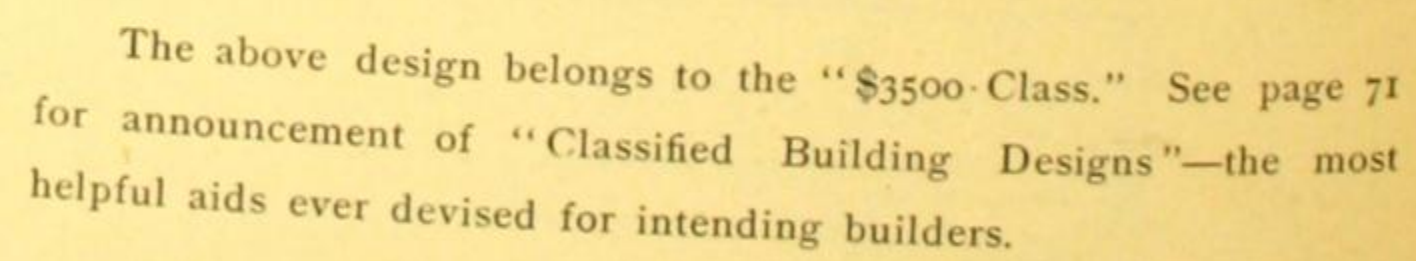
FIRST FLOOR.



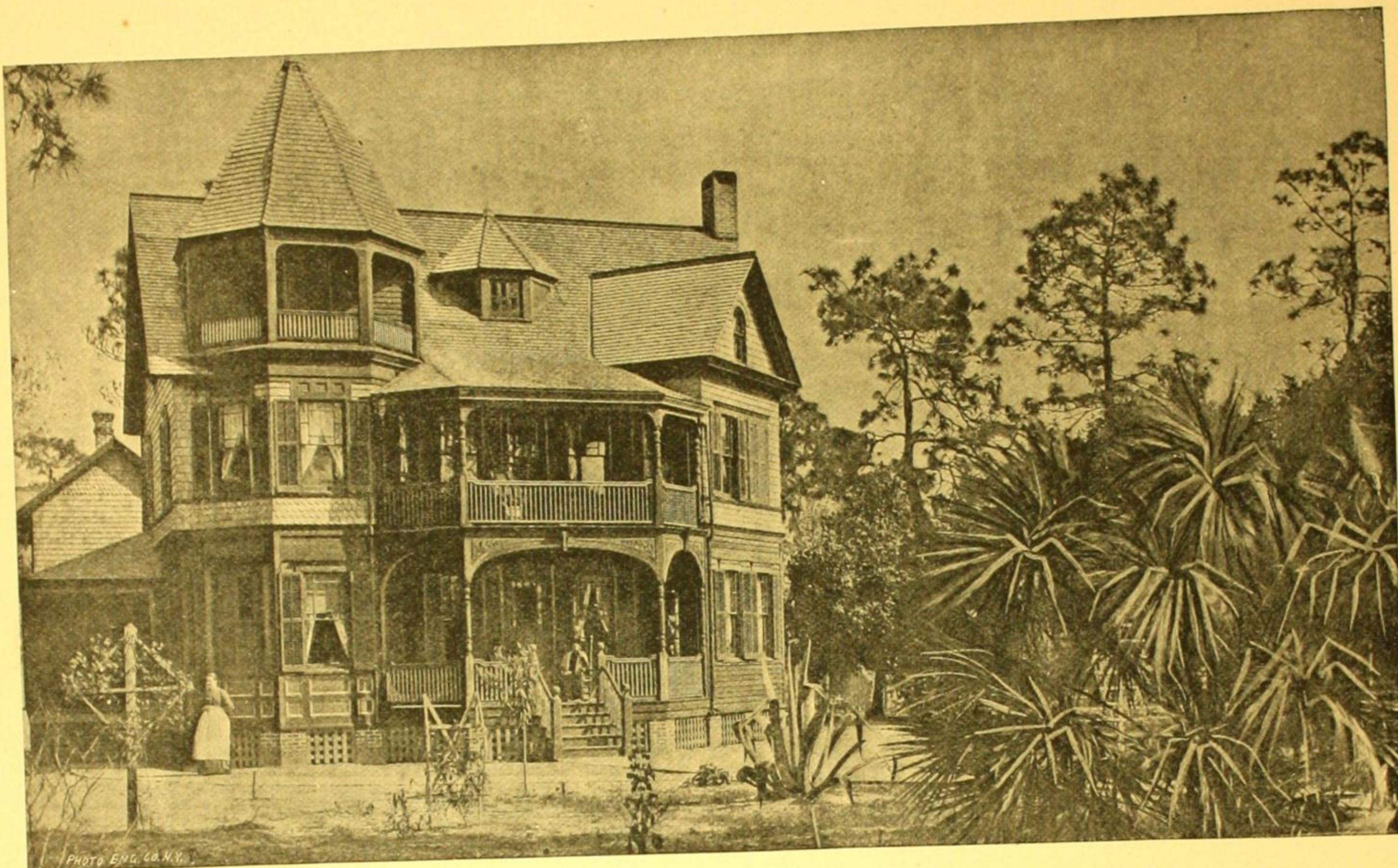
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The above design belongs to the "\$2000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

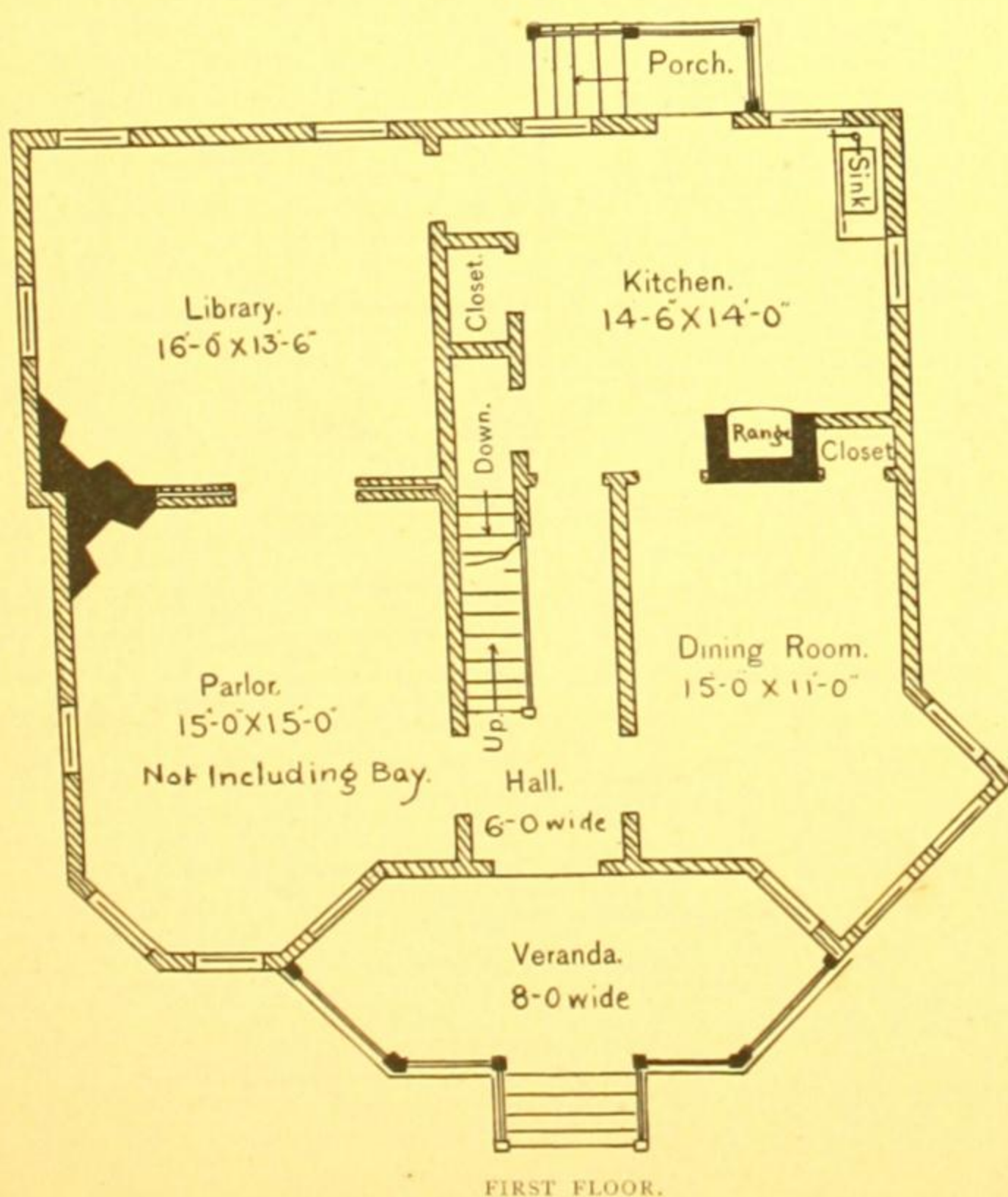
DESIGN No. 580



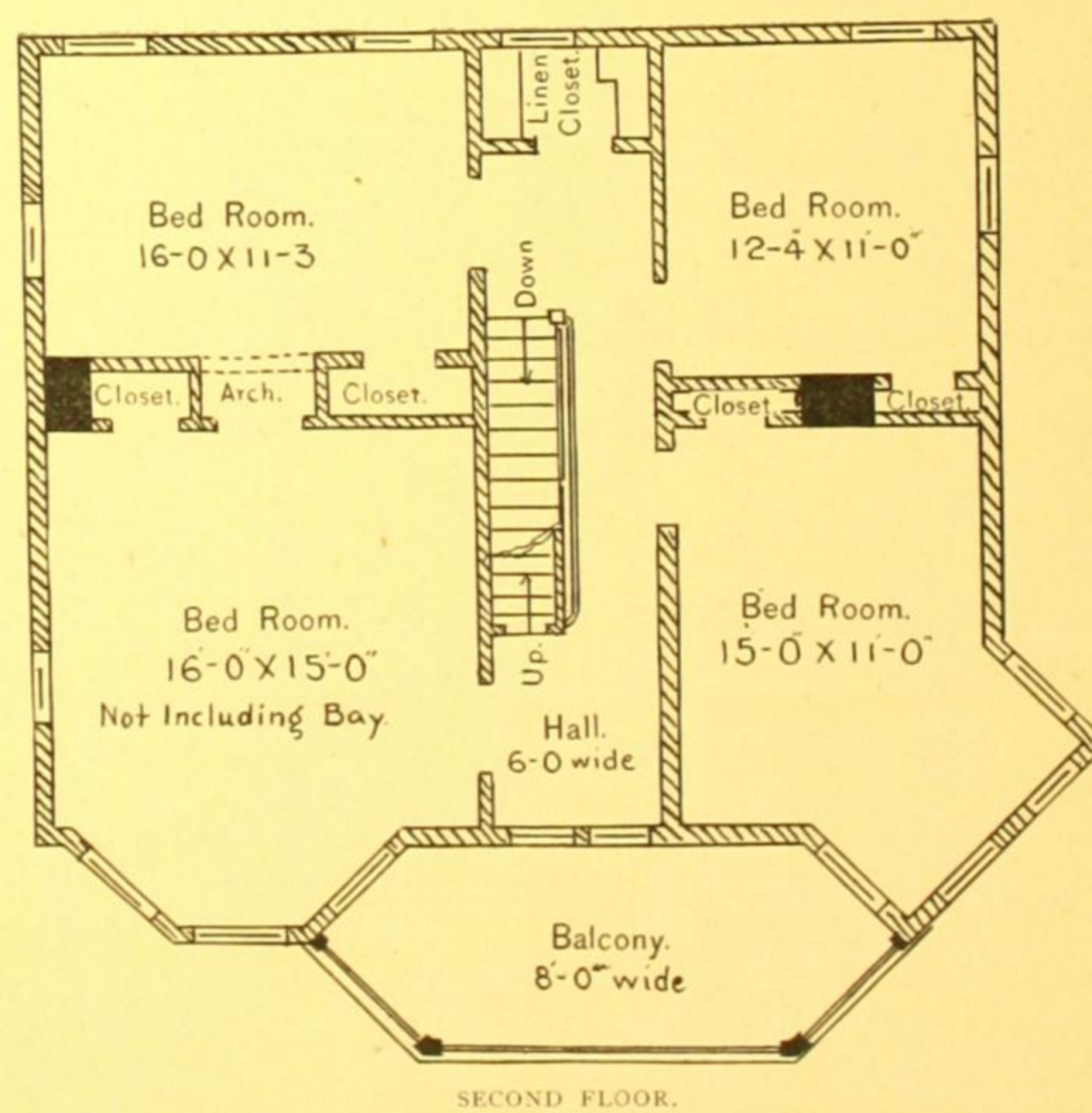
SHOPPELL'S MODERN HOUSES



PHOTOGRAPHIC VIEW.



FIRST FLOOR.

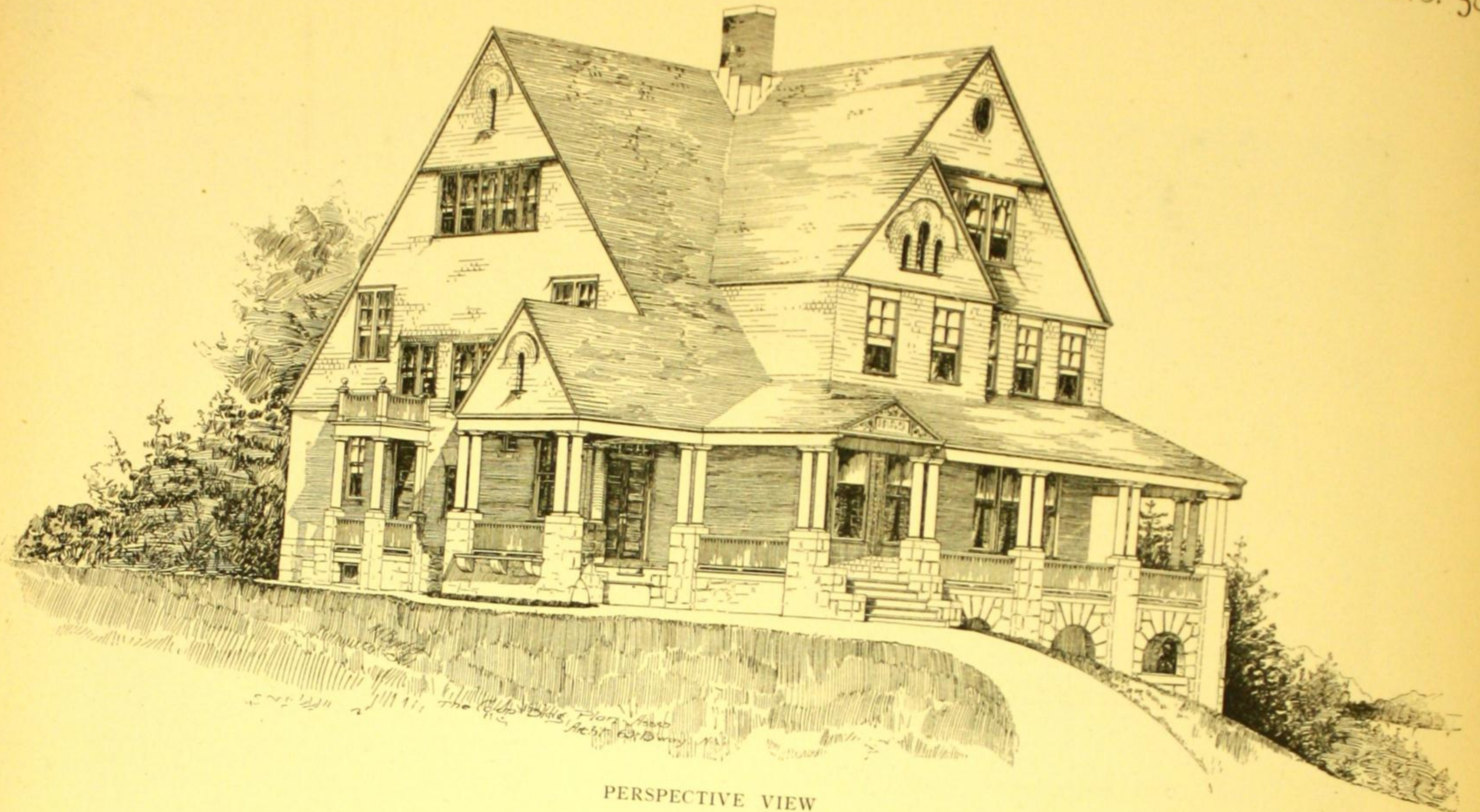


SECOND FLOOR.

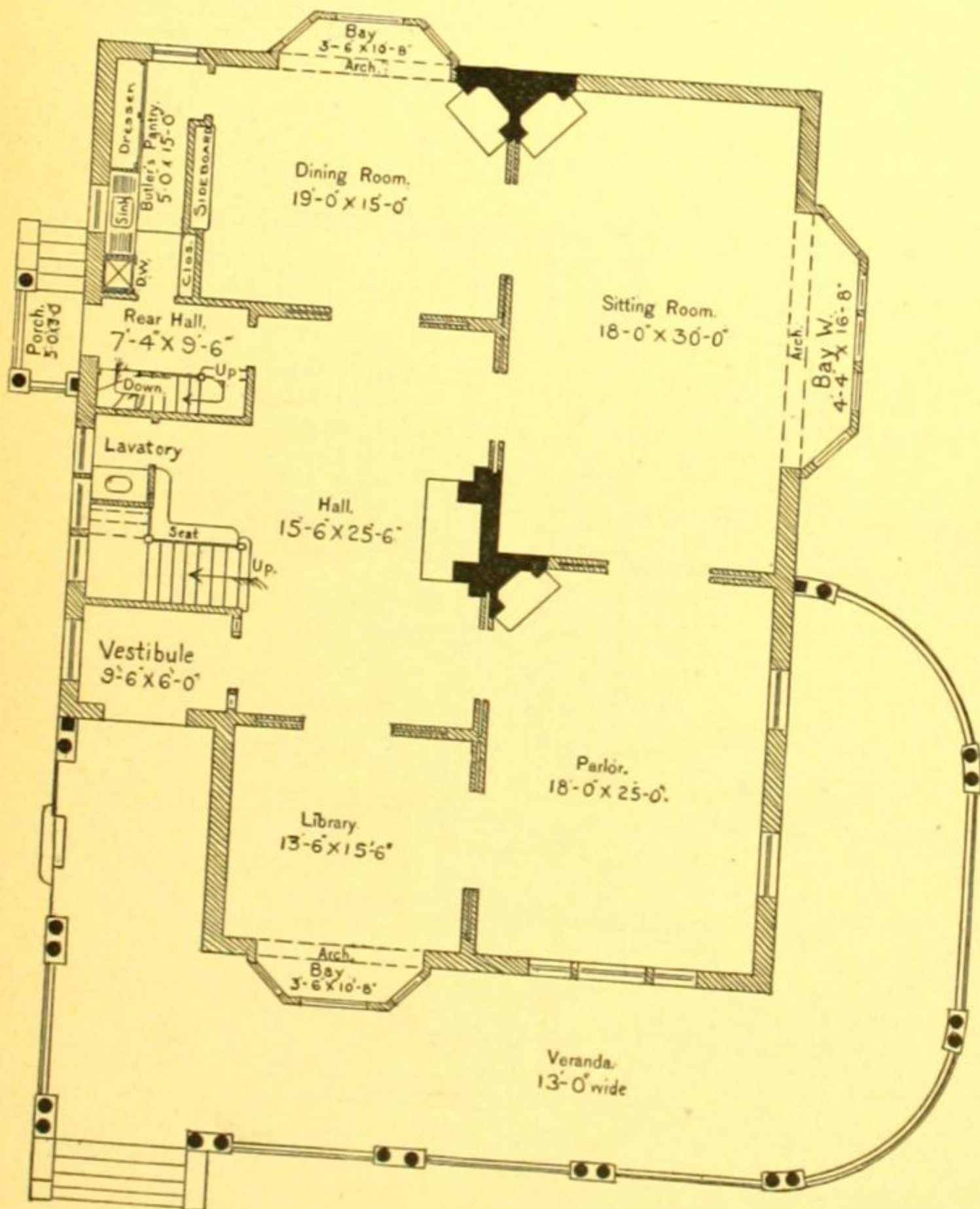
The above design belongs to the "\$3000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

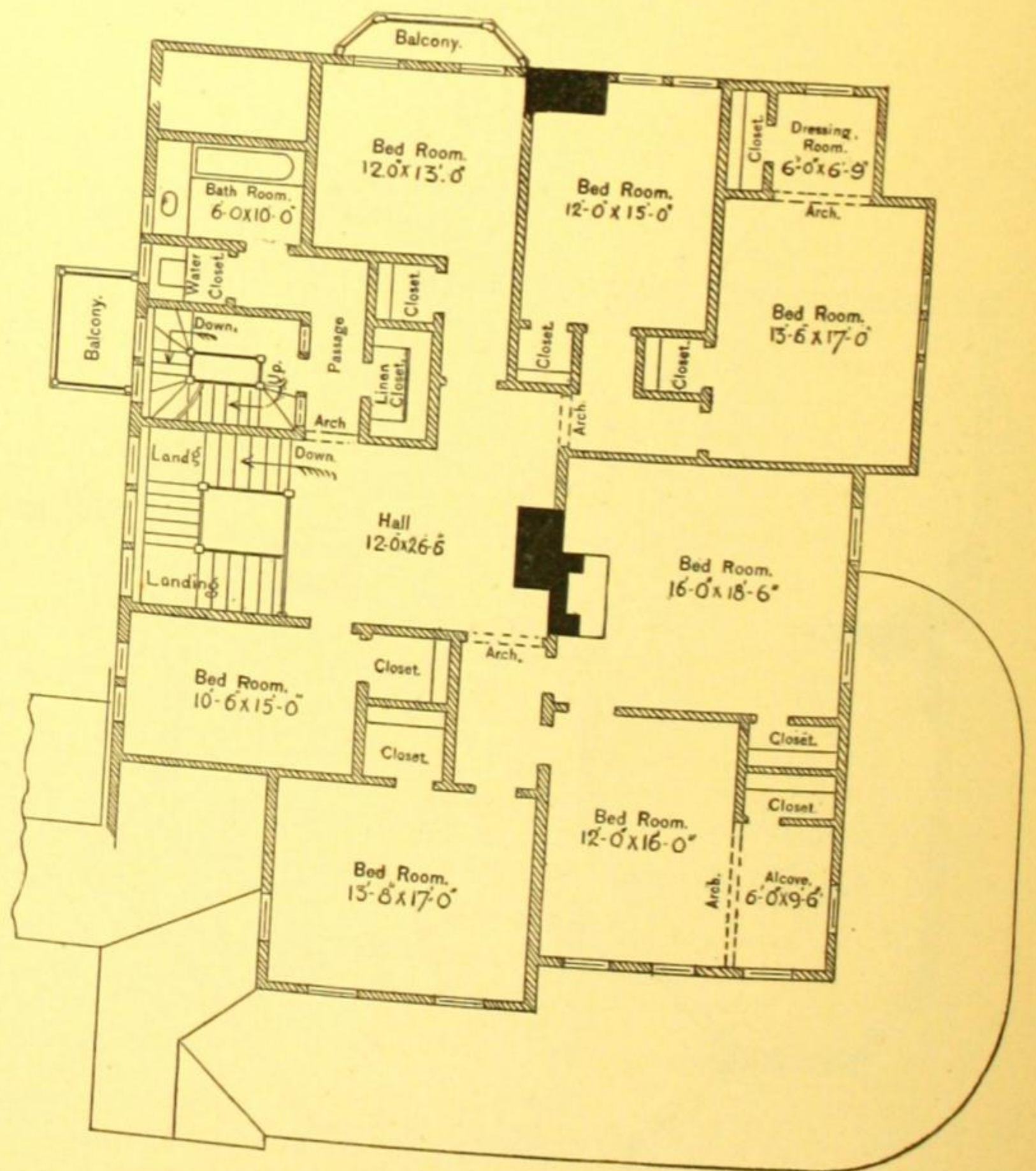
DESIGN No. 582



PERSPECTIVE VIEW



FIRST FLOOR

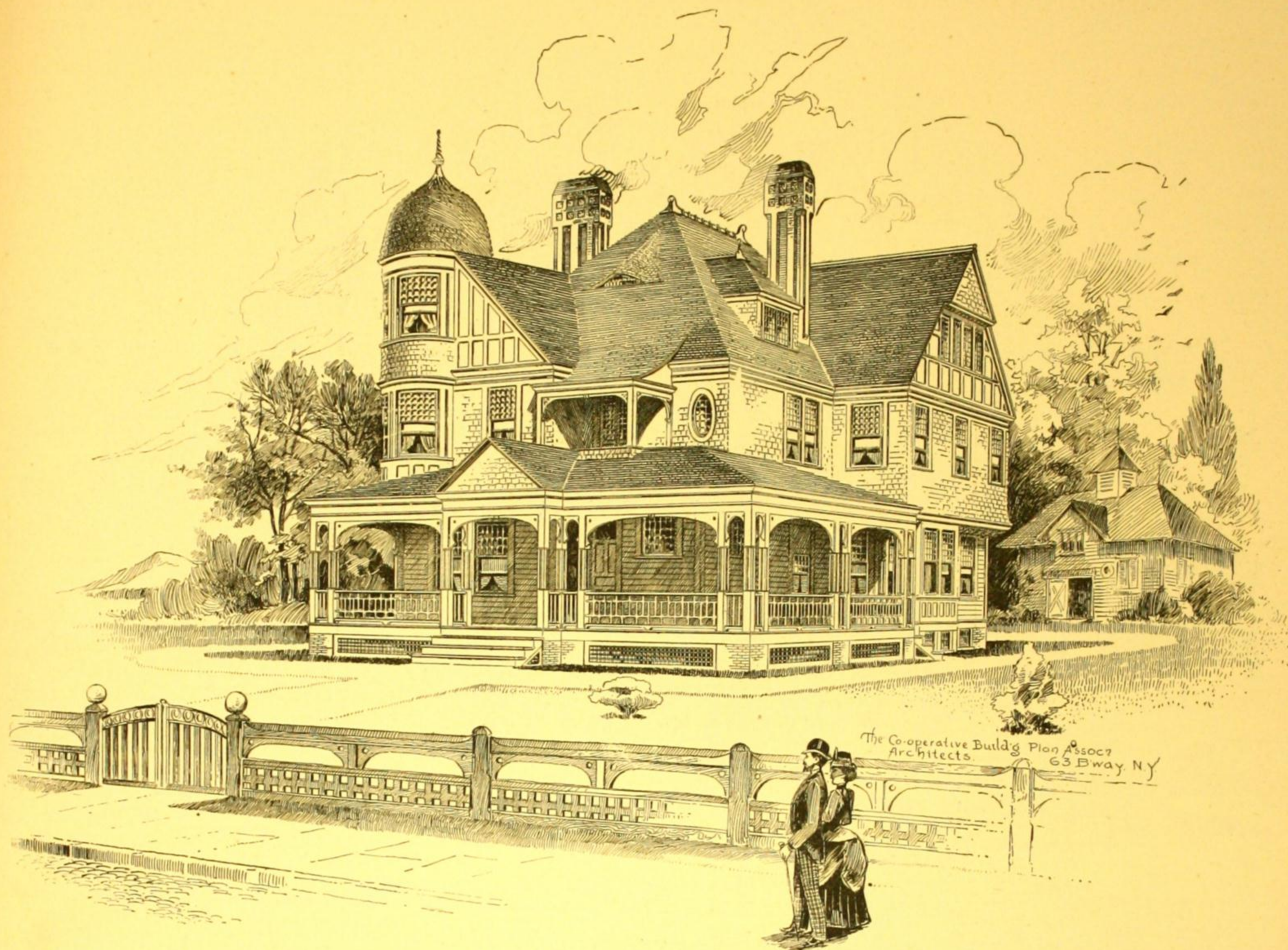


SECOND FLOOR.

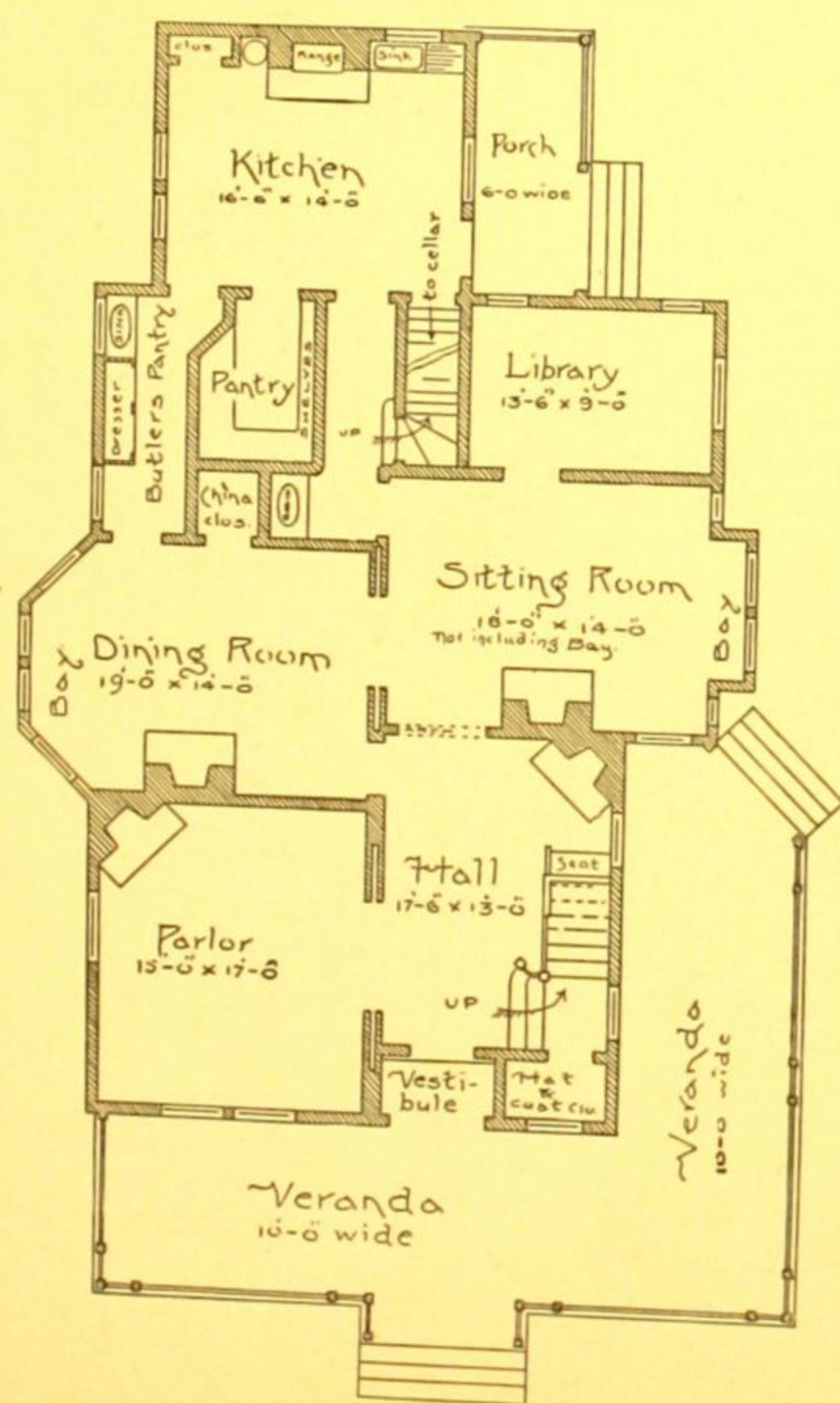
The above design belongs to the "\$10 000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

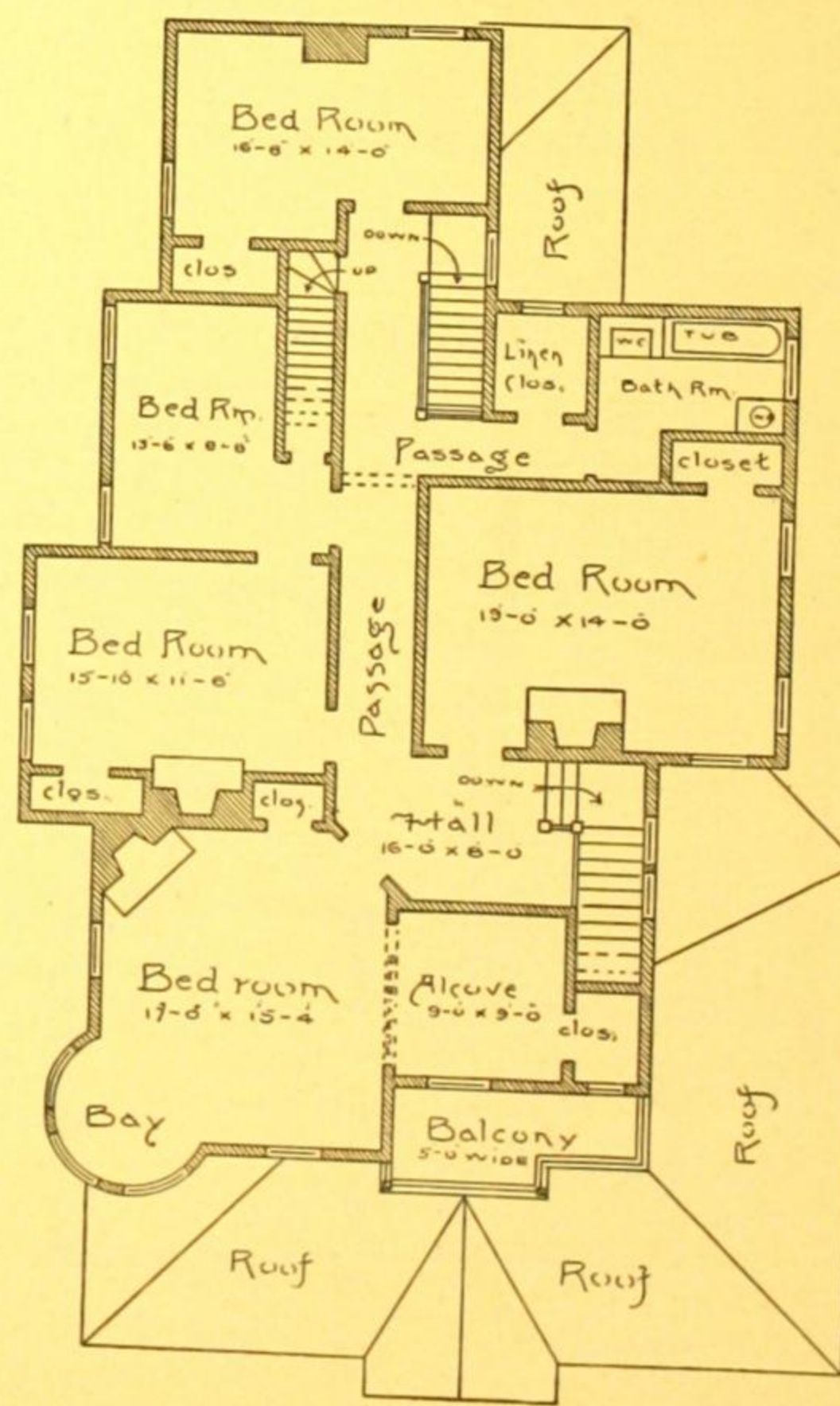
DESIGN No. 583



PERSPECTIVE VIEW.



FIRST FLOOR.

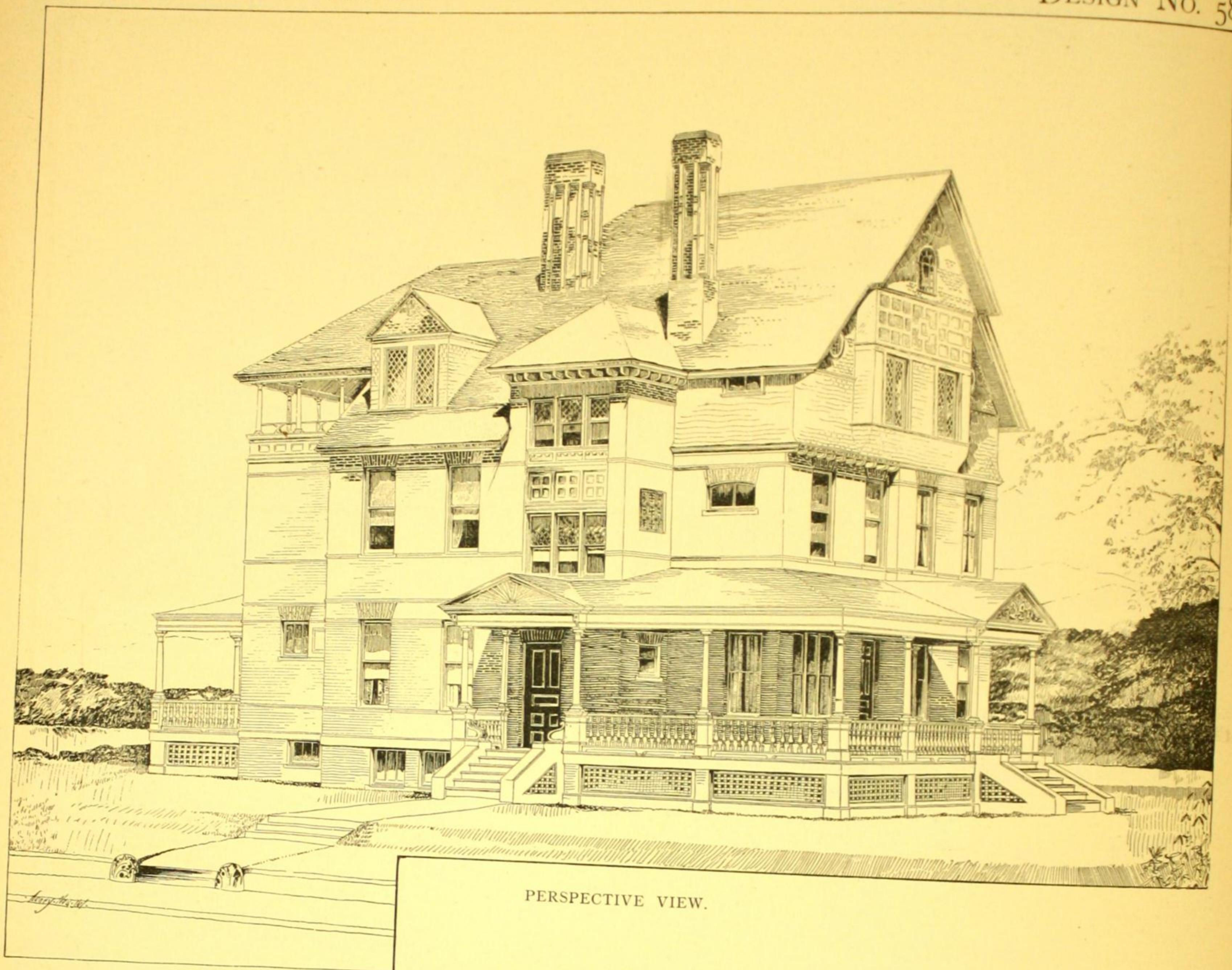


SECOND FLOOR.

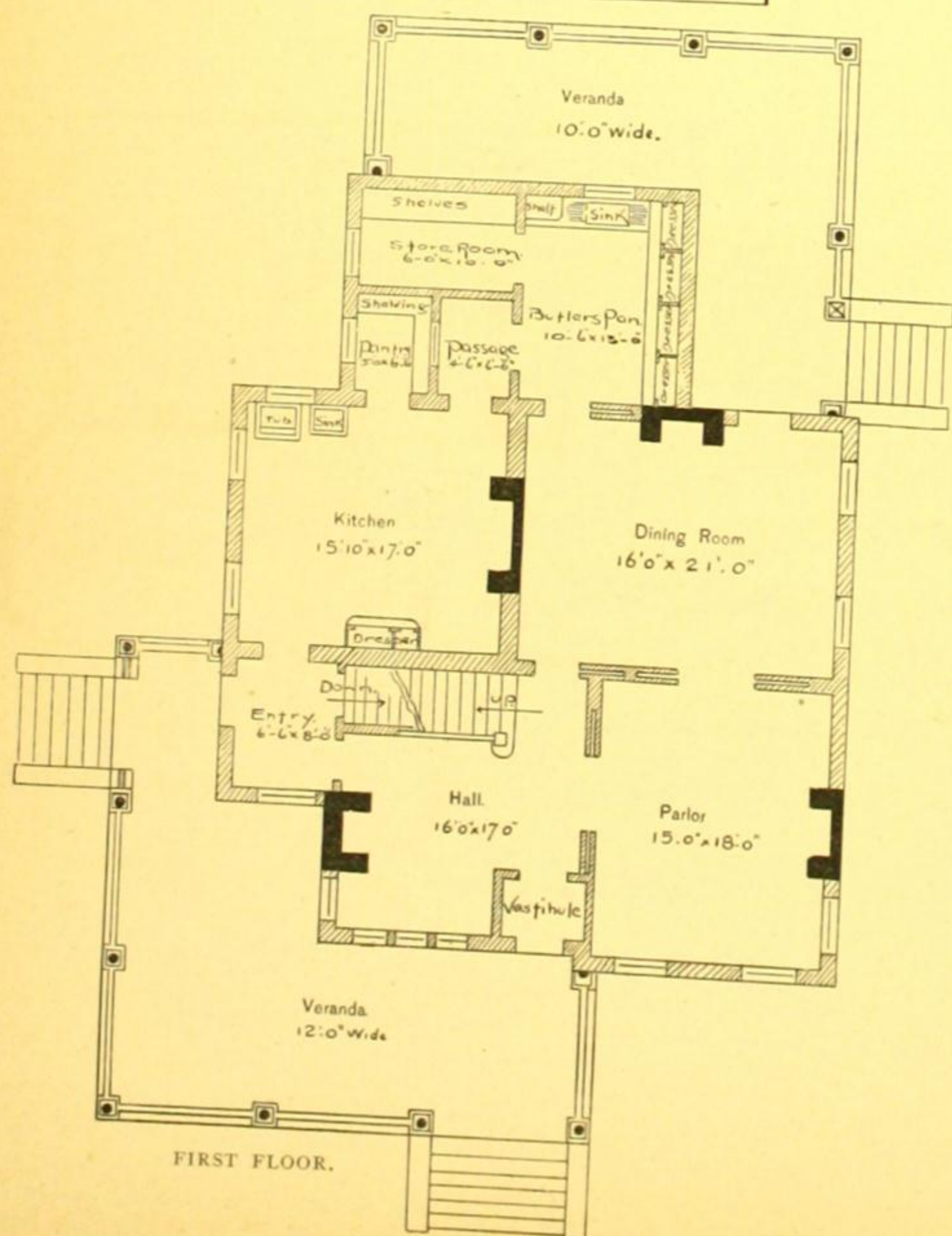
The above design belongs to the "\$7500 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders

SHOPPELL'S MODERN HOUSES

DESIGN No. 584

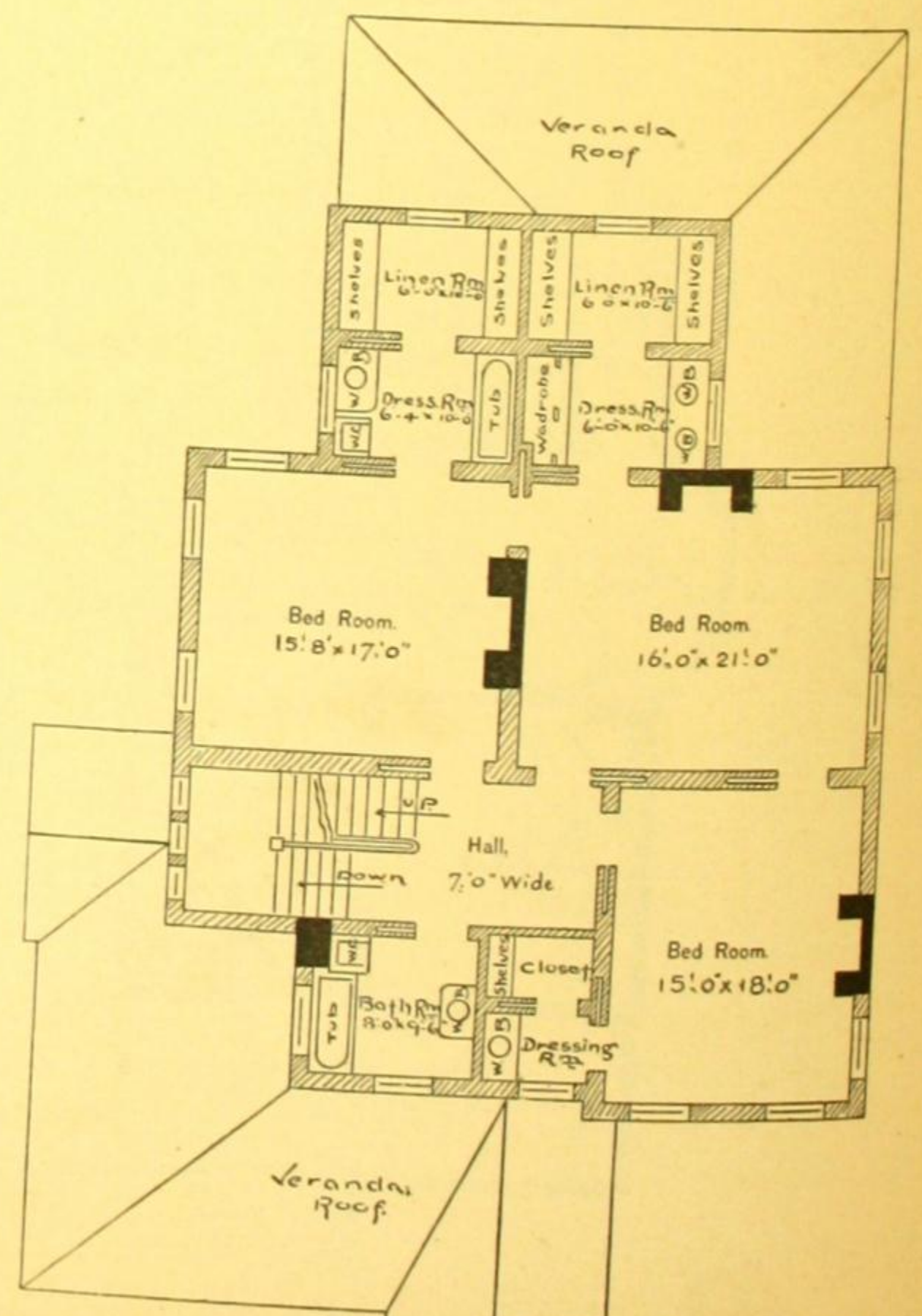


PERSPECTIVE VIEW.



FIRST FLOOR.

The above design belongs to the "\$10,000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever published for intending builders.



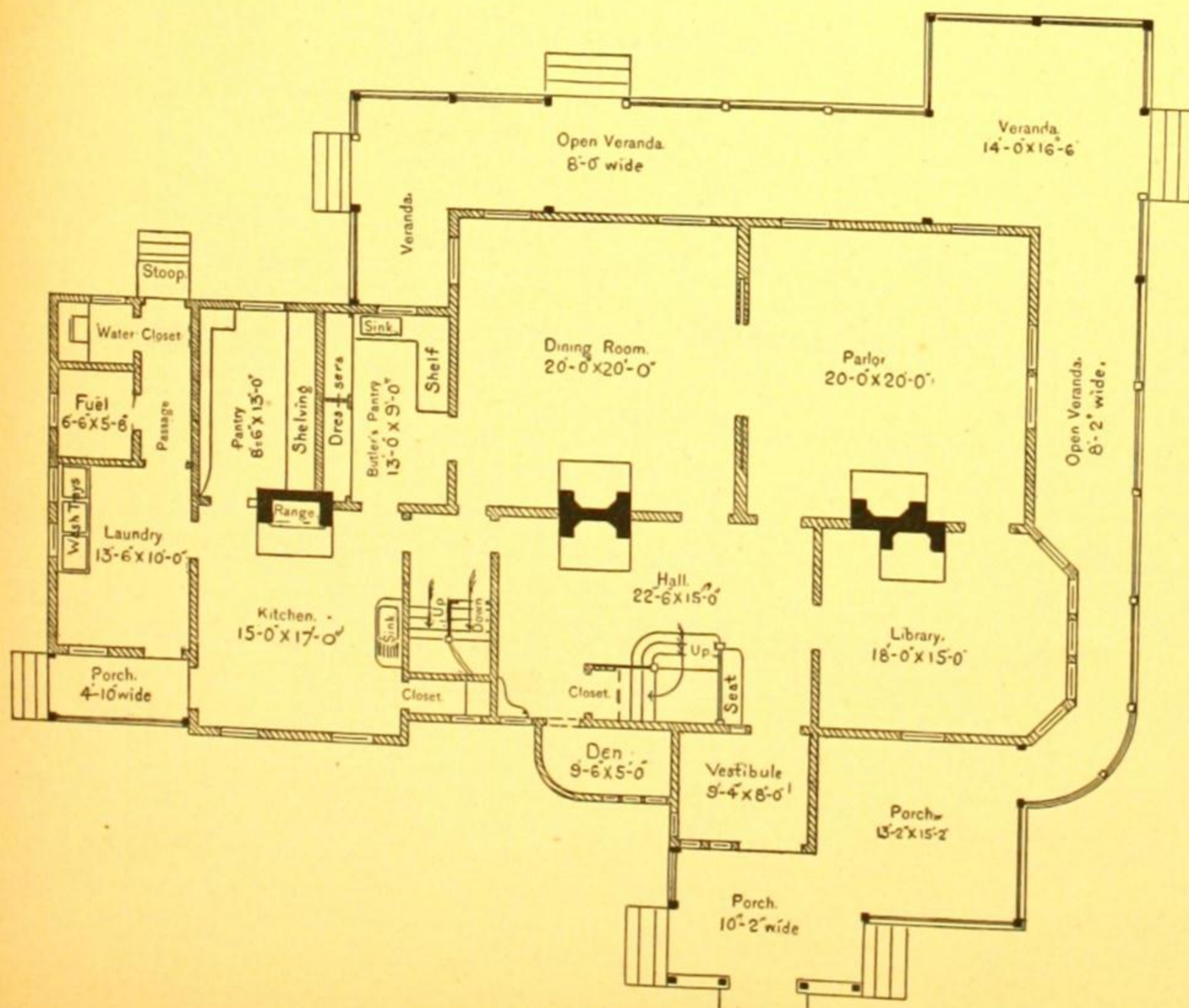
SECOND FLOOR.

SHOPPELL'S MODERN HOUSES

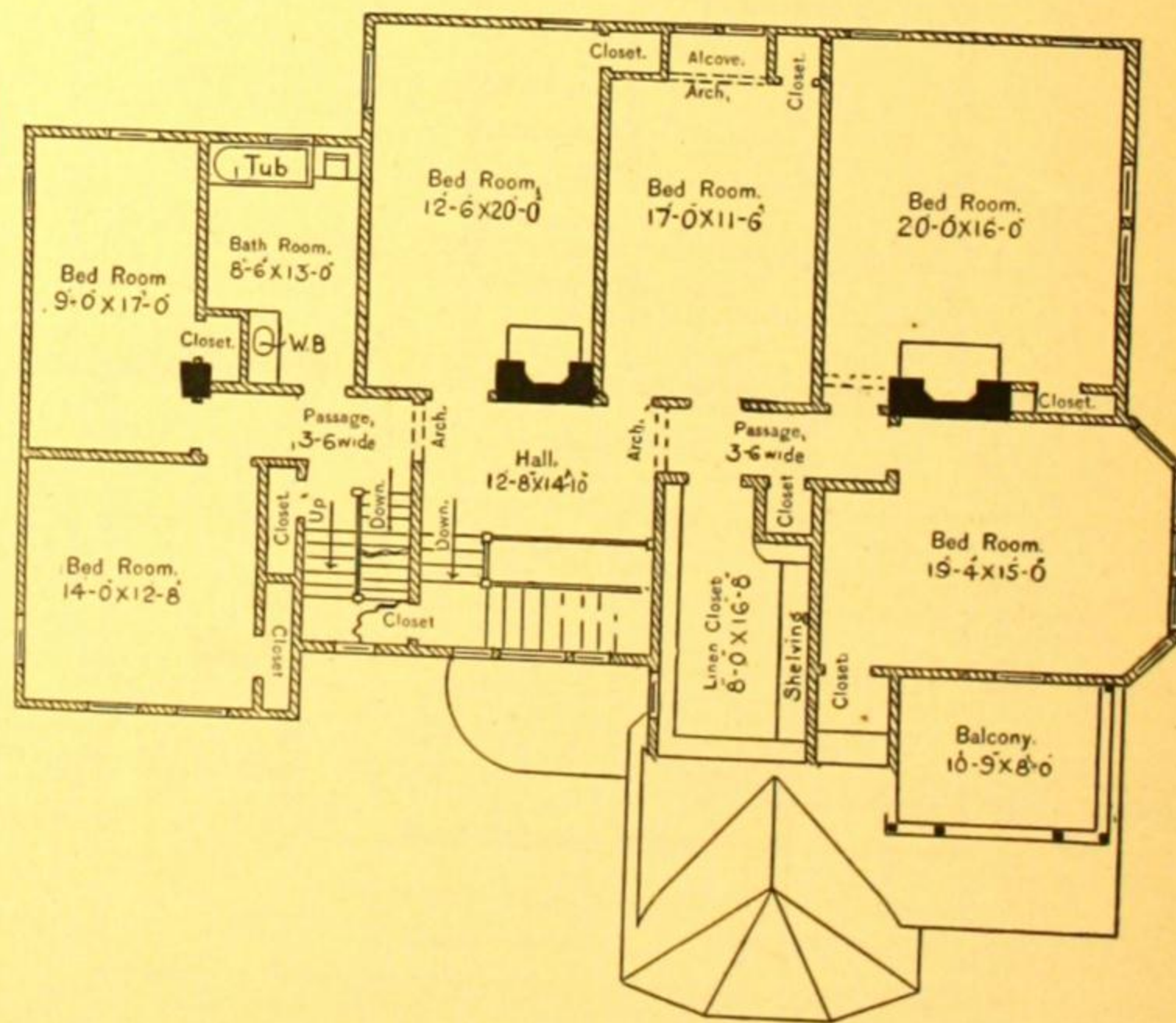
DESIGN No. 585



PERSPECTIVE VIEW.



FIRST FLOOR.

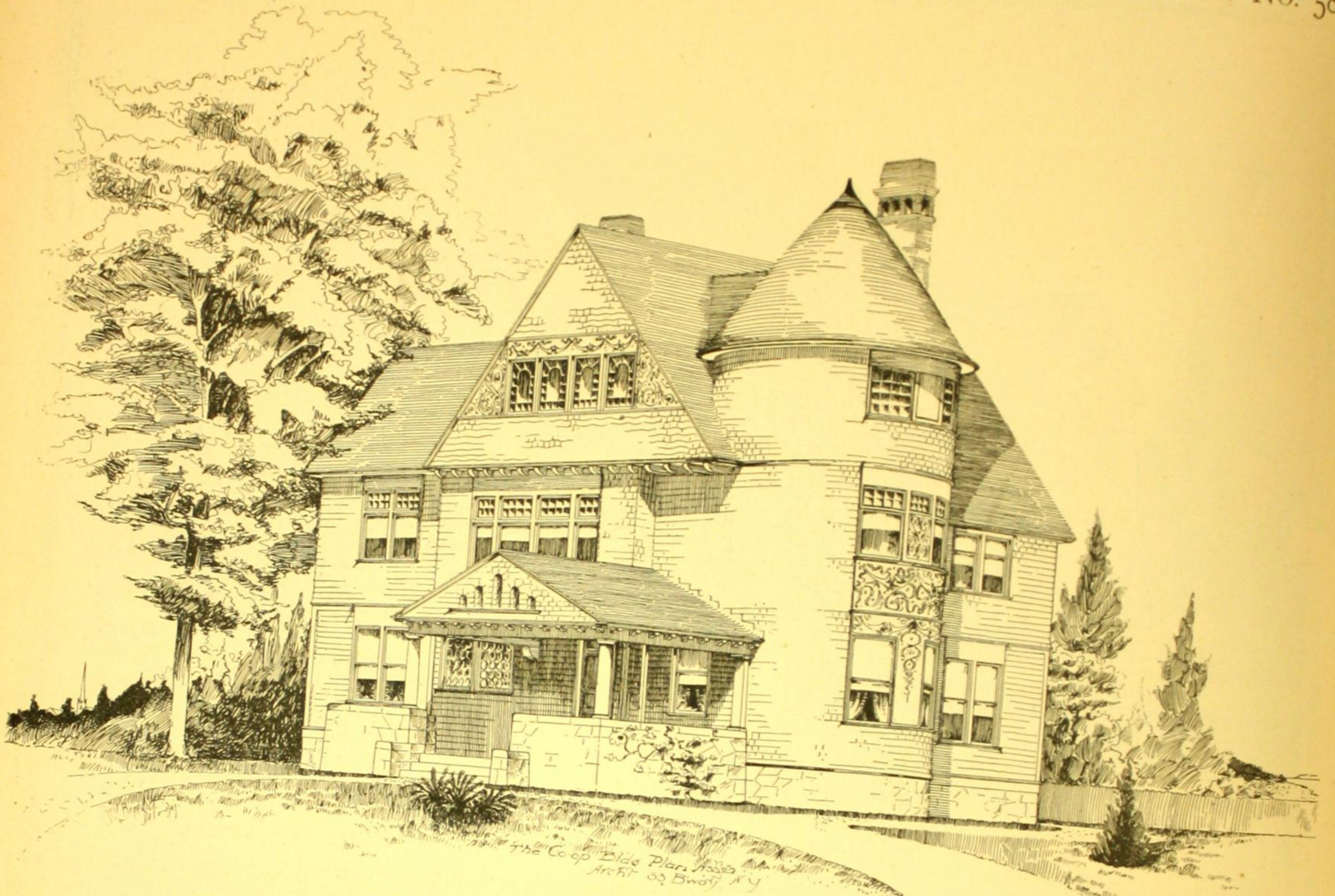


SECOND FLOOR.

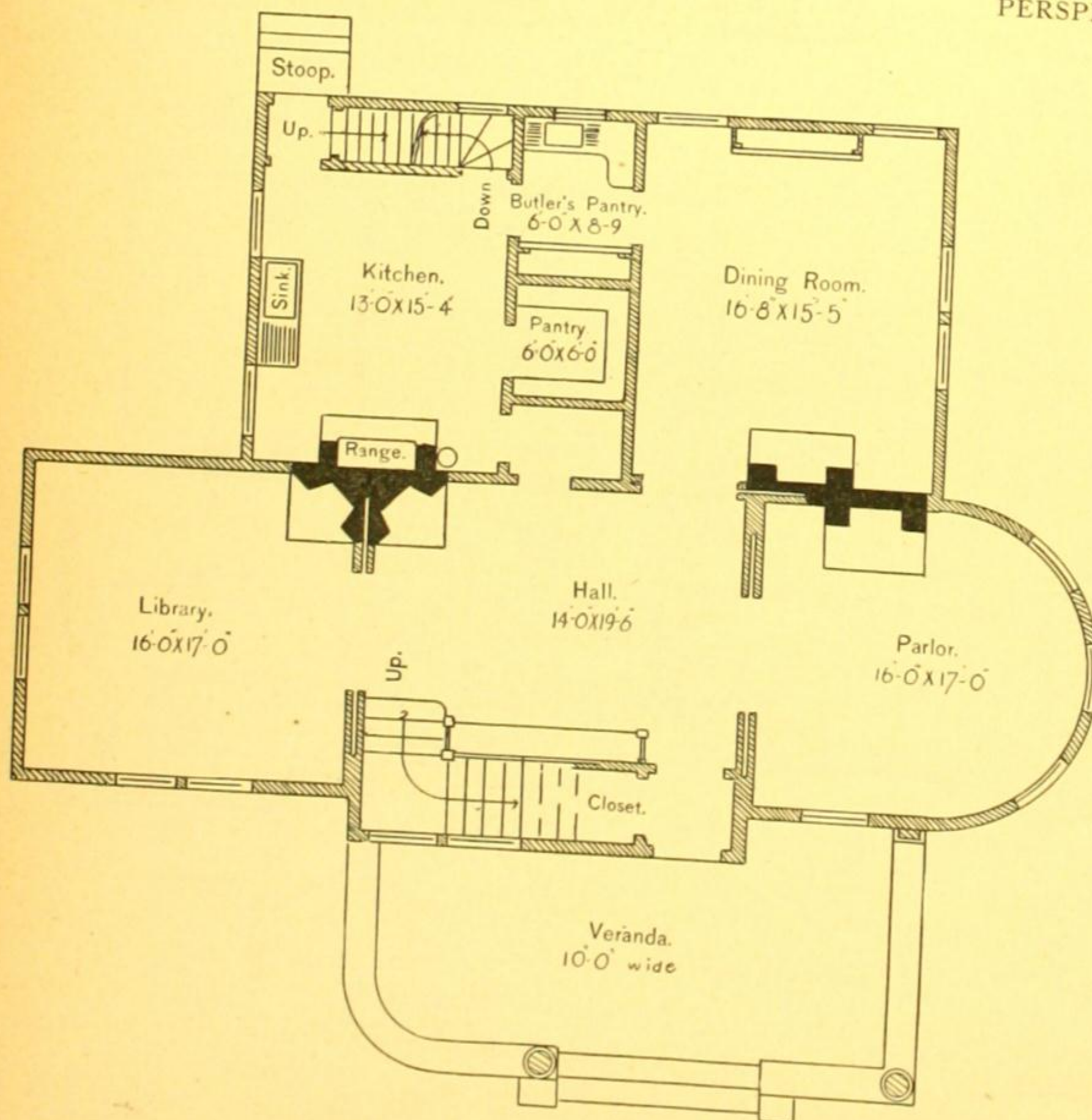
The above design belongs to the "\$10,000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

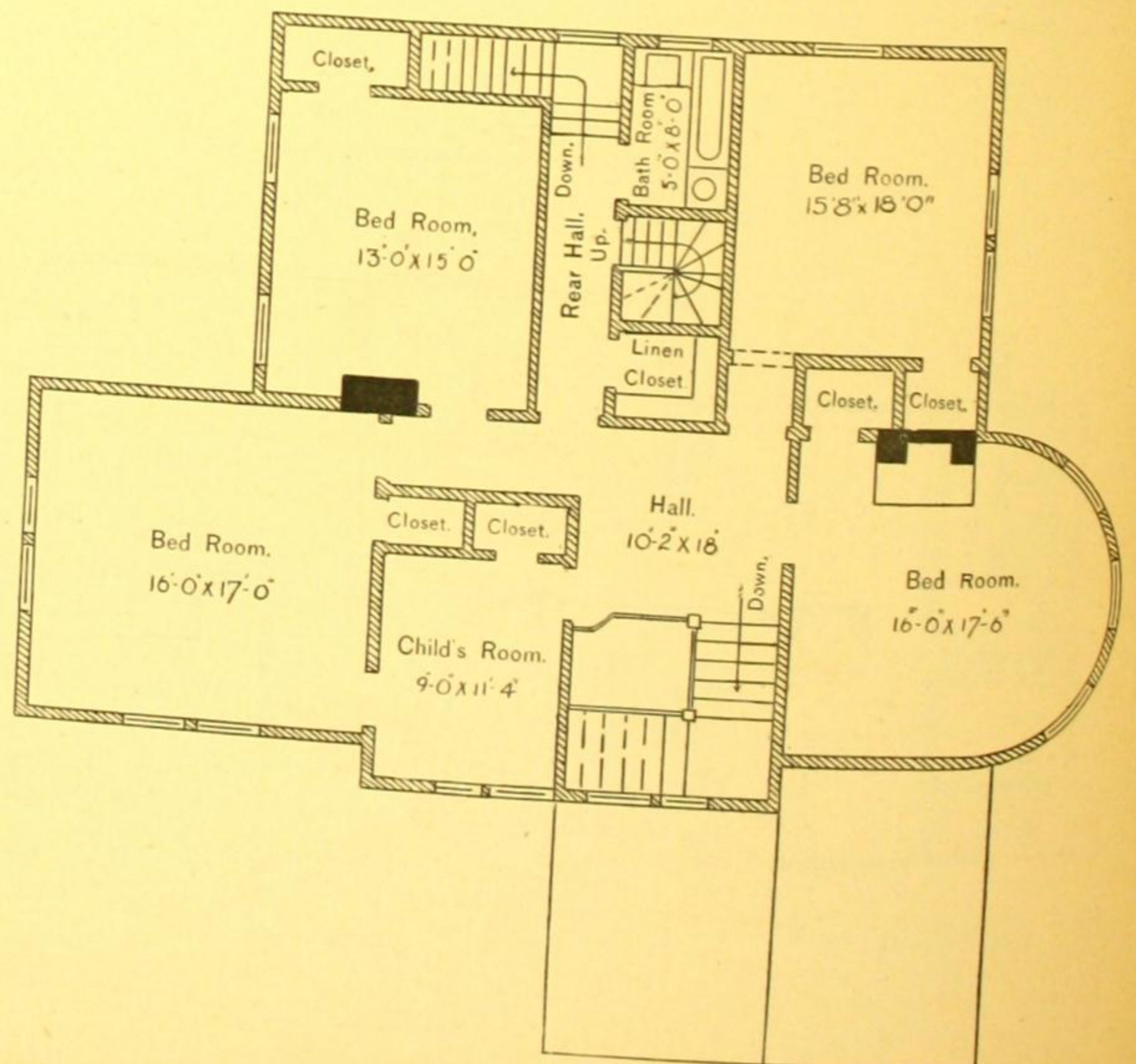
DESIGN No. 586



PERSPECTIVE VIEW.



FIRST FLOOR.



SECOND FLOOR.

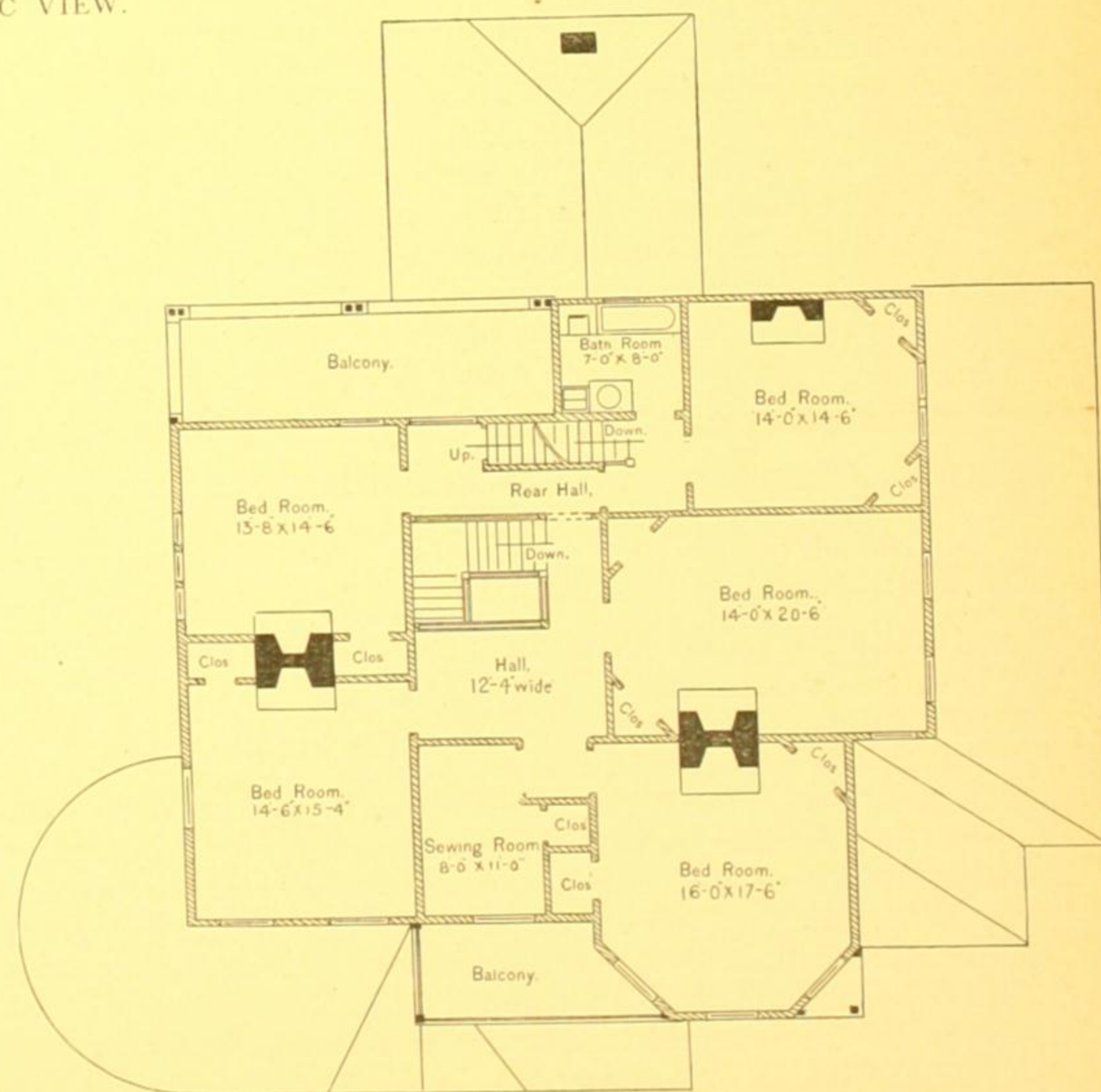
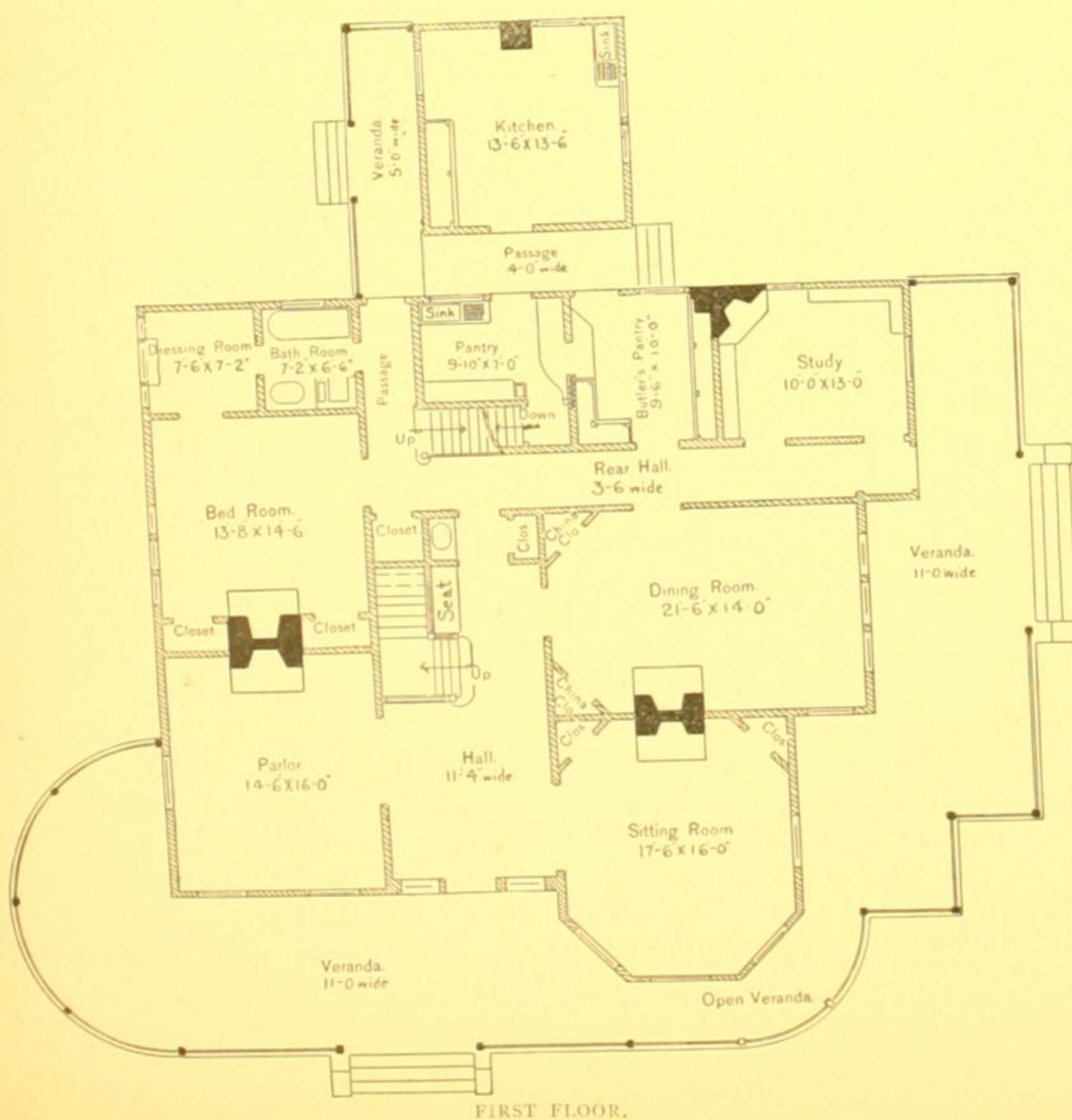
The above design belongs to the "\$6000 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

SEE PAGE 71.



PHOTOGRAPHIC VIEW.



The above design belongs to the "\$7500 Class." See page 71 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.



AN ILLUSTRATED ARCHITECTURAL QUARTERLY

SHOPPELL'S MODERN HOUSES is published quarterly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York, a new issue appearing January 1, April 1, July 1 and October 1 of each year. It is edited by R. W. Shoppell, C. M. Dissosway and W. K. Benedict.

Price 25c. a number. \$1 a year.

Advertising rates, \$6 an inch.

HOW TO BUILD A HOUSE.

THE "OLD WAY" AND THE NEW.

The "old way" of proceeding to build was to go to a carpenter or builder and in some imperfect manner come to an understanding with him about what kind of structure it should be, make a contract with him and order him to go ahead. From beginning to end there was trouble. The owner had to fight for good materials and workmanship, and for his understanding of this, that, and the other thing, during the whole progress of the work, unless, indeed, he did not know his rights, or was so meek-spirited that he would not assert them. With this way of doing business there could be but one result—dissatisfaction. Even when the owner succeeded (which was seldom) in getting the best materials and workmanship, and in having his understanding carried out, there would remain the faults of arrangement and the commonplace appearance which seem to be characteristic of every house built by the "old way."

The "new way," and by far the better way, is for the owner to supply himself first with accurate Working Plans, Specifications, etc., prepared by competent architects. These aids serve five important purposes: First, the arrangement of rooms, the exterior appearance and every part of the design are the results of professional skill; second, these aids thoroughly acquaint the owner with all the requirements before the work is undertaken; third, they enable the owner to invite competition and thus to secure the lowest contract; fourth, they are made the basis of the contract between the owner and contractor, and, being full and explicit, they will settle every dispute and misunderstanding that may arise; fifth, they guide the workmen at every step in the construction of the house.

Why any intelligent man will undertake the building of a house, however small, without these aids is hard to understand. They certainly save money as well as secure peace of mind. In times past, when competent architectural services cost from four to five per cent. of the cost of the structure, there was some excuse; but that objection is now met by the Co-operative Building Plan Association, whose charges are only one-quarter or one-fifth of that rate. Another and serious objection was the owner's fears that he could not contract at the architect's estimate, and that the result would be the loss of the amount paid for Plans, etc., or the expenditure of a larger sum for building than he intended. This objection is most effectually met by the guaranteed estimates of the Association. (See foot-note * at the bottom of page 71.)

A COMPLETE SET OF PLANS, SPECIFICATIONS, etc.

The following is a full and complete list of architectural aids for the building of a house:

WORKING PLANS of the foundation, floors, roofs and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

COLOR SHEET giving examples of elevations properly colored, with directions for mixing and applying the paints.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

BLANK AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

THE FIRST STEP.

The first step is to select a design as nearly the style, size and cost desired as the owner can find.

To many people this is the most difficult part of the whole business of building. They postpone a selection from time to time, and from season to season, to their loss and embarrassment. When they do conclude, they often find that the selection is the same that they would have made a long time before.

The best way is to set about the selection as if it were a piece of work that had to be well done and finished within a certain time. Make the selection carefully but promptly. Our Portfolios of Designs, classified according to cost, are almost perfect aids at this step. We know that the owner who selects a design that suits him, or that most nearly suits him, from these Portfolios, is always pleased with the result. Once the selection is made, and the Working Plans, Specifications, etc., are ordered, it is astonishing how quickly and easily everything proceeds.

THE SECOND STEP.

When the Working Plans, Specifications, Details, etc. arrive, study them carefully, and if any changes are suggested, make full memoranda of them and submit them to us for advice. Whatever changes are finally decided upon, if they are unimportant, the owner may make them himself, but it is safer to have us make all changes. Our charges for making changes is indicated under the head "Alterations."

When the Plans and Specifications finally represent just what is wanted, there are two courses open to the owner: first, to buy all the materials himself and have the house built by "days work," or, second, to invite bids from builders and award the contract to the lowest approved bidder.

The latter course is recommended for a number of reasons: it will be much less trouble to the owner; the builder can buy materials somewhat lower than the owner; if mistakes are made the loss falls upon the contractor; with complete drawings, a full specification and a properly drawn agreement, the builder is bound to do just as good work by contract as by "days work."

The preference for a house built by "days work" is a thing of the past—of the times when complete drawings and specifications did not exist. There are better houses now built by contract than were ever built by "days work."

When the builders have all made their bids, if considered necessary, consult us as to the proposed agreement.

If further changes are wanted, be sure to have them made on the Drawings and in the Specifications before the agreement is signed.

THE THIRD STEP.

Now sign the agreement with the contractor and after that watch the progress of the work until completion, or at least thoroughly inspect the condition of the work as each payment becomes due.

The duplicate blank agreements which we supply to the owner are very complete, indicating at what stages of construction the different payments should be made. The agreement also provides that, if required by the owner, the contractor must produce a certificate from the architects when each payment becomes due that the work so far is in accordance with the Plans and Specifications. It may not be necessary to enforce this clause, but it should form part of every agreement, as it affords complete protection to the owner.

Carefully write in all the "extras" that are included in the contract; also all the omissions that are agreed upon. Have the written agreement distinctly state everything; leave nothing to oral agreement.

Do not advance payments to the builder before they are due; if he requires assistance take his note for the amount advanced, with the understanding that you can either turn in the note as so much cash on the next payment, or you can consider it a loan to him outside of the building contract. The advantage of this is, that, in case of trouble, you can withhold the next payment and also collect the amount of the note.

Should any extras or omissions be made during the progress of the work, they should be distinctly described, in writing, stating prices, with date and signatures of the owner, the contractor and of two witnesses.

OUR REGULAR DESIGNS.

These are our published designs as found in this publication, in our books and in our Classified Portfolios. These designs have all been built. The important question of cost and the accuracy of Working Plans, Specifications and Details have all been proved by actual construction.

We cannot urge the intending builder too strongly to order the Working Plans, Specifications, etc., of one of these regular designs; the fee charged

is very low; the cost is guaranteed; the drawings, specifications, etc., are perfect—having been tested. It is generally found that a Regular Design, when closely studied, is just what is wanted.

If the Regular Design selected is not just what is wanted, studying and changing its Working Plans and Specifications is the best and quickest way of getting just what is wanted.

ALTERATIONS.

The cost of alterations is not increased by first purchasing the regular plan as per list. In fact, the cost is apt to be less, as the client can then indicate very plainly, by pencil drawings on the scaled plans and by notes on the specifications, exactly what changes are desired.

Small internal changes, such as shifting partitions to make rooms larger or smaller, adding closets, building fire-places in place of flues, etc., can be clearly indicated to the workmen by the owner himself, when the large Working Plans are spread out before them. Therefore, if the alterations are unimportant, the Working Plans and Specifications as per price list are quite sufficient. Only where the desired changes alter the external dimensions, and consequently the appearance of the elevations, is it really necessary to have us make the changes.

In most cases all the changes required can be made in the Specification, and these we will make without charge, except for return postage.

When the changes involve re-drawing some or all of the floor plans and elevations, the charge will be from \$5 to \$10, according to the work involved, for houses of moderate cost. For houses costing \$5000 and upward, the charge for re-drawing, if necessary, will be from \$10 to \$20.

REBATE.

Those who order Working Plans, Specifications, etc., of Regular Designs, may deduct the amount they have paid us for books or portfolios, to the extent of \$5.00.

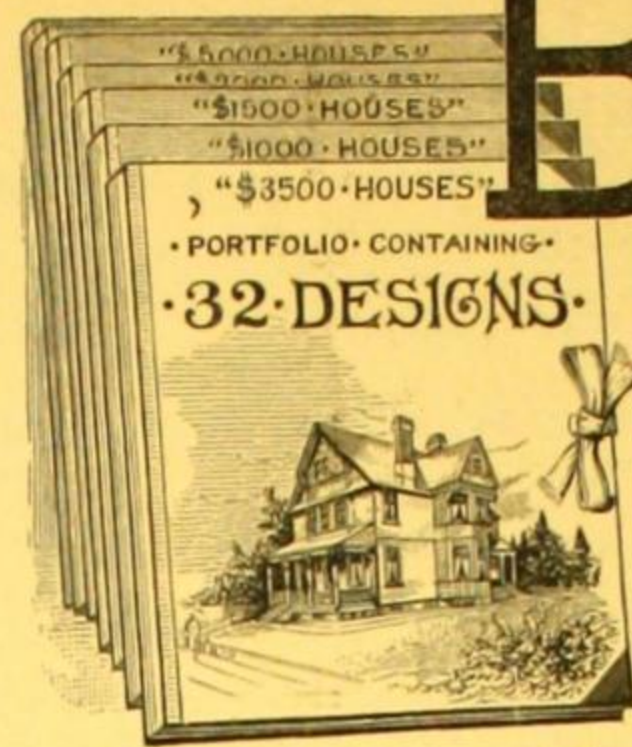
We invite the intending builder's confidence, with the assurance that we want him to have a good house—and one that pleases him. No trouble on our part is too great to bring about that desirable result.

Respectfully,

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS,

Per R. W. SHOPPELL.

SHOPPELL'S CLASSIFIED BUILDING DESIGNS



Complying with the oft-repeated request of many of our patrons, we have classified our Building Designs for Residences according to cost. This classification includes all of our popular designs and many new ones specially prepared for the purpose.

An owner may now choose from a large number of designs of the same cost, and not waste time on others. Each classification includes about the largest possible variety of designs its limit of cost allows. Usually the owner need look no further.

"Truly called perfect aids to intending builders."—*Christian Herald, N. Y.*

LIST OF CLASSIFICATIONS.

Views, floor plans, all dimensions and full descriptions are given. Printed on heavy supercalendered plate paper—size of page, 10½ x 14 inches. Each classification enclosed in a handsome cloth portfolio.

Portfolio of	Portfolio of
" \$1000 Houses; 25 Designs.	" \$5000 Houses; 25 Designs.
" \$1500 " 25 "	" \$6000 " 22 "
" \$2000 " 25 "	" \$7500 " 20 "
" \$2500 " 25 "	" \$10,000 " 16 "
" \$3000 " 28 "	" *Stables and Carriage Houses,
" \$3500 " 32 "	various costs; 16 Designs.
" \$4000 " 26 "	

* Exact cost of each design stated and its correctness guaranteed. In many cases the exact costs are slightly under or over the "class" figure. Prices for materials and labor given on which costs are based.

PRICES: One Portfolio, \$2.00; Three Portfolios, \$5.00; Seven Portfolios, \$10.00; Twelve Portfolios (the full set), \$15.00. Delivered by mail or express, all charges prepaid.

Remit by Check on Local Bank, Draft, P. O. Order, Express Order, or enclose bills and Register the Letter.

Address: THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects,

(Or for a shorter address, R. W. SHOPPELL,) 63 Broadway, New York.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS, 63 BROADWAY, NEW YORK.

DESCRIPTIVE PRICE LIST

of

SHOPPELL'S MODERN HOUSE DESIGNS.

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN NUMBER	* COST	† SIZE		‡ MATERIALS				** HEIGHT OF STORIES				†† Price Specified Working Plans, etc.	†† Price Bills Material	*** REMARKS
		FRONT	DEPTH	FOUNDATION	1st STORY	2d STORY	ROOF	CELLAR	1st STORY	2d STORY	3d STORY			
569 Res.	\$5500.	36' 6"	56' 0"	Stone & Brk	Clapbds	Shingls	Shingls.	7' 0"	9' 6"	9' 0"	8' 0"	\$50.	\$10.	Cellar under whole house, with laundry, 3 tubs, and servants' W.C. Four rooms finished in the attic.
570 "	\$1000.	24' 6"	44' 6"	Stone	"	"	"	6' 6"	8' 6"	8' 0"	----	\$20.	\$5.	Cellar under kitchen only. No attic.
571 "	\$1000.	46' 0"	41' 8"	"	"	"	"	No cel.	11' 0"	10' 6"	----	\$20.	\$5.	2nd story 10 ft 6" to the ridge. Scuttle to attic. No cellar.
572 "	\$3606.	30' 8"	54' 2"	Stone & Brk	"	"	"	7' 0"	9' 6"	8' 6"	7' 0"	\$35.	\$5.	Cellar under the main house. 2 rooms finished in the attic.
573 "	\$1800.	33' 0"	40' 6"	Stone	"	Clapbds	"	6' 6"	9' 0"	8' 0"	----	\$20.	\$5.	Cellar under kitchen only. Remainder of house on piers.
574 "	\$1500.	20' 0"	45' 6"	Brick	"	"	Til	8' 0"	11' 0"	9' 6"	----	\$20.	\$5.	No attic.
575 "	\$3363.	32' 0"	54' 0"	Stone & Brk	"	Shingls	Shingls.	7' 0"	9' 0"	8' 4"	8' 0"	\$30.	\$5.	Cellar under the whole house. One room and hall finished in the attic.
576 "	\$2900.	33' 0"	42' 6"	Stone	"	Clapbds	"	7' 0"	9' 0"	8' 0"	7' 0"	\$25.	\$5.	Cellar under whole house containing laundry with 2 tubs.
577 "	\$3500.	42' 5"	65' 2"	"	"	Shingls	"	7' 6"	10' 0"	9' 0"	7' 6"	\$30.	\$10.	Two rooms finished in the attic. Cellar under whole house. Space for two rooms in attic.
578 "	\$3200.	31' 0"	39' 10"	"	Shingls	"	"	6' 8"	9' 0"	8' 6"	----	\$30.	\$10.	Cellar under whole house containing laundry with 2 tubs and servants' W.C. One room finished in the attic.
579 "	\$2200.	32' 8"	49' 6"	"	Clapbds	Clapbds	"	6' 6"	8' 6"	8' 0"	----	\$25.	\$5.	Cellar under the kitchen. Attic floored but not finished.
580 "	\$3300.	55' 6"	45' 0"	"	"	Shingls	"	7' 0"	9' 0"	8' 6"	8' 0"	\$30.	\$10.	Cellar under kitchen only. Two rooms and hall finished in the attic.
581 "	\$2800.	38' 8"	41' 8"	"	"	"	"	7' 0"	10' 0"	9' 0"	----	\$30.	\$5.	Cellar under whole house. Attic floor laid, no finish.
582 "	\$12000.	72' 4"	73' 10"	"	Brick	"	"	9' 0"	11' 6"	9' 0"	8' 7"	\$100.	\$25.	Kitchen, servants' dining room, pantry, larder, and dumb waiter in basement. Billiard room and two servants' rooms in attic.
583 "	\$7500.	43' 10"	71' 0"	Stone & Brk	Clapbds	"	"	7' 6"	10' 0"	9' 0"	8' 0"	\$75.	\$15.	Cellar under whole house, laundry, with 3 tubs, sink and servants' W.C. in basement. 2 bed rooms finished in the attic.
584 "	\$10000.	46' 1"	73' 0"	Brick	Brick	Brick	Tile	8' 0"	11' 0"	10' 0"	9' 0"	\$100.	\$25.	Cellar under whole house, laundry with 3 tubs, and servants' W.C. in basement. Billiard room, servants' rooms etc in attic.
585 "	\$8500.	79' 0"	69' 0"	"	Clapbds	Shingls	Shingls.	7' 6"	10' 0"	9' 6"	9' 0"	\$85.	\$15.	Cellar under all except kitchen. Three rooms and hall in the attic.
586 "	\$5500.	56' 6"	46' 8"	Stone	"	"	"	7' 0"	10' 0"	9' 0"	8' 6"	\$55.	\$15.	
587 "	\$8500.	71' 7"	70' 6"	"	"	"	"	7' 6"	11' 0"	10' 6"	----	\$85.	\$15.	Cellar 25 ft x 22 ft 8" Attic floored but not finished,

* Cost is based on the prices for materials and labor that prevail in the vicinity of New York. In many places cost will be less. When Working Plans, Specifications, etc., are ordered, we carefully re-estimate the cost according to the client's local prices (we have price-lists for every section of the country), which gives the client the sum at which, or very near which, he should be able to contract. This re-estimated cost is guaranteed to be correct; otherwise, we will return the fee paid us.

† Sizes given include all projections—porches, verandas, bay-windows, etc.

** Height of Stories may be changed, but it necessitates re-drawing the elevations, for which an additional charge of \$5 is made for a house that costs \$5,000, and under; \$10 for a house that costs over \$5,000.

†† These list prices are only about one-quarter of the amounts usually charged by other architects. The drawings, etc., that we send are on a larger scale, and are more complete and accurate than can be procured elsewhere at any price: they include Working Plans, Specifications, Detail Sheets, Color Sheets, Supplement Sheets about Cisterns, Earth Closets, Privies and Fences. Also Duplicate Blank Contracts.

‡‡ A Bill of Materials is needed only in case the owner wishes to buy the materials.

*** We can send the Working Plans, Specifications, etc., of any of these designs reversed—for which we charge \$5 additional. What we mean by reversed is fully illustrated by holding the design before a strong light and viewing it from the back; the faint lines that show through show the design reversed.

REFERENCES BY PERMISSION

The names of patrons appearing on this page are printed by authority of their written permission, in answer to the following letter addressed to each of them, after the completion of their buildings. Limited space admits of giving a few only.

"Dear Sir:—If our work for you has proved satisfactory, will you kindly permit us to include your name in our reference list? Yours very respectfully,

"THE CO-OPERATIVE BUILDING PLAN ASS'N, 63 Broadway, New York.

"Per R. W. SHOPPELL."

- H. D. Reaves, Santa Barbara, Cal., who says: "My house looks very pretty and its plan is most admirable."
- R. W. Sargent, Esq., Greenwich, Conn., who says: "My house outshines anything around here for the money."
- A. E. Skelding, Esq., Riverside, Conn., who says: "I have built eleven houses in this place, some from designs by architects to whom I have paid very high prices; but none have pleased me so much as the last house, which I built from your Plans. In future I shall use them; they are cheaper and I consider them more practical than others."
- Jesse D. Phelps, Esq., Attorney, Minto, Dakota, who says: "You have full permission to use my name. I am thoroughly pleased with my house. It shows much better in reality than the conception on paper. I have built it at less expense by having Plans, Specifications and Estimates."
- Jas. G. Eastwood, Esq., cor. Howard ave. and 17th st., Washington, D. C., who says: "I am living in the house I built last summer from Plans and Specifications furnished by you, and will say that your work was satisfactory in every respect."
- Thos. W. Wilson, Esq., Dover, Del., who says: "Your Plans and Specifications saved me much valuable time and money."
- Julius Hayden, Supt. Jacksonville & Atlantic R.R., Jacksonville Fla., who says: "I am very much pleased with the house built from your Plans."
- Chas. E. Thorne, Esq., Welaka, Putnam Co., Fla., who says: "With your Plans I have made my house—simply beautiful! I have recommended your work to others, and hope they will have the good sense and far-sighted economy to patronize you."
- Prof. W. S. Wilson, Agrl. College, Dahlgren, Ga., who says: "I am satisfied that through you one can get the assistance of architects on the most reasonable terms possible."
- I. A. Nourse, Esq., with the Sawyer-Goodman Co., Lumber, Chicago, Ill., who says: "I shall take pleasure in recommending your Plans whenever opportunity occurs. The house which I built attracts attention, and I am asked frequently where I got the Plans."
- R. S. Dickie, Esq., Chicago, Ill., who says: "We believe your work to be of inestimable advantage to those contemplating building."
- E. A. Thomas, Esq., East St. Louis, Ill., who says: "The cost of our house runs under your estimate."
- E. M. Wood, Esq., Grand Crossing, Ill., who says: "The Plans you sent me saved me a good many dollars in the construction of my house."
- Geo. Webster, Jr., Esq., Marion, Ind., who says: "You have permission to refer to me in any manner you see proper. I have a handsome and very convenient dwelling, made from your Plans, and I was well pleased with your promptness in furnishing Plans, Details, etc."
- Jas. Alexander Leonard, Esq., Decorah, Iowa, who says: "I can most heartily recommend your Association as filling the bill complete, so far as I am concerned."
- M. R. Mudge, Esq., Banker, Eskridge, Kansas, who says: "The Plans worked out all right; the carpenter and mason had no trouble with them whatever."
- D. C. Morgan, Esq., Attorney, Monroe, La., who says: "It affords me pleasure to unite with your other customers in commending you to the public for your artistic manner of getting up building plans."
- M. T. Denham, Treasurer Eastern Forge Co., Portland, Maine, who says: "Your system is, undoubtedly, the best yet devised to secure to people just such homes as they could wish."
- Capt. Wm. E. Nason, Saco, Maine, who says: "A great many people speak well of the Plans, and pronounce the building as one of the finest in Saco."
- A. Hoen, Esq., Baltimore, Md., who says: "The house has attracted considerable attention and you will probably receive inquiries from some of my neighbors who contemplate building."
- J. D. Mallory, Esq., 22 Light street, Baltimore, Md., who says: "Your Plans were of great use to me, and saved me \$450 on my house."
- C. W. Kennard, Esq., Chestertown, Md., who says: "My house is perfect, combines beauty with great utility of space—not a foot of waste room in it. It has been pronounced worth \$500 more than an adjoining house which cost \$750 more than mine. I candidly believe I have a house that is worth \$1,000 more than it cost me. Your excellent Plans have the credit. The house complete, finished in the best manner, cost me \$50 less than your estimate."
- F. R. Lewis, Esq., Westfield, Mass., who says: "I am abundantly satisfied with the Plans obtained from you, and take pleasure in recommending your Plan to my acquaintances."
- Jas. W. Taylor, Esq., Amesbury, Mass., who says: "I feel confident that your Plans and very complete Specifications saved me several hundred dollars; my house more than realizes my most sanguine expectations."
- W. T. Smith, Esq., Osceola, Mich., who says: "I must say that the Working Plans, etc., you sent me were much better than I expected to get. They would have cost me five times the amount here."
- H. A. Smith, Cashier Merchants' National Bank, Duluth, Minn., who says: "I have just completed a house from the Plans you sent me. They have given the best of satisfaction. The mechanic in charge tells me they are quite accurate and intelligible to work from."
- L. M. Edwards, Esq., Bank, Bowling Green, Mo., who says: "I built from your designs, and have the 'slickest' house in town. I think I saved three to four hundred dollars by having your Plans and Specifications."
- J. A. Matteson, Esq., Cape Girardeau, Mo., who says: "We are more than satisfied with your work. I do not hesitate to refer to you any parties in this vicinity who contemplate building."
- C. H. Wolcott, Esq., Billings, Montana, who says: "Your Plans and Specifications have given unqualified satisfaction, reducing the cost of building twenty-five per cent."
- W. M. Cowen, Esq., Wellington, Kansas, who says: "The house I erected from your Plans is not only beautiful but convenient; it is admired by all. The contractors (Jackson & Mishler) join with me in recommending your Plans to all who contemplate building."
- R. Beattie, President Beattie Manufacturing Co., Little Falls, N. J., who says: "Have built ten cottages from your Plans and they are all very satisfactory."
- Harry Kucher, Esq., Camden, N. J., who says: "Just putting the finishing touches on the house built from your Plans and Specifications. It is conceded to be the nicest and most complete small house in the neighborhood. Ezra Lippencott, a life-long builder of Camden, says that any of your Plans can be put up at your figures unless labor is high."
- Rev. Wm. R. Nairn, Franklin, Essex Co., N. J., who says: "I have used your Plans and the houses, which are now occupied, have proved very satisfactory as to comfort, convenience and appearance."
- Prof. A. A. Titsworth, Rutgers College; New Brunswick, N. J., who says: "After receiving the House Plans I made arrangements which necessitated a change of residence, and I sold the Plans to the contractors, Messrs. A. & O. Burdick, who completed the house and I understand were well pleased; as well they might be for they were able to sell the house at a good profit even before it was completed."
- W. R. Merchant, Esq., with Banking House of Geo. K. Sistares' Sons, 18 Broad street, New York city, who says: "From the Plans and Specifications prepared by you, I have built a house in every respect satisfactory. It affords me pleasure to testify to the fact."
- John T. Delany, Esq., Chaumont, N. Y., who says: "My house is up, and it is a little gem; neat, cheap and convenient."
- Francis Gerber, Esq., Sayville, L. I., N. Y., who says: "The Plans I received from you were all that could be desired. The builder had no trouble in working from them. The house is now completed and is acknowledged to be the most convenient, substantial and the handsomest house in our village."
- Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), who says: "I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."
- Wm. A. Sloane, Esq., Port Richmond, N. Y., who says: "I built my house for the price named in your book. Everybody likes it."
- John T. Cowles, Esq., Ridgewood, L. I., N. Y., who says: "The house I built will stand comparison with other houses in this town that cost two or three times the money to erect."
- W. E. Peebles, Banker, Pender, Neb., who says: "I take great pleasure in saying that I used one of your Plans, and I am more than satisfied with the result. I have a beautiful dwelling, costing not more than an ordinary building, but worth twice as much, either to sell or live in, on account of its convenient interior and its beautiful exterior."
- Geo. J. Burgess, Esq., Arapahoe, Neb., who says: "I am very well satisfied; the house is a daisy—looks nicer than it did in the engraving."
- Norman C. Raff, Esq., Albuquerque, N. M., who says: "You are at liberty to use my name. I built two houses from your Plans, and they give excellent satisfaction."
- Wm. M. Lowther, Esq., Findlay, Ohio, who says: "I shall always deem it a pleasure to impart information to all who make inquiries concerning your Association, with whom I have had the pleasure of doing business, and the prompt manner in which you responded to my recent order."
- E. B. Dennis, Attorney, Newark, Ohio, who says: "The house built from the Plans procured of you is satisfactory, and is very much admired. The house could be built here for considerably less than your estimate."
- George H. Bonte, Esq., Cincinnati, Ohio, who says: "The Plans were satisfactory in all respects. Your estimate of cost was very close. I have the finest, prettiest and best built house in South Nor- it, and that is saying a great deal; it is acknowledged to be the finest and best of the three or four hundred houses that are in the neighborhood."
- M. D. Harter, Esq., Treasurer, the Aultman & Taylor Co., Mansfield, Ohio, who says: "I like your plans and methods as far as I know them. I say this after having built two houses under them."
- Frank Dayton, Esq., Portland, Oregon, who says: "I am exceedingly well pleased and have a lovely cozy little home that is much admired."
- E. Payson Porter, Esq., Statistical Sec'y Int. S. S. Convention, 725 Chestnut street, Philadelphia, Pa., who says: "It gives me pleasure to say that the cottage built after the Plans you sent me, and which we call Sylvan Lodge, is not only satisfactory in every respect, but charming."
- Louis Restein, Esq., Philadelphia, Pa., who says: "I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."
- L. R. Frost, Esq., Furniture & Lumber, Towanda, Pa., who says: "I give you permission to use my name in any way to help on the good work of building artistic houses. The house you designed for me last fall is about completed, and is admired by every one. I find your books a great help. Several parties that contemplated building have had the use of them, which will probably give you several orders."
- J. C. Brader, Esq., Nanticoke, Pa., who says: "Your work for me has given the best of satisfaction and I can cheerfully recommend the same to those who contemplate building."
- John J. Houghton, Cashier First National Bank, Ambler, Pa., who says: "The Plans purchased from your Association have been used in building six houses. The Plans were very satisfactory and the houses present quite a new style of architecture in our neighborhood. They make beautiful houses at a moderate cost. I am satisfied that your Association is of great benefit to all who intend to build. I willingly add my name to your list of references and heartily commend your work."
- Benjamin Crowther, Esq., Upland, Del. Co., Pa., who says: "Your architectural work for me has been very satisfactory not only to me, but to others who saw my house in the course of erection. One of the largest property owners said to me: 'I have been through your house from cellar to attic and think it very complete; it must have cost a deal of thought to arrange everything so well. It is an ornament to our town.'"
- F. E. Smith, Esq., Tioga, Pa., who says: "I have built country houses, barns, etc., a great number. I have never had plans, specifications and full details that I was so well pleased with as with yours."
- L. F. Jeanmaire, Esq., McMinnville, Tenn., who says: "I am delighted with my house. I have received many flattering praises."
- James F. Lukens, Esq., Union City, Tenn., who says: "I was well pleased with the Plans, and consider their cost as money well spent. I have the handsomest and best business house in this city. I take pleasure in referring to your Association all parties here that I find are going to build."
- Geo. Smith, Esq., Galveston, Texas, who says: "I built according to your Plans, and am much pleased with the result. I certainly saved \$125 by having your Plans and Specifications."
- Ross White, Esq., Brattleboro, Vt., who says: "The Plans you supplied for my house have been more than satisfactory in every respect. I have been the means of your getting three orders in this town and shall be glad to have you refer to me at any time."
- J. A. Allen, Esq., Shawano, Wis., who says: "The Plans we received from you we used for a parsonage, and I must, in justice, say that they gave entire satisfaction in every particular."
- F. & J. Skelding, Neepawa, Manitoba, who say: "You can use our name. We found everything exactly as required in the Plans sent us—Drawings and Specifications all perfect."

All of the above refer to house plans that are given in "Modern Houses—Beautiful Homes." THE TESTIMONY OF THOSE WHO HAVE BUILT FROM THE PLANS IS THE BEST EVIDENCE OF THE RELIABILITY AND ACCURACY OF THE CONTENTS OF THE BOOK.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

NEW YORK, JULY, 1889.

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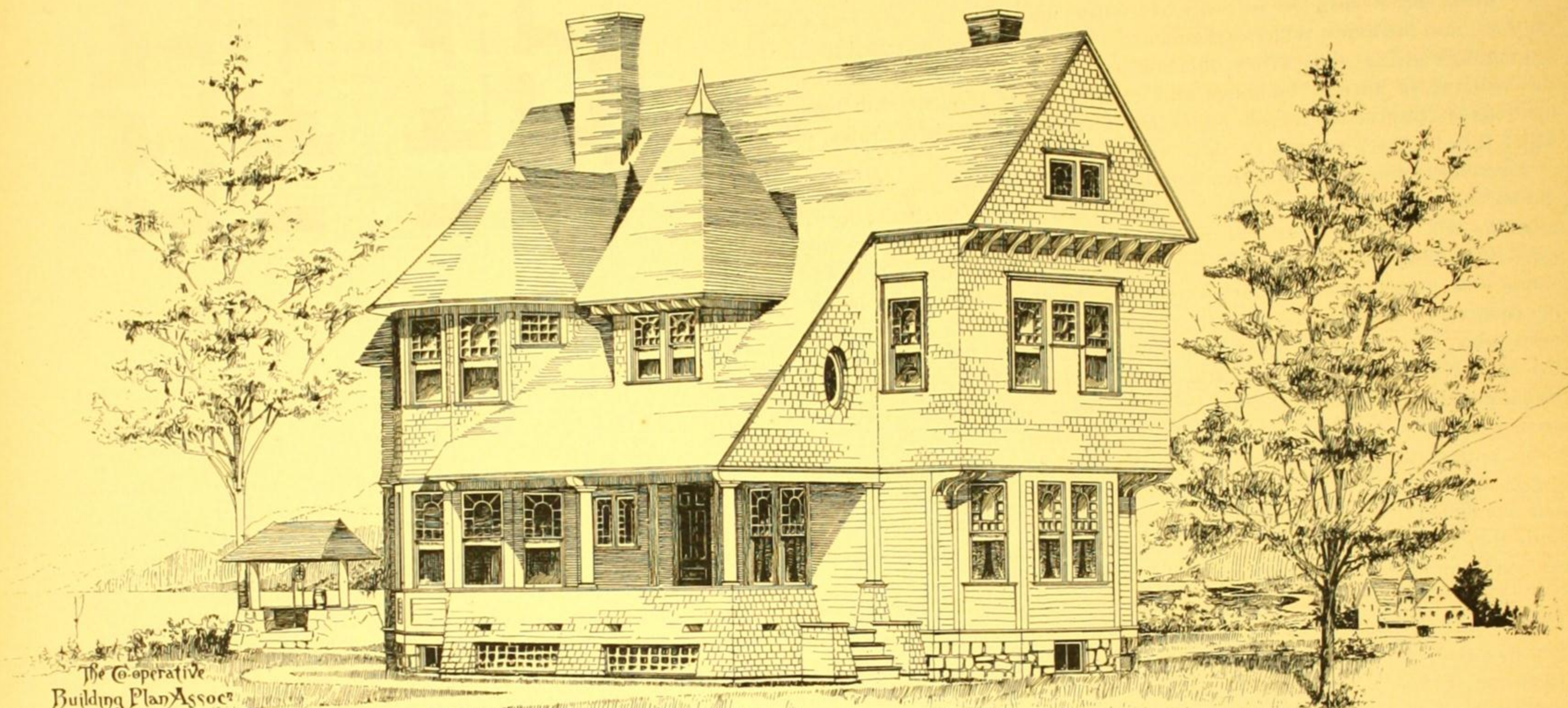
See Description, Cost, etc. of this Design on "Descriptive Price List."

SEE PAGES 94 AND 95.

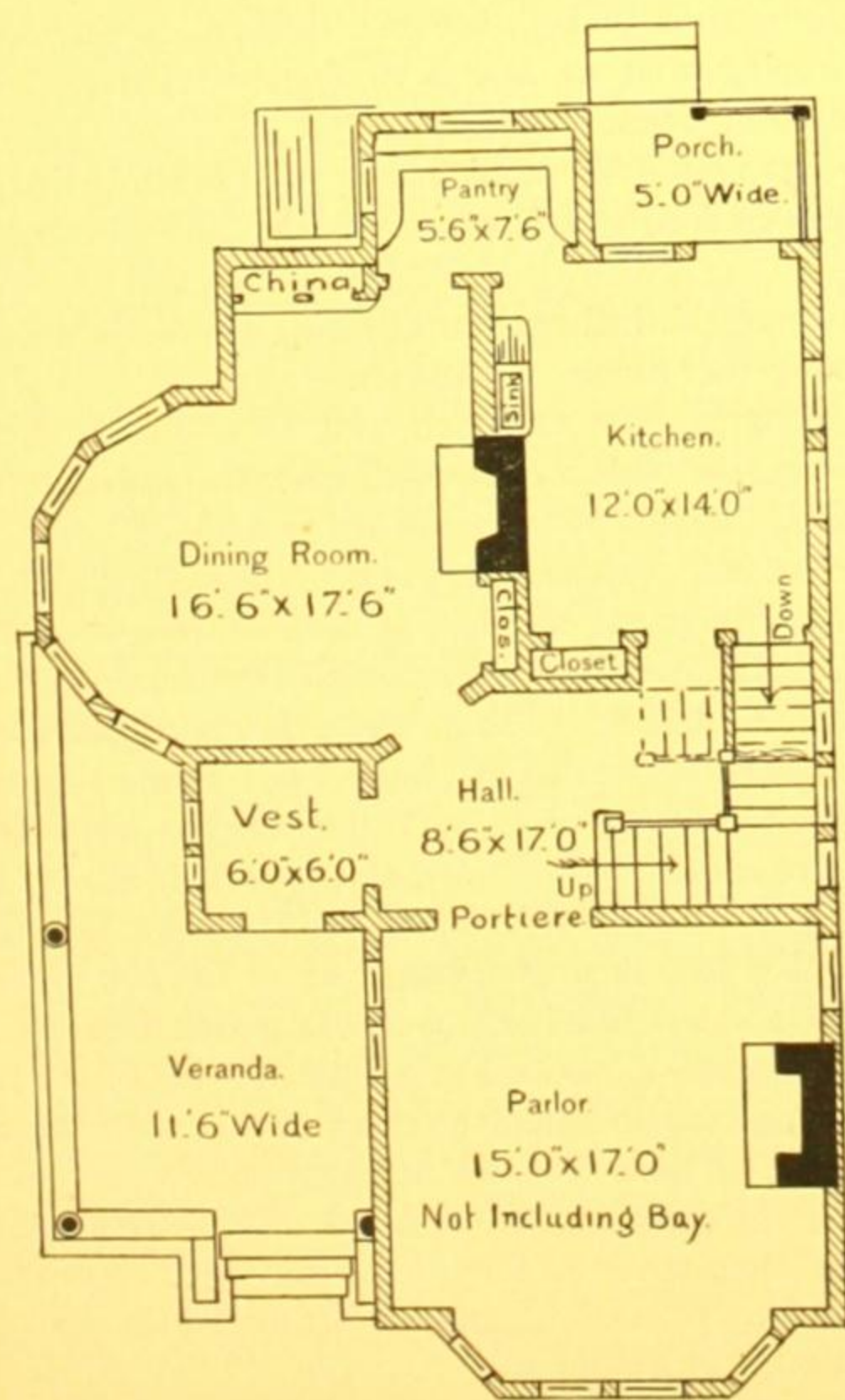
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SHOPPELL'S MODERN HOUSES

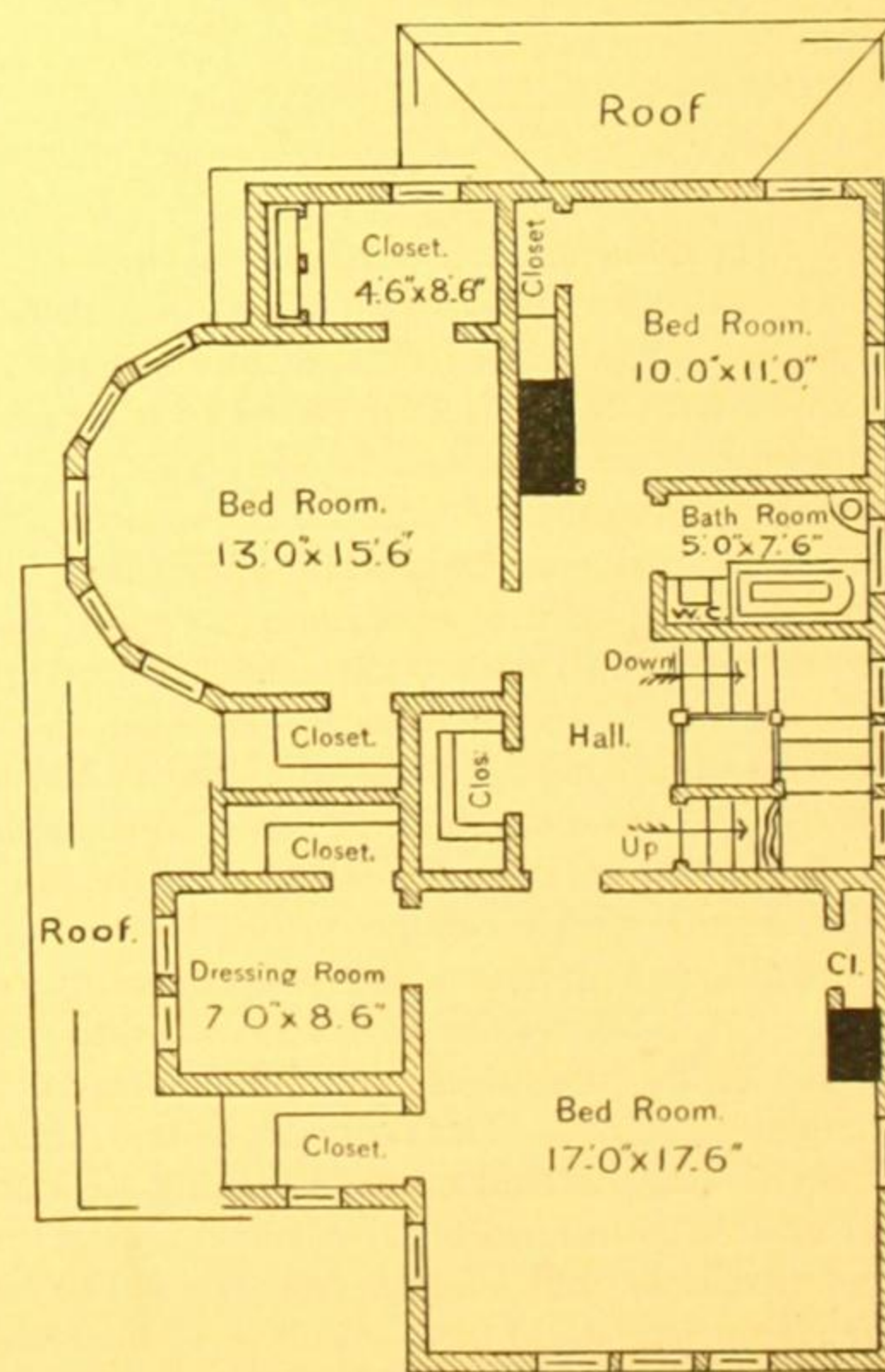
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PERSPECTIVE VIEW



FIRST FLOOR.



SECOND FLOOR.

The above design belongs to the "\$3500 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

The Habitations of Man in all Ages.

BY VIOLET-LE-DUC.

Translated by BENJ. BUCKNALL, Architect.

CHAPTER XXV.

THE SARACENS.

IN 827 Sicily fell a prey to Moslem invasion, and the Empire of Constantinople thus lost one of the finest jewels in its crown. The Saracens, as the invaders were then called, far from ravaging the country and pillaging the towns, introduced into the island an advanced civilization, and succeeded in establishing various branches of industry which enriched the country; especially the fabrication of those beautiful silken tissues, interwoven with gold and silver, which were then in demand throughout the West. They divided the island into three valley districts, administered by Cadis, under the government of a supreme chief, who resided either at Messina or Palermo.

Greek and Roman art in Sicily had fallen, under the last emperors of the East, into the lowest stages of decadence. The Saracens resuscitated these arts, though giving them a new direction, and without in any way imitating the remains of ancient buildings still extant. They brought with them methods of construction then in use in Egypt and on the coasts of Africa, of which they had been masters for three centuries.

Palermo, Messina and Catania were beginning to recover from the degradation into which the government of the Eastern emperors had allowed them to fall. The ancient walls were repaired, roads were opened, aqueducts were bringing the water from the mountains into these cities, and sumptuous palaces and mosques were replacing the ruins caused by the devastations of the Vandals, by time, and by the carelessness of the inhabitants who were distracted by dissensions. Nevertheless, the population of the country districts, and even of the cities, preserved their customs and religion without interference from the Aglabites, or the Fatimites who succeeded them.

Contrary to the habit of the Christians of this period, the Mussulman power did not persecute the conquered peoples on account of their religion, but contented itself with exacting from them an absolute submission to authority, and a tax. They were allowed to preserve their form of worship, on condition of not making a display of it outside their temples.

Saracenic buildings and Christian churches and dwellings, were, therefore, to be seen side by side in the cities. Two peoples might be seen in juxtaposition, as it were, living each in its own fashion, devoted to manufactures and commerce, under an arbitrary but wise and prudent authority, and not supposing that there was any advantage in obliging people to believe in this or that dogma, provided they fulfilled their duties as citizens and lived peaceable lives.

Epergos and Doxius visited this island about 1050. It was at the height of its prosperity, and was exciting the cupidity of the terrible Normans who were already installed in Italy, where they had been warring, sometimes as mercenaries, sometimes on their own account, since the year 1035.

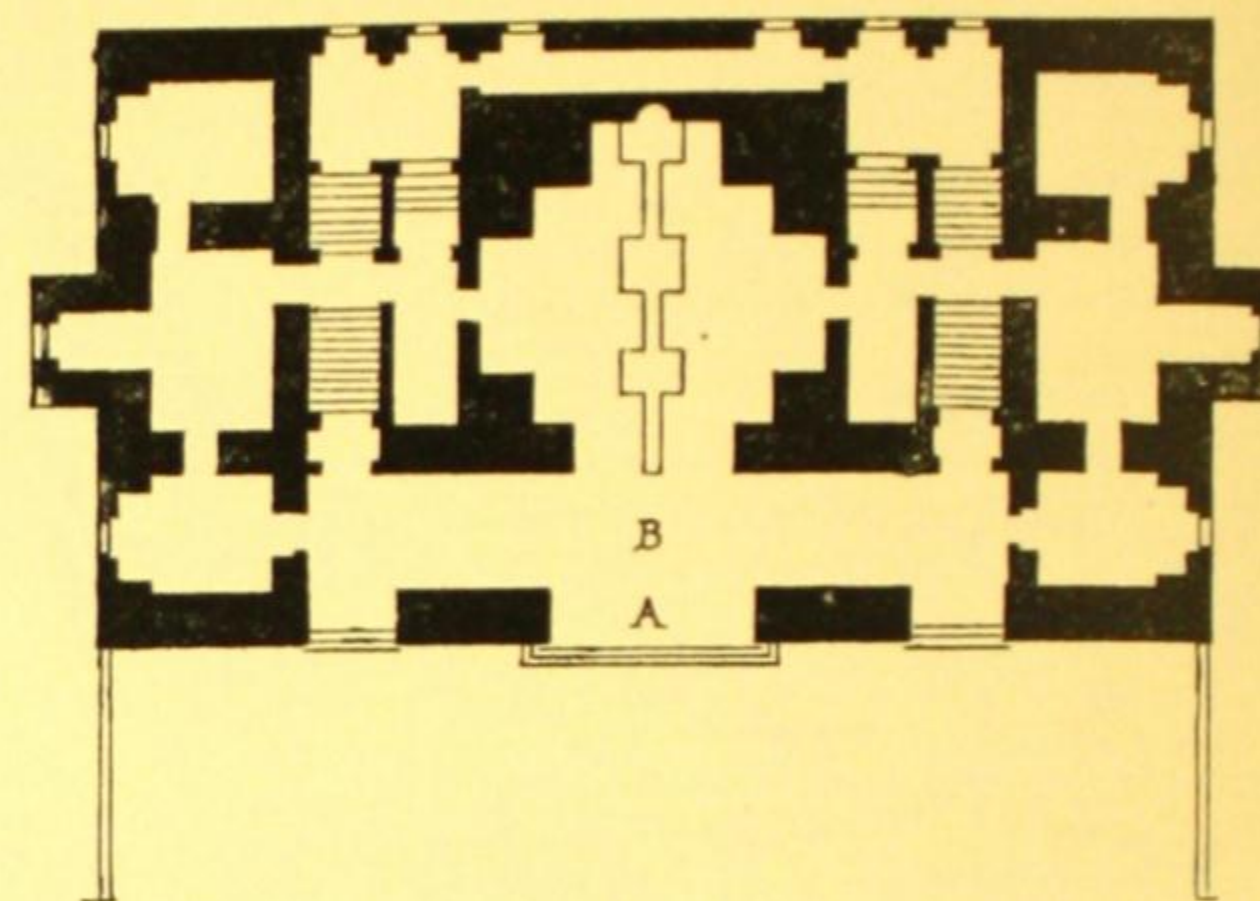
Since the time of their conversation with Eligius, our travelers had had many adventures, and—to mention only the principal—Epergos had been entrusted with important missions in the East and in Spain by Charlemagne, who set high value on his extensive knowledge. He had been commissioned to bring to the emperor's court certain Greek and Arab manuscripts, and to translate them with a view to promoting in the monasteries the study of the sciences cultivated among the Orientals, and teaching geometry, the art of making conduits for water, improving the land, cultivating fruit trees, building and painting, in conventual establishments. Thus during nearly the whole of Charlemagne's reign Epergos had been fully occupied, and had had but little intercourse with his friend Doxius—the latter having retired into a convent, and disapproving the novelties introduced by the emperor.

"It so happened that Christianity," Doxius would say to him when they chanced to be together, "was introduced into the world at the moment when the Roman Empire, tottering to its fall, was yielding to the onslaught of the barbarians. It is this that proves the divinity of its origin. God thus clearly showed that He reprobates, as a deviation from the course traced out for humanity by Him, those civilizations which have been so greatly admired by thee, but which all end in the most abject corruption. Has not His Son said, 'Blessed are the poor in spirit!' The field was clear: primitive man, like a mighty river overflowing its banks, was beginning to inundate the lands in which tares had been sown broadcast. 'Behold my law, simple and comprehensible by all intellects,' said Christ; and His Father soon proceeded to diffuse over the ancient world those primitive natures which alone could accept and follow it. Is it not opposing the decrees of Providence and running counter to its manifest intentions, thus to endeavor to knit again the broken threads of the pretended science of the ancients, preserved among

nations who are evidently instigated by the spirit of evil? The emperor goes to fight against the infidels, yet he asks from them those elements of pride and of knowledge by which men have been ruined. And thou, who knowest whither this vain science leads them, art not content with obeying the orders of the prince, but must encourage him to give them; it is ill done. The unrest of Satan possesses thee!"

"Come, come! my good Doxius, don't be angry. If I have devoted my services to Satan—who, however, has not done me the honor to acquaint me with his intentions—thou art well aware that this is nothing new; what wouldst thou have? Thy vocation is to stop the terrestrial machine, mine is to aid it in its course; what is the use of disputing? *Au revoir*: I am off to Bagdad!"

At a later date, Epergos had been present at the invasion of the Frank territory by the Normans; he had had another glimpse of those rude, cunning, rapacious, grasping, unbelieving men; he had recognized his former acquaintance the Scandinavians, who were endowed with a powerful and



PLAN OF SARACEN PALACE.—FIG. 93.

persistent energy; and would reply to Doxius, who was then lamenting over the burning of the convents and the pillage of the towns: "But, friend Doxius, of what dost thou complain? Is not this the latest surge of that flood of barbarians raised by Providence, and which is invading the soil cultivated anew by us? Your convents were too rich. We had taken too much advantage of the knowledge which the renowned Charlemagne wished to diffuse through the West. Thou wert blaming him then—that famous emperor—for sending me to the East to search for the remains of the ancient civilizations and of the school of Alexandria. Probably thou wert in the right; since we behold primitive men coming to destroy our work—with the permission of God, doubtless. Observe some occasional shortcomings in thy understanding, respected comrade. Now thou sayest that these Normans are the emissaries of hell, because they are driving thee from thy convent and destroying what we had been able to accomplish—in thy opinion, at the instigation of Satan!"

Whenever the discussion took a turn of this kind, Doxius always began a volley of vituperation, and Epergos left the field whistling on his thumb-nail.

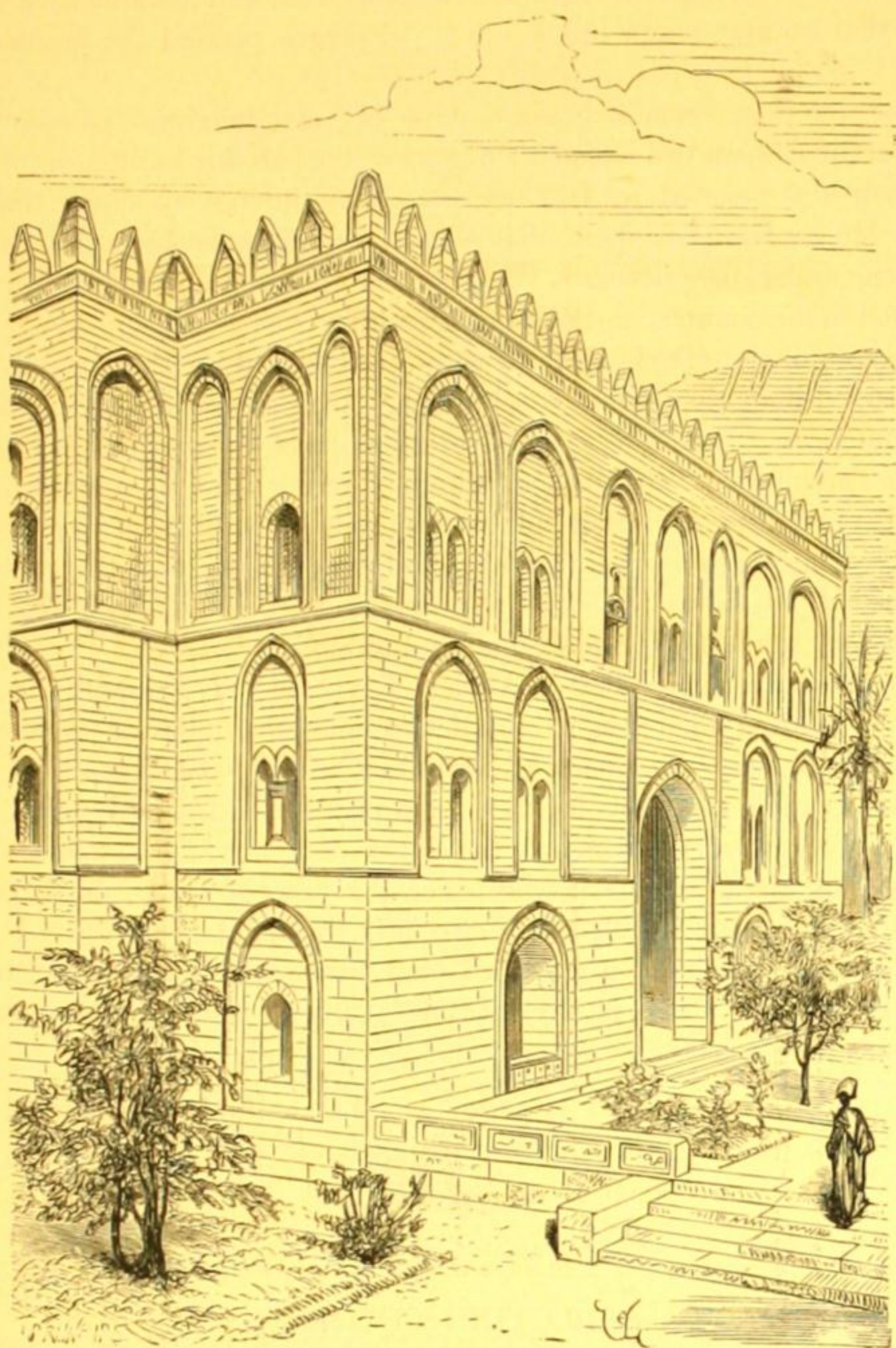
When fairly established on Frankish soil, the Normans had shown themselves in an altogether different character.

As soon as the land became their own, they took good care not to leave it fallow; in fact, they had it cultivated, gave themselves to the breeding of cattle and horses, built good fortresses to protect the country, entered upon commercial relations with their neighbors, amassed wealth for which they found a useful employment, and having been converted to Christianity, constituted themselves the zealous defenders of the Church as far as it did not interfere with their interests. The province they occupied soon became one of the richest and best governed in France; but, as the population continued to increase, they were obliged to seek their fortune elsewhere. Normandy was not extensive enough to feed so many, especially as they had good appetites. Having lost none of their energy, and finding themselves straitened in the quarters they had secured for themselves in Gaul, they endeavored to pass their limits, and so came in contact with populations equally pressed—a game at which as much might be lost as gained. As a prudent and practical race, and knowing how to calculate chances, they therefore remained comparatively at peace on their frontiers, and sent those who could not find support on the soil to carry on war at a distance. Thus bodies of partisan warriors betook themselves to Italy, hired out their swords to the various competitors for its possession, and at last began to fight on their own account, and settled in Apulia.

It need not be said that Doxius had felt conciliated towards them as soon as, instead of plundering the convents of others, they set themselves to build convents for monks of their own.

Our travelers had seen the Normans in Italy, and knew how they comported themselves; there as elsewhere employing stratagem or force, as occasion suggested, to accomplish their ends; terrible destroyers of the property of others when they had no hope of making use of it, but excellent guardians of that property when they had the prospect of turning it to advantage. They knew that it was the wish of the Normans to seize on Sicily some time or other, for this fertile country promised to satisfy their enormous appetite.

Epergos, who had not ceased to keep up his intercourse with the Saracens, had letters of introduction to one of the wealthiest inhabitants of



VIEW OF SARACEN PALACE.—FIG. 94.

Palermo named Moafa. He was a man of probity, greatly esteemed, and already advanced in years. He lived in a palace not far from the walls of the city, in a charming vicinity.

This residence consisted of a large pile of building, several stories high, substantially built of dressed stone, and completely surrounded by gardens. According to custom, certain slightly built erections, at some distance from the palace, furnished dwellings for the servants, kitchens, baths, stables, and porticoes to receive strangers, with small chambers adjoining.

Figure 93 presents the ground-floor of the plan of this palace. A wide opening (A) gives entrance to a long vestibule (B), at the extremities of which are two apartments, one for the attendant who waits on persons coming in or going out, the other which serves as an ante-chamber to the apartments in which the proprietor receives strangers. Opposite are two rooms for the domestics. In the centre is a large hall, opening to the court, vaulted, with four recesses. In that occupying the centre is a marble fountain, from which issues a sheet of water which pours into a central channel broken by small square basins.

In the two lateral recesses are divans, and two doors communicating with the apartments at the side. There is a passage at the back for the servants, uniting these two parts of the palace. Two fine flights of stairs lead to the first story, which occupies only the two extremities of the building, for the vault of the central hall rises as high as the floor of the second story. The first story is occupied by the women. The second story exhibits the same arrangement as the ground floor, except that the great central hall opens at its two ends, looking out on the country. It is there that the master lives. Above are also some small rooms for the servants, and a terrace from which there is a splendid view.

From this lofty point, the city with its crenelated buildings, and the minarets of its mosques covered with mosaics set in gold, stands out against the azure of the sea. On the left rises the abrupt mountain which forms a promontory, and where rocks of saffron-tinted white seem to emerge from a garden of olive trees, palms and fig trees. On the side opposite to the sea the upper part of the valley presents itself, covered with the rich verdure of orange and

lemon trees, and terminated by a crown of broken peaks. At various distances lofty piles of masonry indicate the course of springs, the water from which is conveyed to all the habitations, and raised even to the top of the buildings by these siphons of masonry, constructed at proper intervals to keep the water at an elevated level.

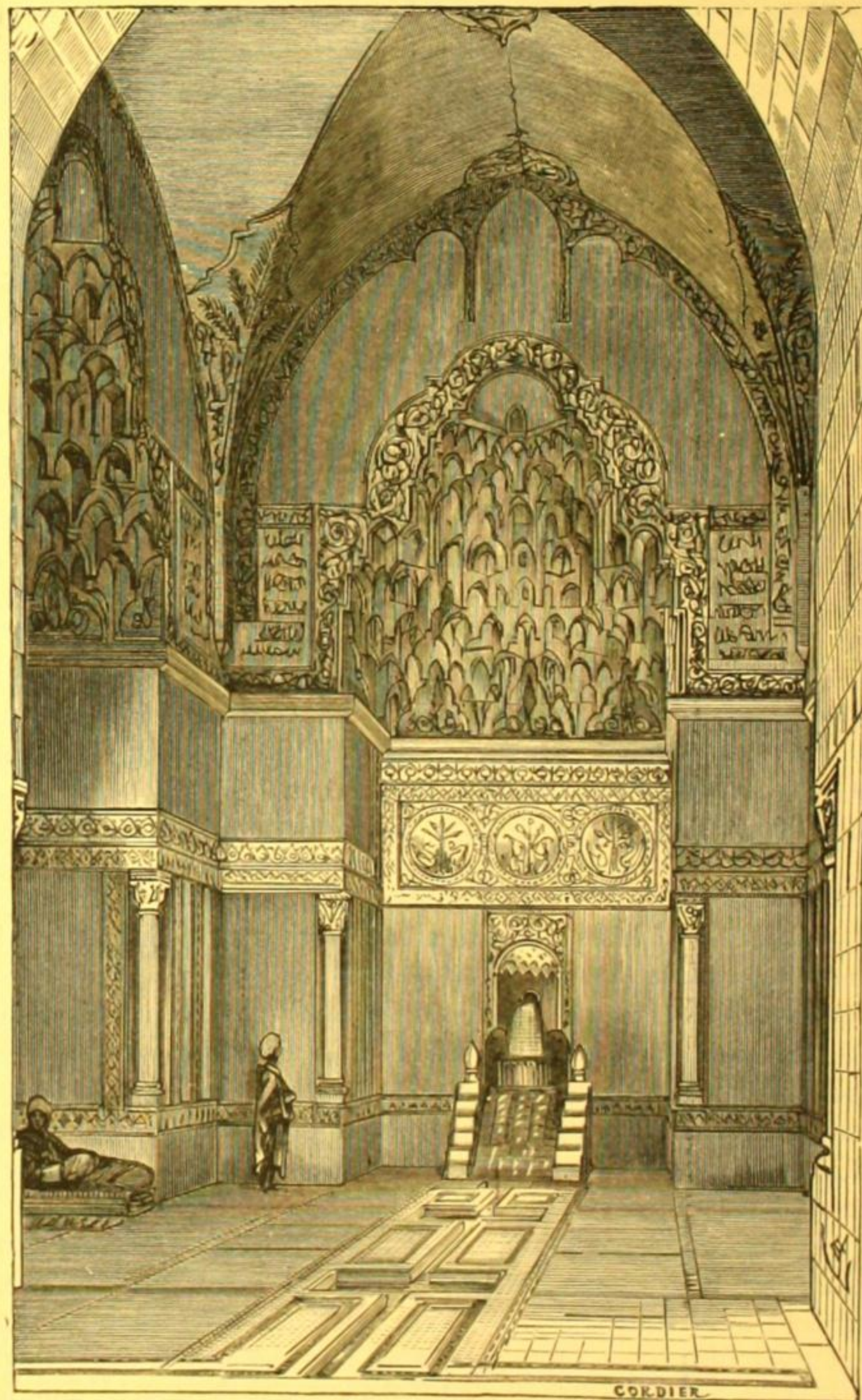
The gardens that surround the palace—of which figure 94 presents the exterior view on the entrance side—are planted with artistic taste, and intersected by a number of small marble conduits in which clear, fresh water is flowing.

The imposing mass of the palace, gilded by the sun and seen through the verdure, has a striking effect. Simple in construction, with no carvings, but with its parts skilfully arranged, it is decorated only in its upper part by a wide string-course, serving as a balustrade, occupied outside by a beautiful inscription in relief, and by battlements, whose denticulation, shining in the sun, sets off the azure glory in the sky.

Introduced into the gardens by order of the proprietor, and waiting at the palace gate, Epergos and Doxius were unwearied in their admiration of the order and smiling tranquility of this residence, which contrasted so strongly with what they had just seen in the West. Doxius especially did not fail to extol the grave serenity of a scene so favorable to meditation, and which seemed to be a reflex of a perfectly well-ordered existence.

According to his wont, he did not omit, in dwelling upon this impression, to criticise severely the turbulent manners of those western nations whom he had just quitted, and among whom it was not possible, even for cloistered monks, to live in tranquility.

"Well," said Epergos to him, when he had ended his comparison between these opposite social conditions—"become a Mussulman!" Doxius was silent, but looked askance at his companion. A black slave soon appeared at the threshold of the portal and made a sign to the companions to enter.



INTERIOR OF SARACEN PALACE.—FIG. 95.

They left their shoes in the vestibule, and putting on the Oriental slippers that were presented to them, were introduced into the great central hall (fig. 95).

Above the fountain, on a gold ground, a delicate mosaic decorates the large niche.

This, like the two others, is terminated by corbellings of small arcades, which resemble the stalactites of certain grottos, or the cells of the pomegranate. Gold, azure, green, white, and black are distributed with the most harmonious effect in these myriads of cells. Painted arabesques form

the borders of the vault, surround the tops of the niches, and blend with conspicuous inscriptions above the higher string-course.

The lower string-course is ornamented with fillets of mosaics which surround fine columns of white marble placed at the angles, and return on the plinth. The pavement is made of squares of marble alternating with mosaics. The water circulating in the conduit and the basins keeps up a delightful coolness in this tranquil abode, which is lighted only by the great opening that forms the entrance.

Moafa is seated, Oriental fashion, on the divan in one of the great lateral recesses, the front of which is spread with a magnificent carpet. Without rising he makes a sign to the travelers to take their places on the divan opposite to him; then taking the letters, he reads them in silence and deliberately while a slave brings refreshments.

The slave having noiselessly disappeared through the door at the back of the recess, Moafa, after a silence of some duration, said:

"Which of you is named Epergos?"

"I," said the latter.

"And who is the other?" asked Moafa.

"Doxius, my companion."

"Are you Christians?"

"Yes."

"From the West?"

"Yes."

"What brings you to Palermo?"

"The fame of its industrial energy, the beauty of the country, and the wisdom of its rulers." Then, after another interval of silence, Moafa resumed:

"Christians do not travel to seek wisdom where it really exists, still less to imbue their imagination with the beauty of a country; but to enrich themselves or to discover the vulnerable side of a nation, so that they may subjugate it by force or cunning."

"Possibly," continued Epergos; "but we for our part are traveling for information, and have no armies at our back." Then he related to his host some of the long journeys undertaken by Doxius and himself. The details of his adventures seemed to interest Moafa, who was listening attentively. When Epergos had finished, Moafa said:

"Very good; but thou art not a Christian?"

"It matters very little to thee whether I am or am not a Christian. We are eager to learn, and we love mankind; of which we have given proof by continually traversing the world in order to become acquainted with men, and to seek for what is good among them, that we may instruct the ignorant, or induce people to love what is good; why shouldst thou seek to know more?"

"It is impolite to ask such a question of one's host, and my words should not give thee offence. But know that Sicily is infested by spies from Italy, which is in the power of the men of the North. We are obliged to be suspicious. Hast thou seen these men of the North?"

"Yes; I have lived among them."

"Dost thou know anything of their projects?"

"I know that they are impelled by a boundless ambition and insatiable greed; that if they subdue Italy, they will wish to seize Sicily, then Africa, then the Greek Empire, Syria, and the whole world."

Silence intervening again, Moafa said, "If it is written! Great is Allah!"

"Wilt thou allow me, Moafa, to express my thought?"

"Say on. Imprudent words injure only him who utters them; it is for thee to know whether to speak or to be silent."

"Well then; these men of the North do not believe that their destiny is written by the hand of Allah. Reckless and barbarous they always go straight on. Far from submitting to an overpowering destiny, they take upon them to force that destiny, by their presumptuous audacity, to submit to their desires. They go even so far as to believe that they can bring God himself to aid their projects, by dint of prayers and persistence."

"If they are conquered, if their designs are frustrated, they say that it is because they have been wanting in skill or courage; but they begin again, and never yield to Destiny. . . . The true believers, led by Mahomet, Omar, and their illustrious successors, were impressed with the belief that they were to conquer the ancient world, that 'it was written;' and full of this faith in the words of the master, they spread themselves over Asia, Africa, and a part of Europe. They had an invincible weapon for war and conquest in the sacred word and the destiny traced out for them."

"But is it the same when—the limits of power having been reached—the only question is how to keep what has been acquired, if a check should occur—an arrest in the development of that power? What Islam has acquired is menaced, is it not fatal to believe that Destiny has thus determined it, and that no human power can prevail against its decrees written beforehand in the Eternal Book? You have no doubt that the insatiable ambition of the men of the North is urging them towards your shores. What are you doing to prevent this invasion? Are you arming your cities?"

Are you constructing formidable engines to repel them? Are you stationing guards on your coasts? No; you are waiting till the hour of attack appointed by Allah has struck; then you will defend yourselves bravely, and will perish—if it must be so—beneath the ruins of your fortresses; but with the conviction that if this defence is unsuccessful it is because 'it was written,'—it could not be otherwise. . . ."

Moafa seemed to reflect profoundly; then, after a long silence, smiling sadly, he said:

"But if it is written that Islam is to be driven back into the deserts from whence it first issued. The designs of Allah are impenetrable. We have sinned much; perhaps he may wish to punish us and take us back to our cradle, that we may renew our youth!" Epergos pressed the argument no further.

The travelers remained some days in this delightful palace, Moafa having allotted them two rooms belonging to the exterior buildings.

Their host seemed to take an increasing interest in conversing with them. He explained to them that their dwellings were erected by Sicilian workmen, under the direction of architects educated in Egypt, that stone abounded in the country, and that these workmen being accustomed to employ it, these dwellings were constructed with that material on the outside, while they reserved the Oriental mode of building—that is, rubble-work plastered—for the interiors, which were covered with paintings, mosaic, and marble.

The architect of the palace, whom Epergos had an opportunity of meeting, proved to him that all his methods of setting-out were deduced from very simple geometrical formulæ, and that the vaults of the recesses in the great hall, so complicated in appearance, were drawn with the aid of methods that were easy to understand and to apply.

Epergos remembered that in Ancient Egypt he had observed the architects thus drawing their plans, and determining the minutest architectural details with the help of geometrical formulæ; and he asked himself the question whether these traditions had not been preserved in the schools of Alexandria, to be employed, though in the service of a very different style of art, by these Mussulman architects who, since the time of Omar, might be supposed to have been educated at Cairo and on the Lower Nile. He also verified certain relations in point of plan between this residence and the palaces of Asia and Persia in ancient times; and all this furnished occasion for considerable reflection.



SELECTING COLORS.

A few axioms and rules of color should be kept in mind while selecting colors for the exterior of a house.

There are but three primary colors—namely, blue, red and yellow, which are called primary because they are not formed by the admixture of other colors.

All other colors than the primary result from admixture; mixing blue and red produces purple, mixing red and yellow produces orange, mixing yellow and blue produces green. These three colors, each produced by the admixture of two primary colors, as above described, are termed secondary colors.

By the admixture of two secondary colors a tertiary color is produced. Purple and orange produce russet, orange and green produce citrine, green and purple produce olive. Russet, citrine and olive are called the tertiary colors.

Diluting colors with white produces what are called tints; diluting with black produces shades.

Harmony of colors results from agreeable contrasts. Colors which perfectly harmonize improve one another to the utmost. *Perfect harmony in any color scheme requires that the three primary colors shall be represented*, either in their purity or in combinations. That the eye demands the presence of the three primary colors is proved by this experiment: When red alone is viewed the eye creates for itself green (which is yellow and blue combined), and this green is cast upon whatever is near. When the eye views green, red in like manner is created, and is cast upon adjacent objects. It follows that when red and green are juxtaposed each creates the other in the eye, and the red created by the green is cast upon the red and the green created by the red is cast upon the green; thus the red and the green are both intensified and improved by being juxtaposed.

Red and green combine to yield harmony, as has been shown. Blue and orange also produce harmony, and yellow and purple, for in each case the three primary colors are present. There are, however, subtleties of harmony which are difficult to understand. The rarest harmony of colors, analogous to harmony of musical sounds, frequently approaches the verge of discord.

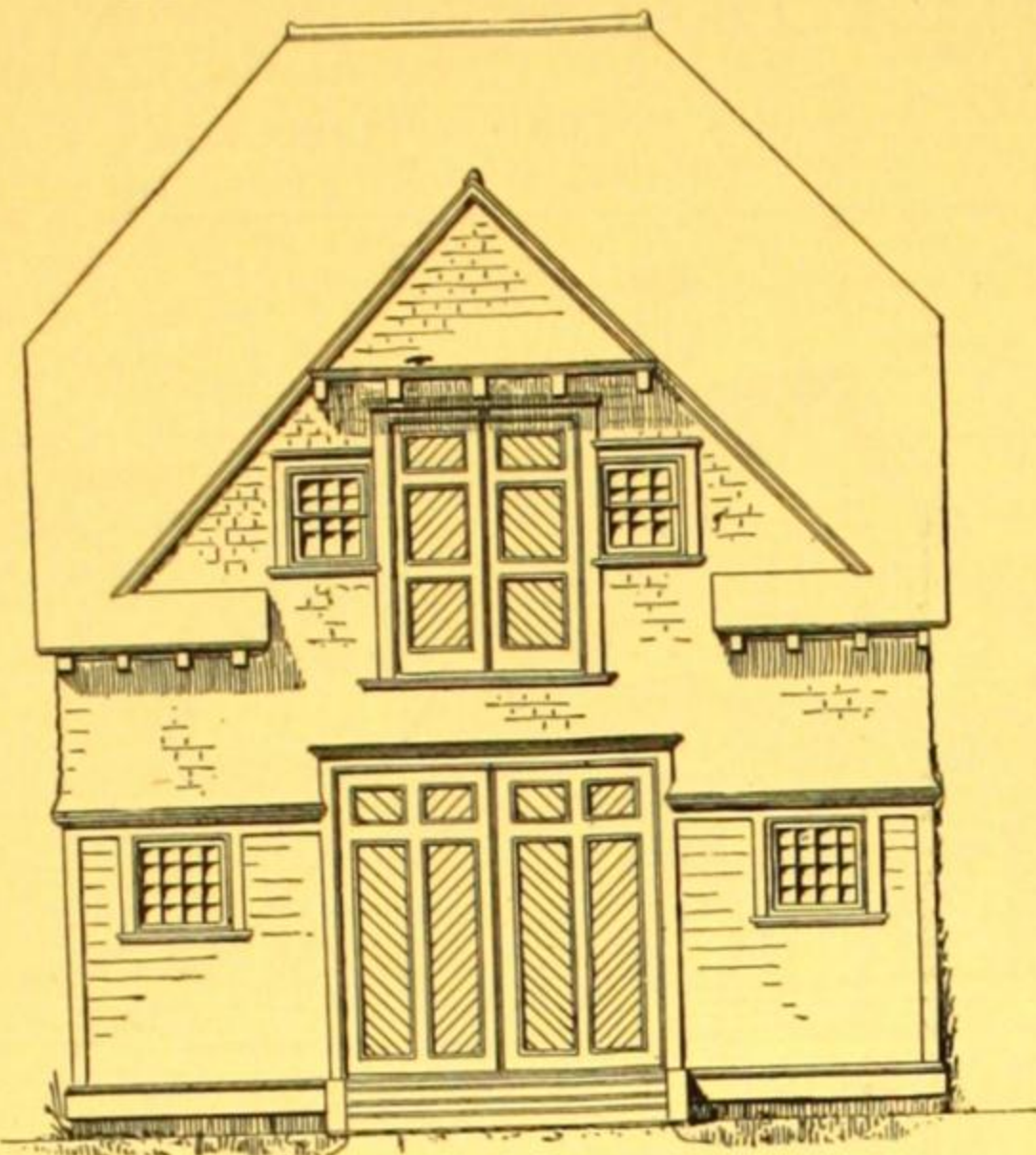
The color cards of paint manufacturers show tints and shades, and rather mystify than aid the unpracticed eye, but architects are usually able to classify the tints and shades with the colors and thus make sure of selections that harmonize.

While the exterior colors of a house should harmonize with themselves, the surrounding foliage and lawns (or the absence of them) must be taken into consideration. At a little distance the eye demands harmonious relation of colors between the house and its surroundings.

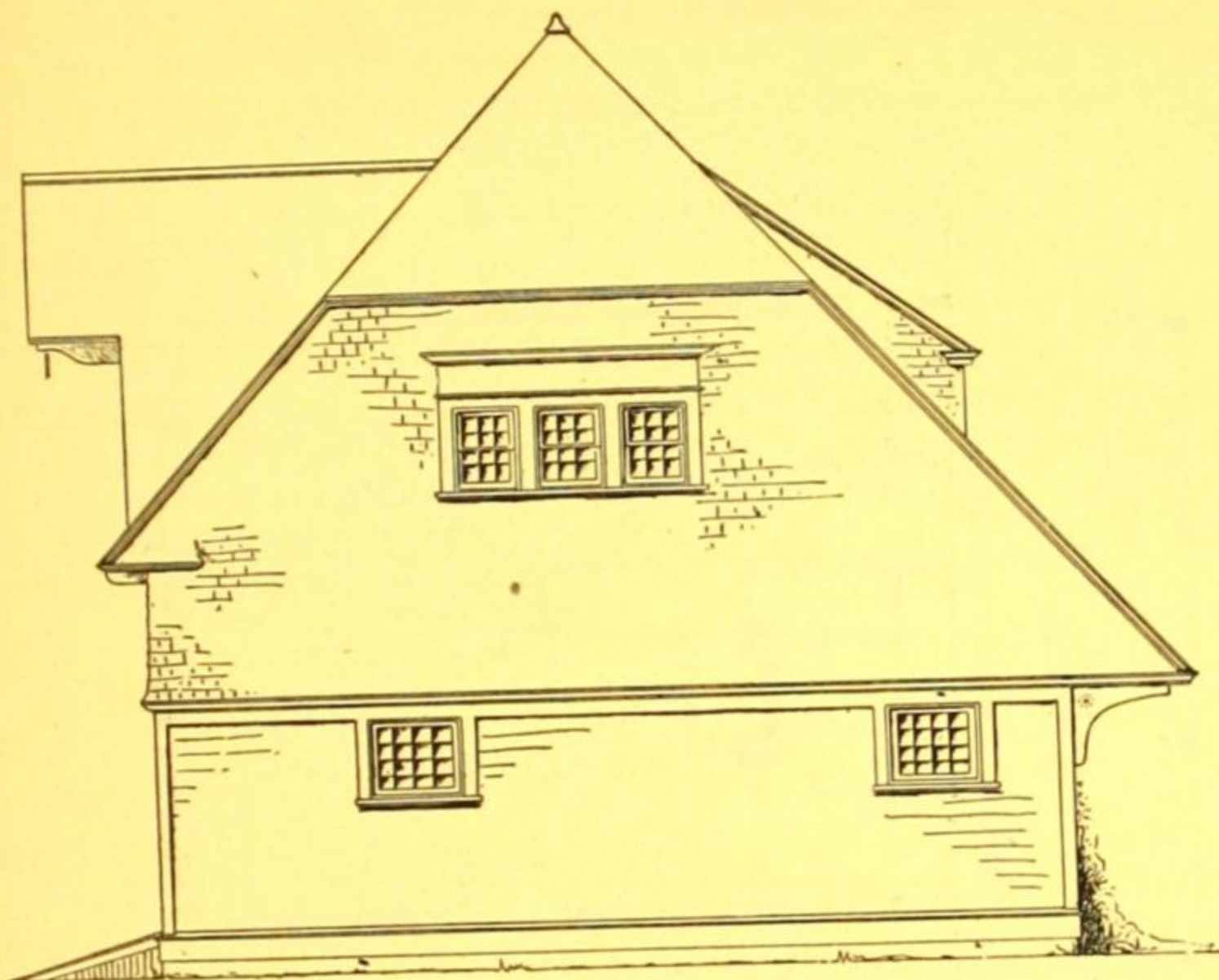
STABLE DESIGN

No. 589

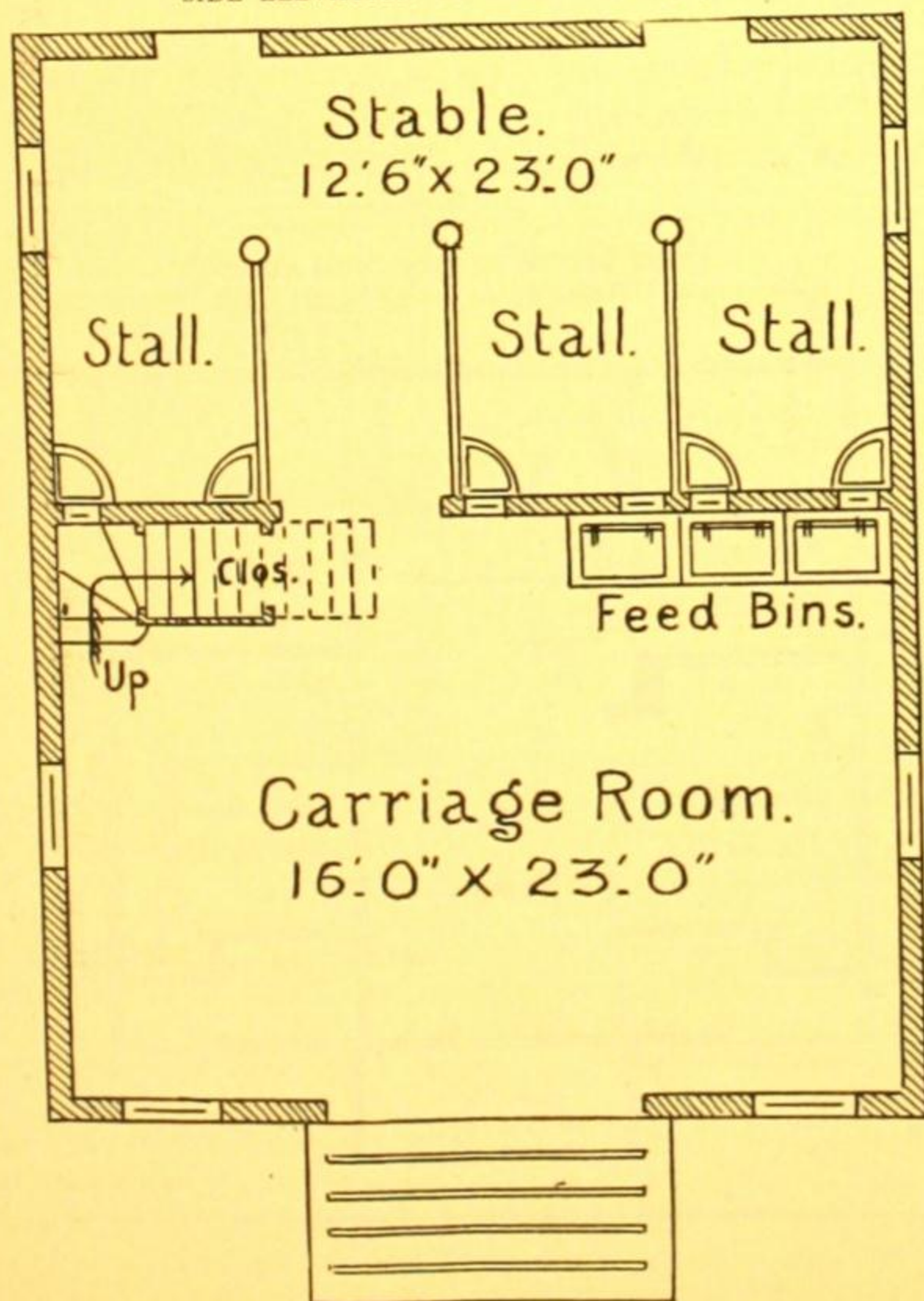
DESIGN PATENT APPLIED FOR.



FRONT ELEVATION OF DESIGN NO. 589.



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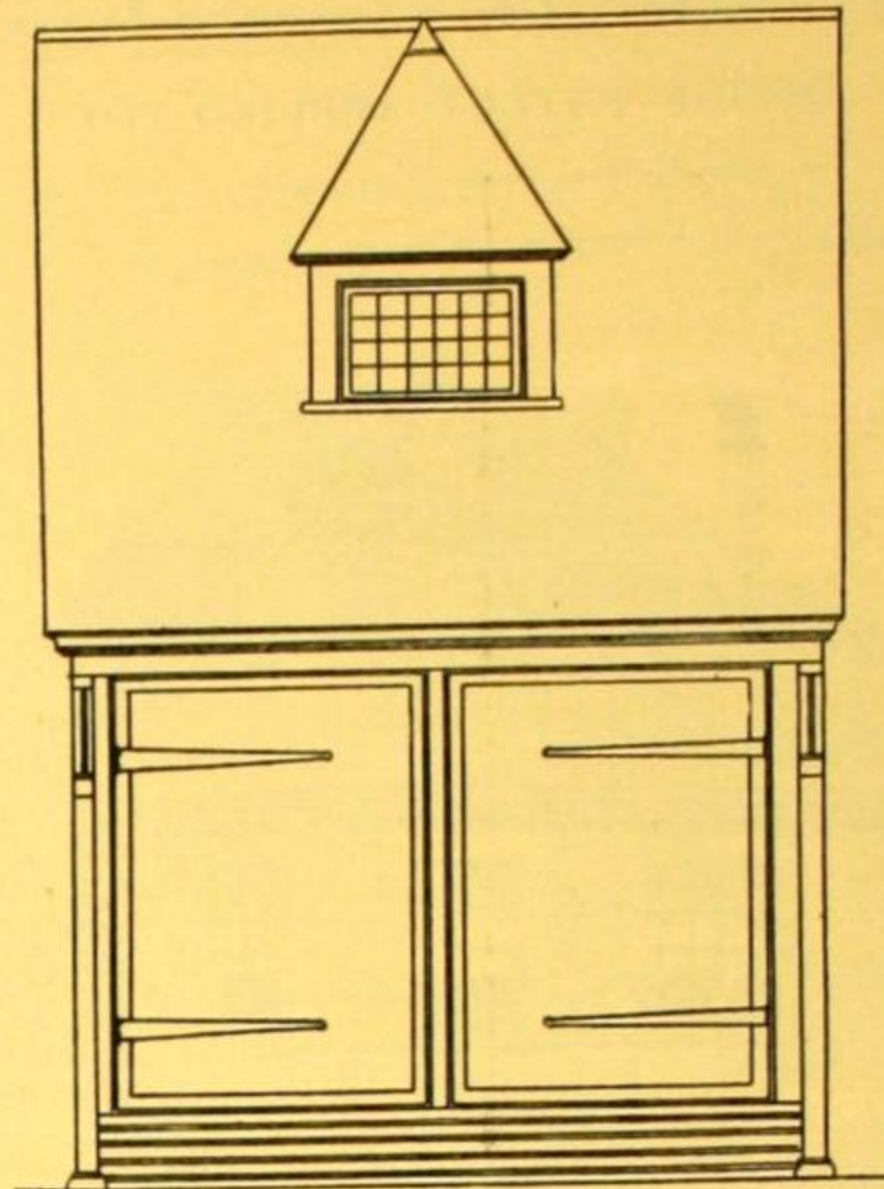


GROUND FLOOR OF DESIGN NO. 589.

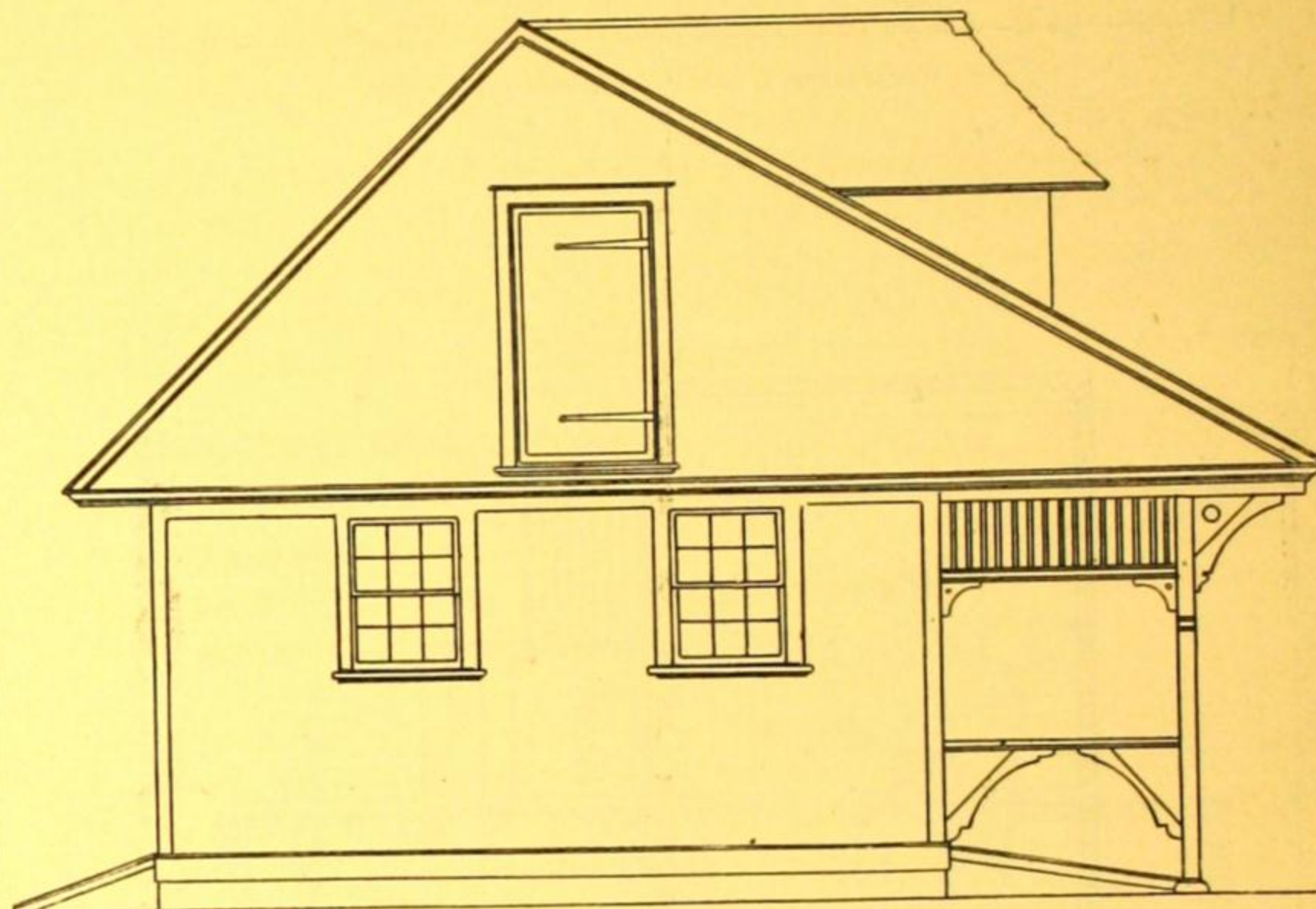
STABLE DESIGN

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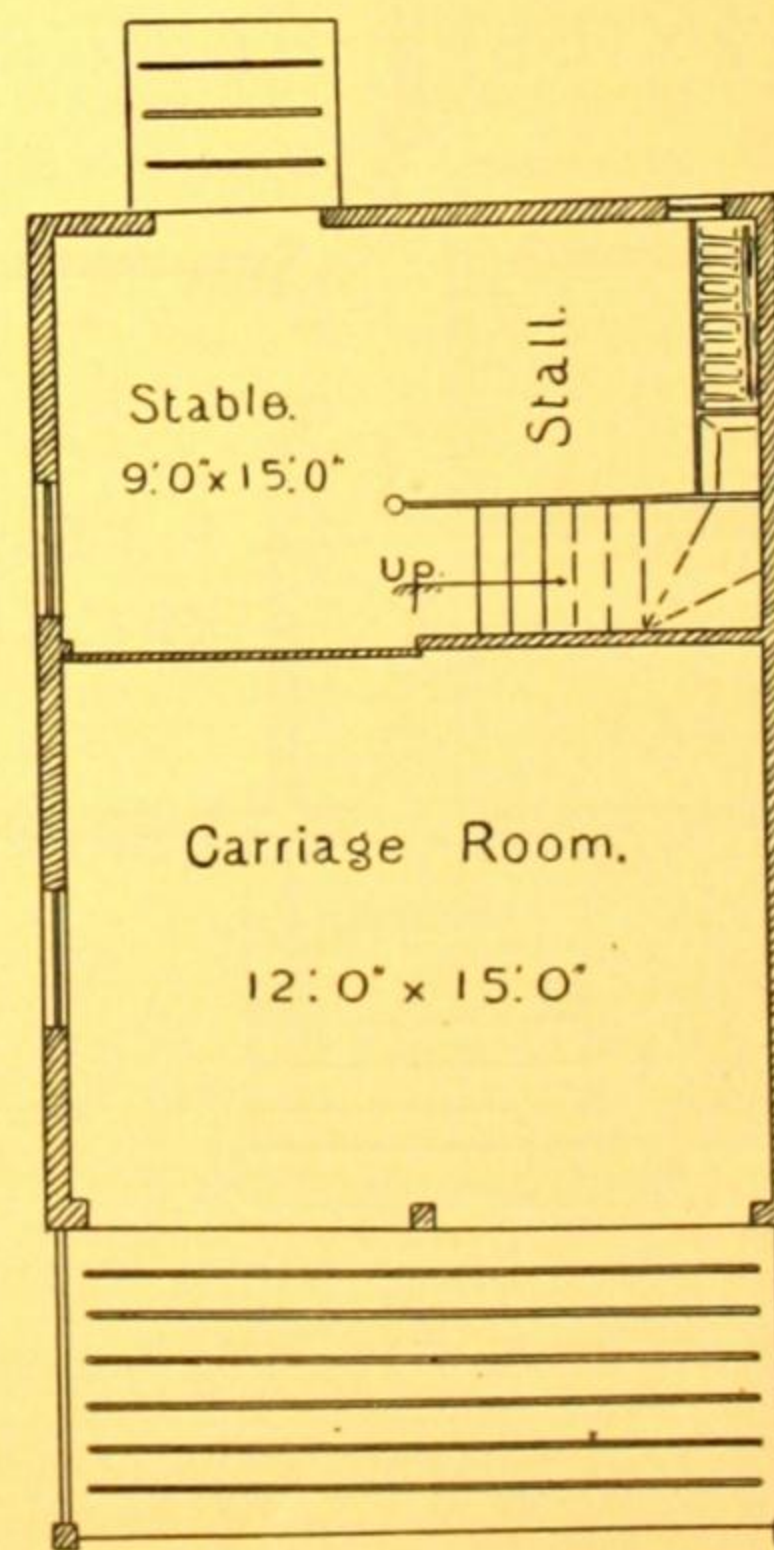
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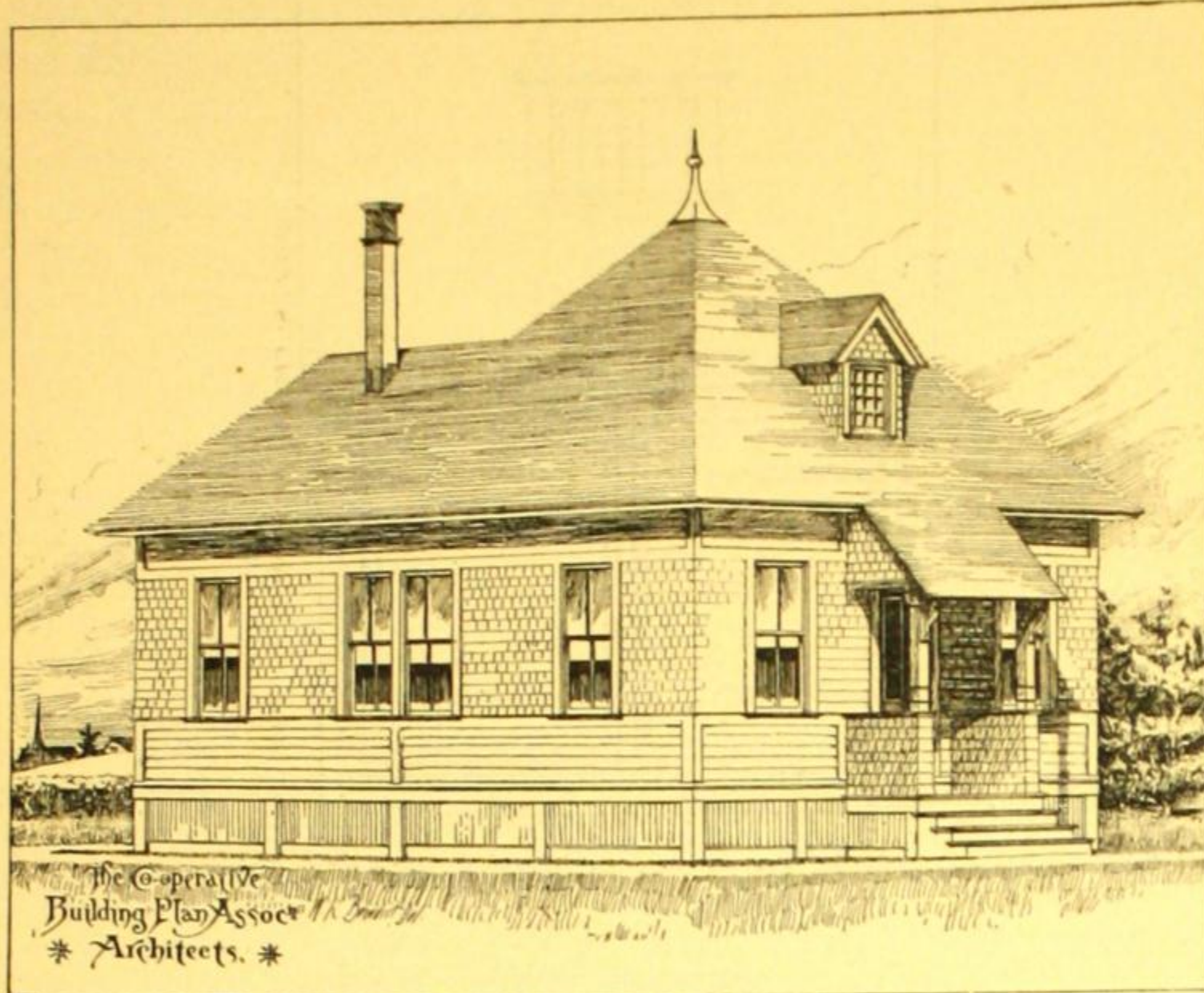
GROUND FLOOR OF DESIGN NO. 590.

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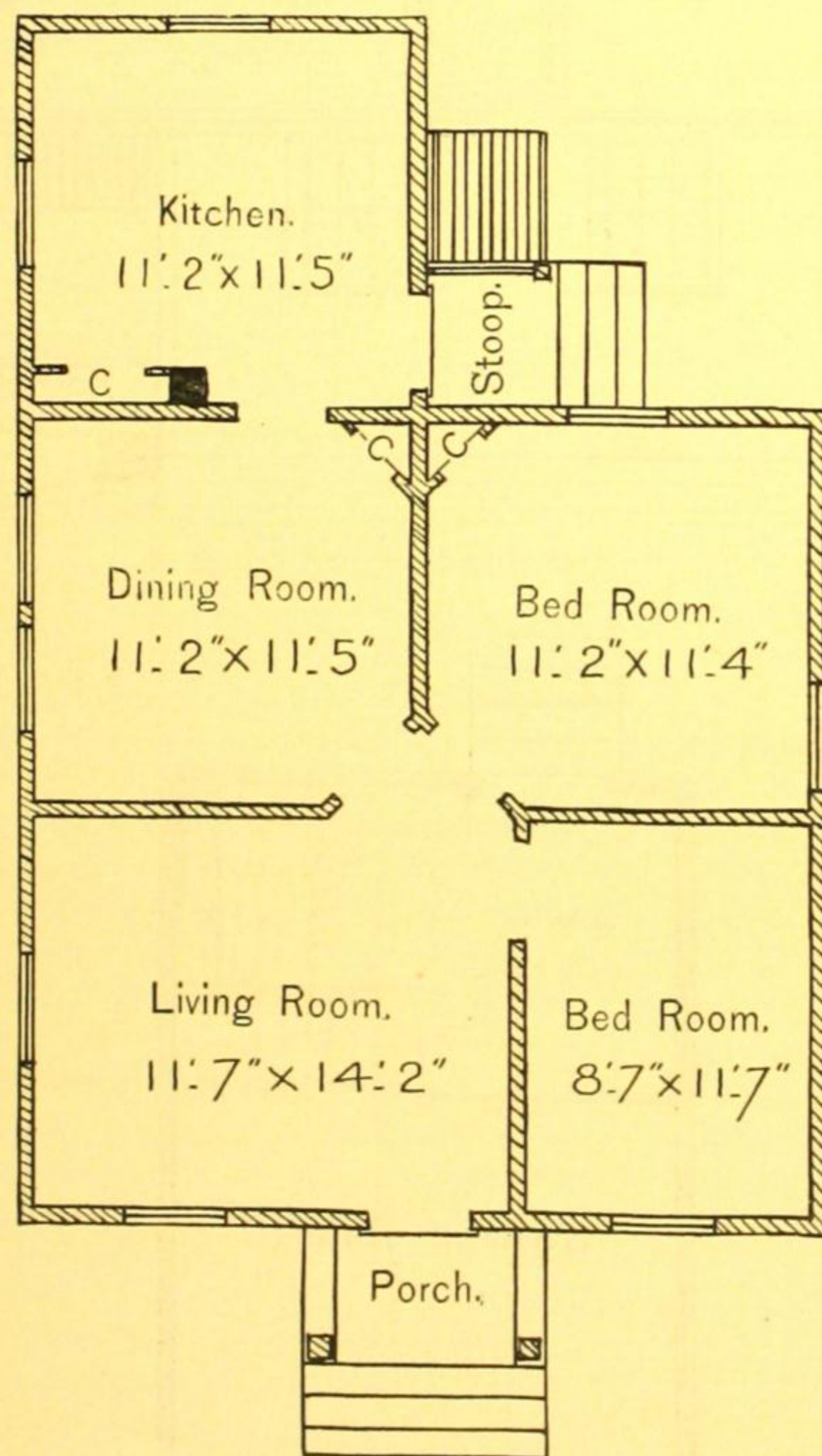
COTTAGE DESIGN

No. 591

DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW OF DESIGN NO. 591.

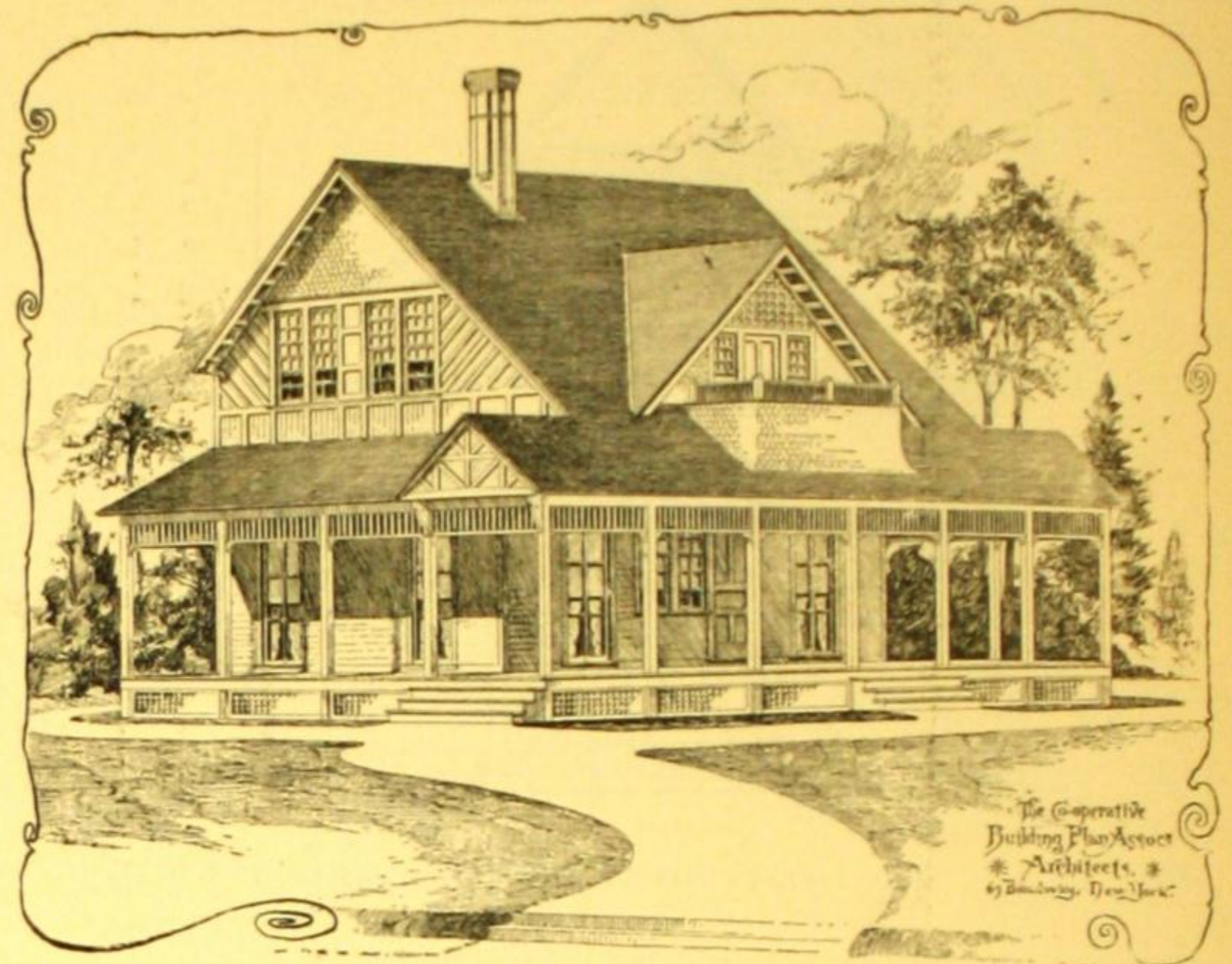


FIRST FLOOR OF DESIGN NO. 591.

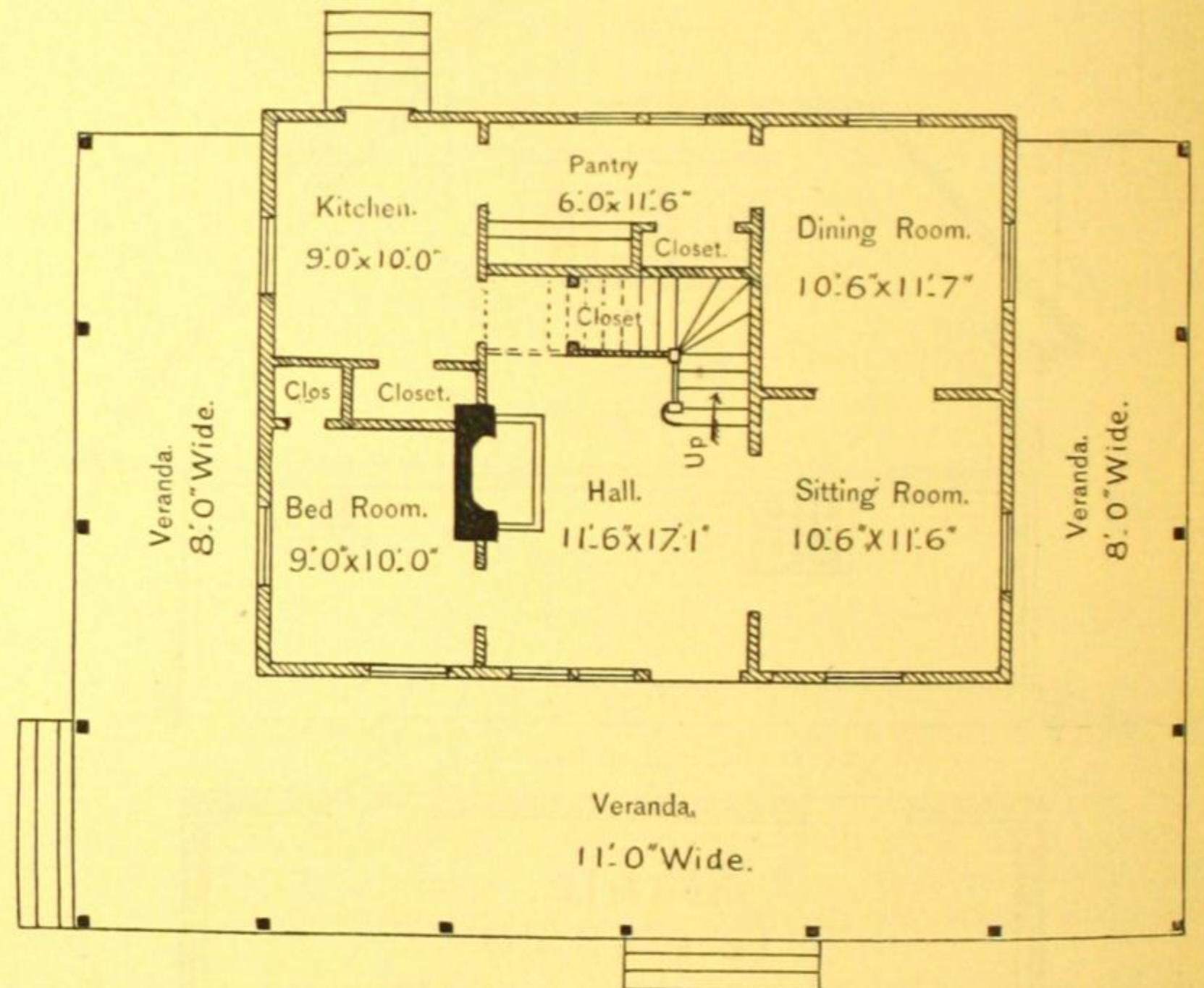
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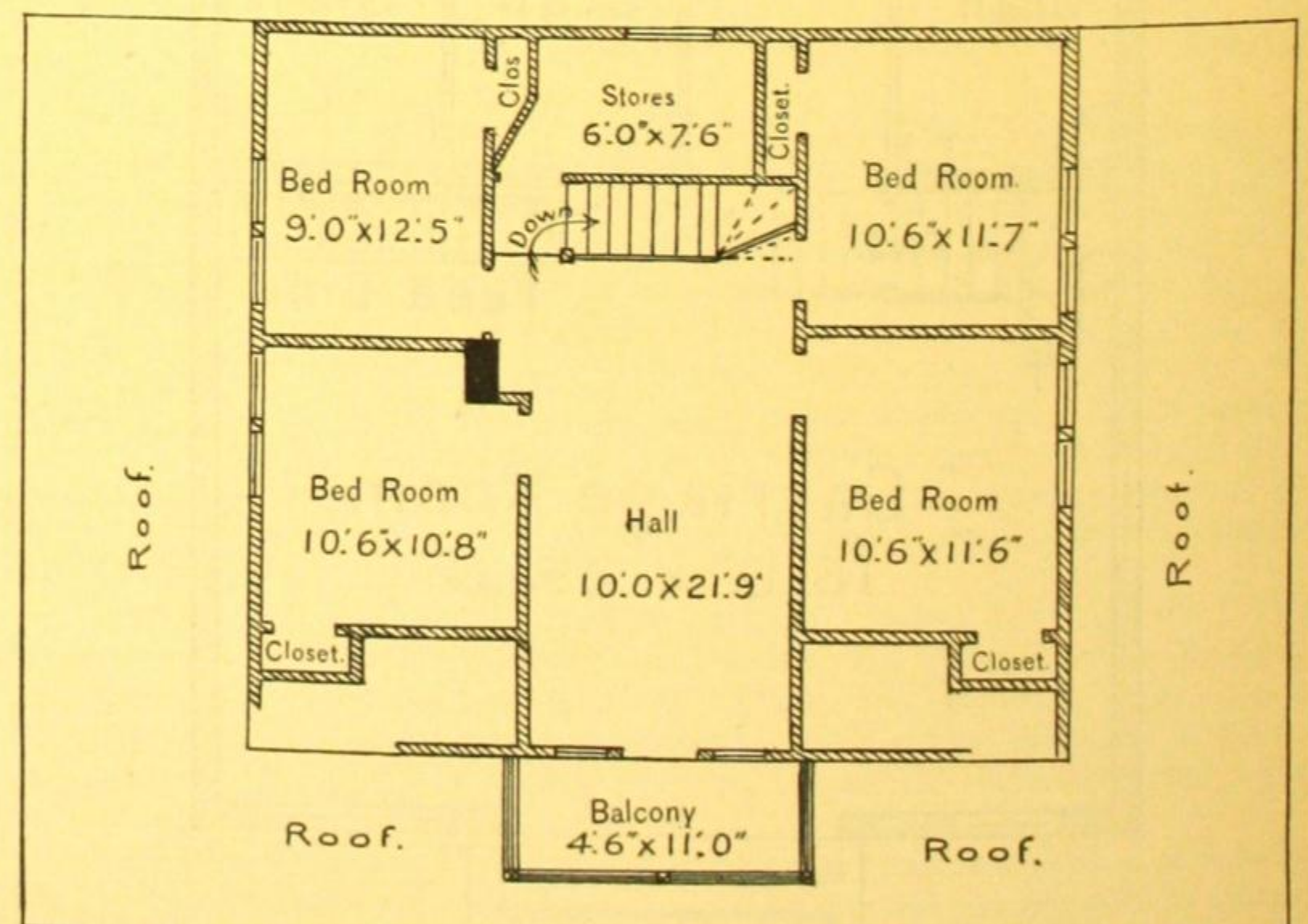
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW OF DESIGN NO. 592.



FIRST FLOOR OF DESIGN NO. 592.



SECOND FLOOR OF DESIGN NO. 592.

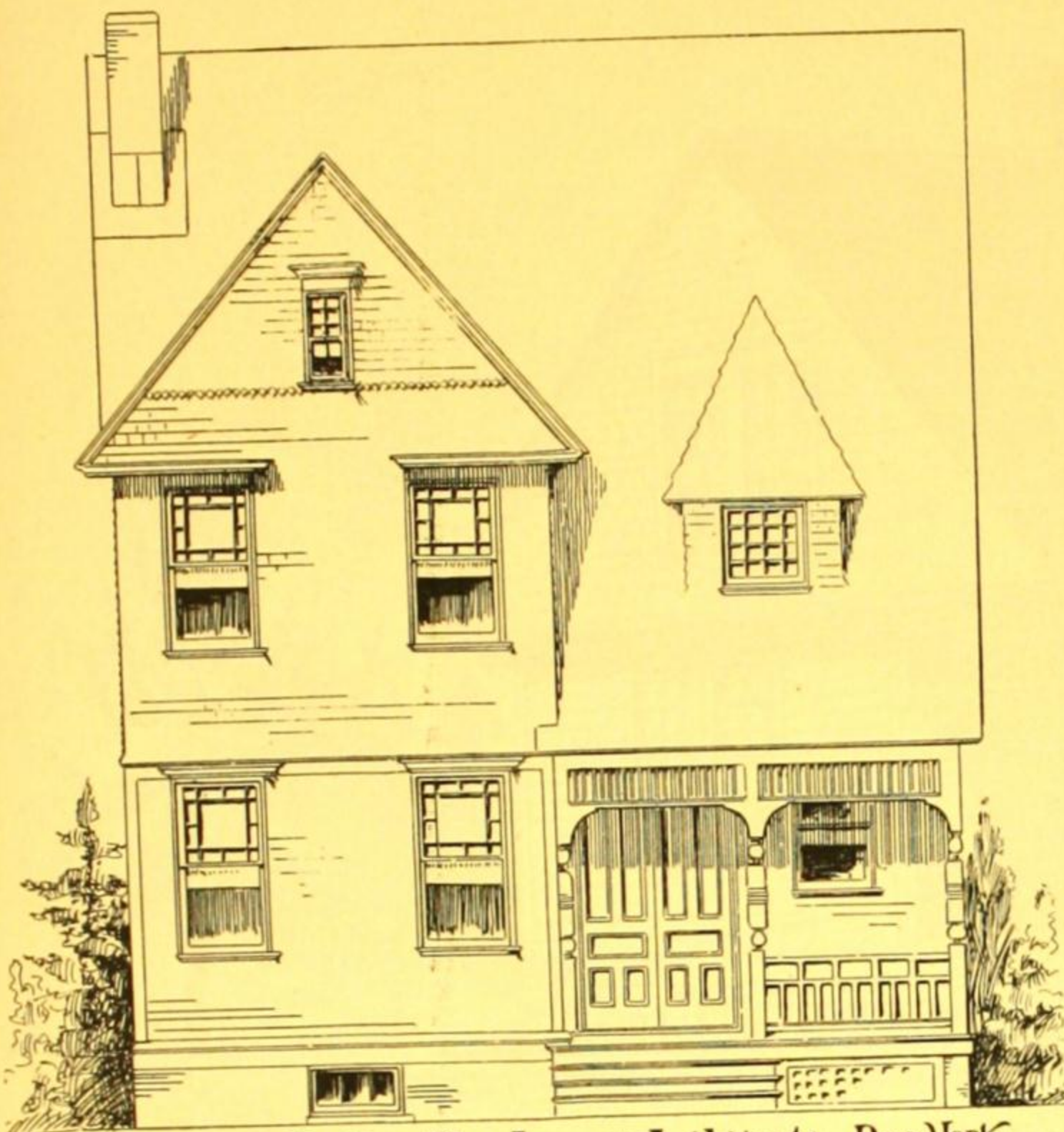
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COTTAGE DESIGN

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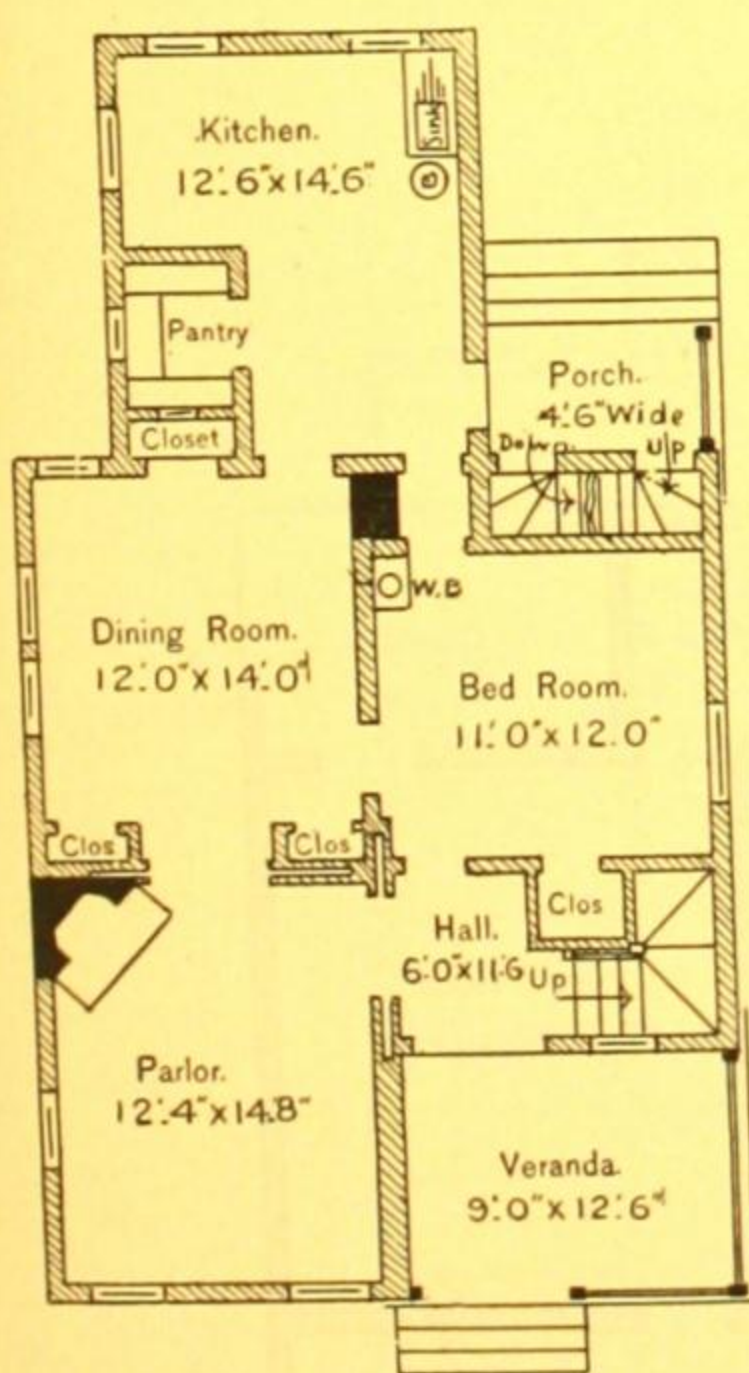
FOR TWO FAMILIES.

DESIGN PATENT APPLIED FOR.

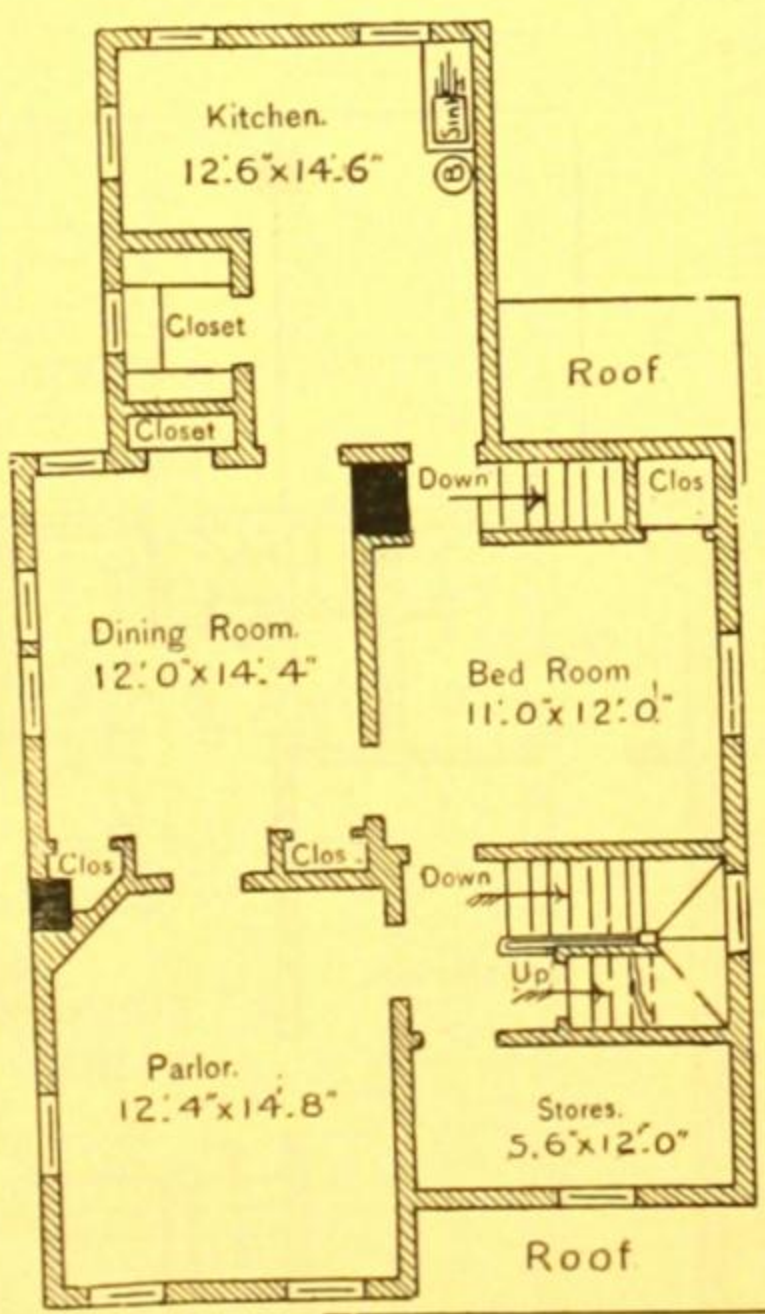


The Co-operative Building Plan Assoc. Architects, New York.

FRONT ELEVATION OF DESIGN NO. 593.



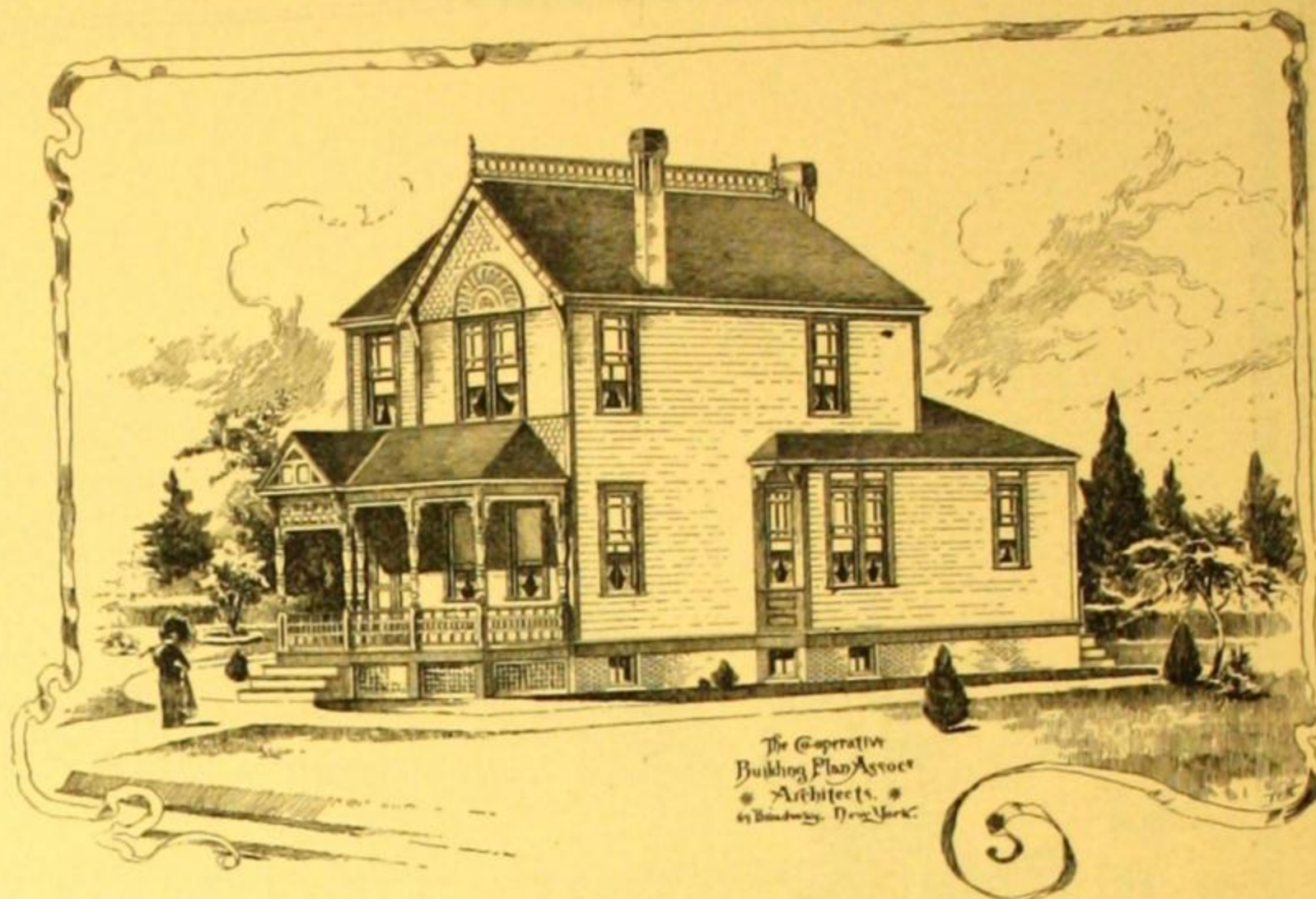
FIRST FLOOR—DESIGN NO. 593



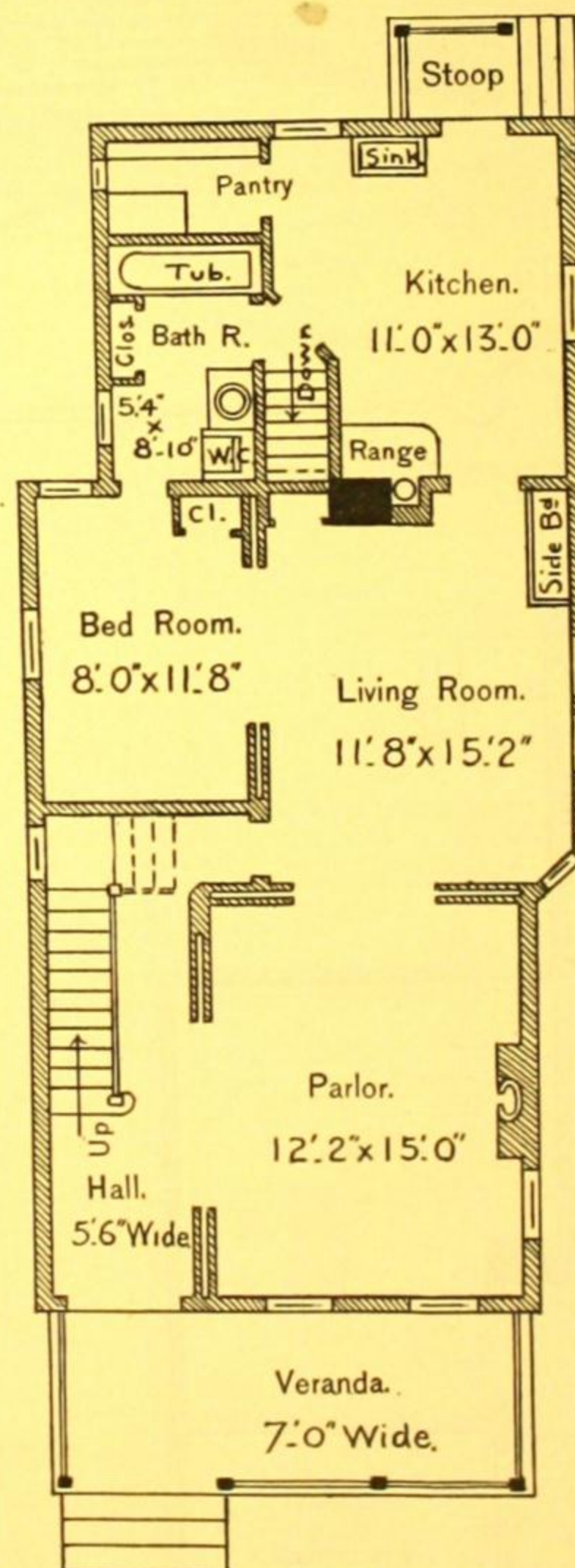
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COTTAGE DESIGN

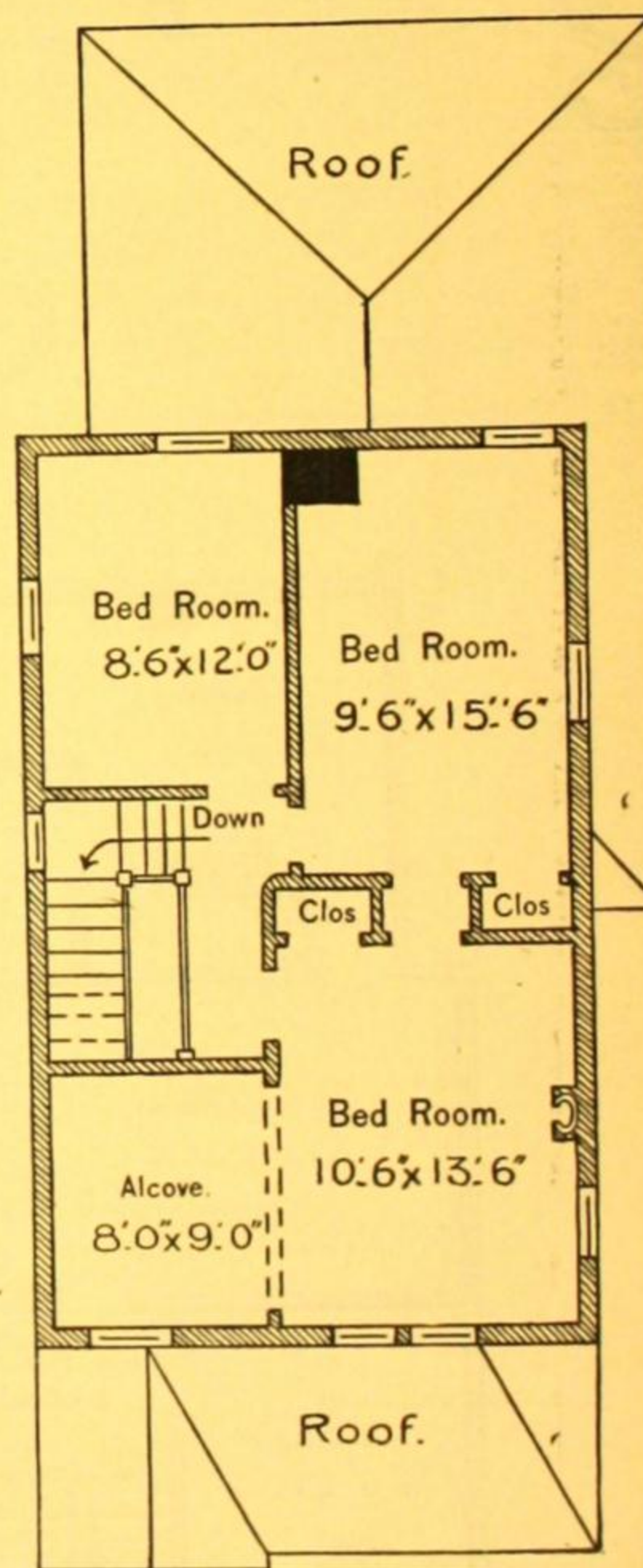
No. 594



PERSPECTIVE VIEW OF DESIGN NO. 594.



FIRST FLOOR—DESIGN NO. 594.



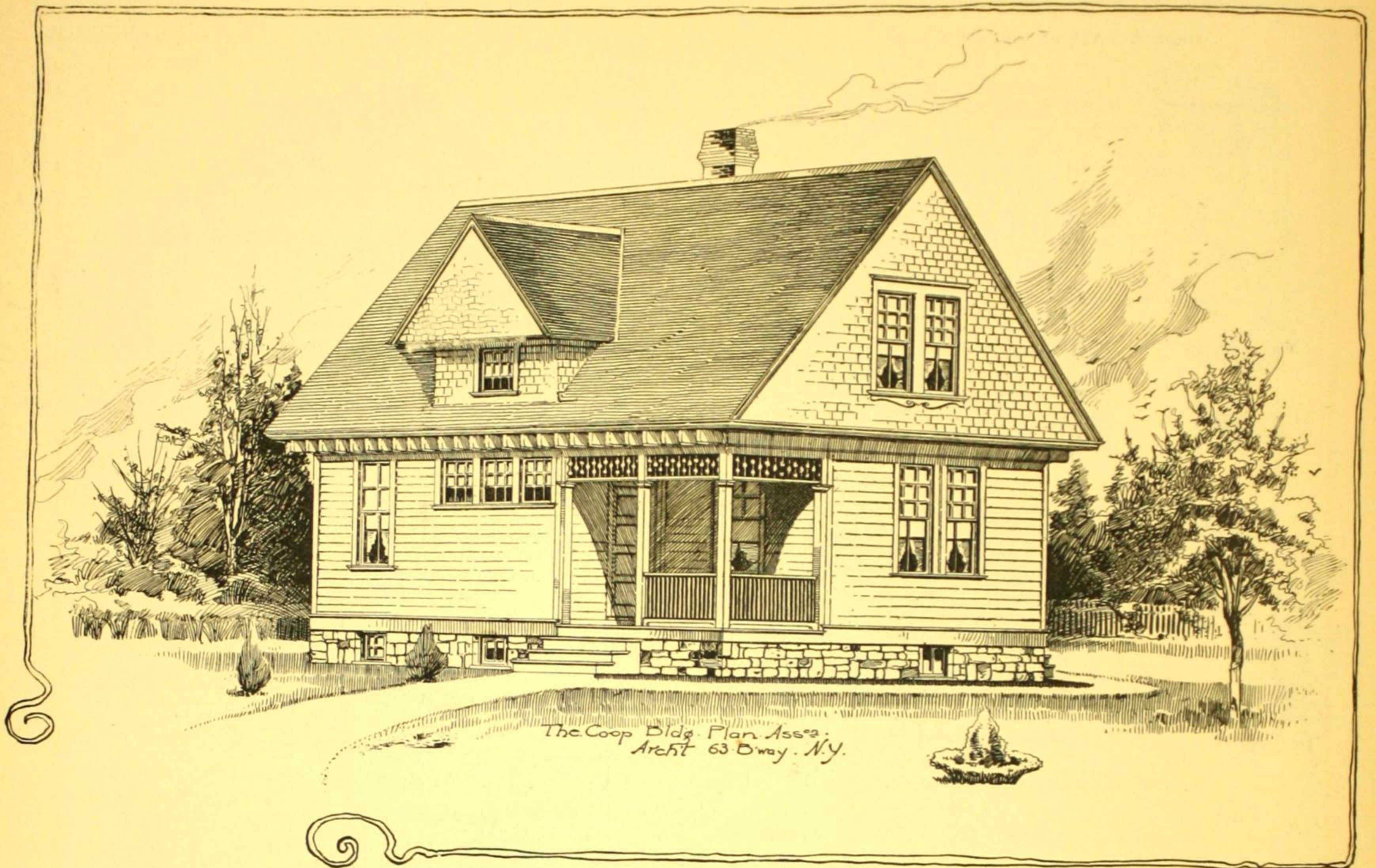
SECOND FLOOR—DESIGN NO. 594.

The above designs belong to the "\$2000 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

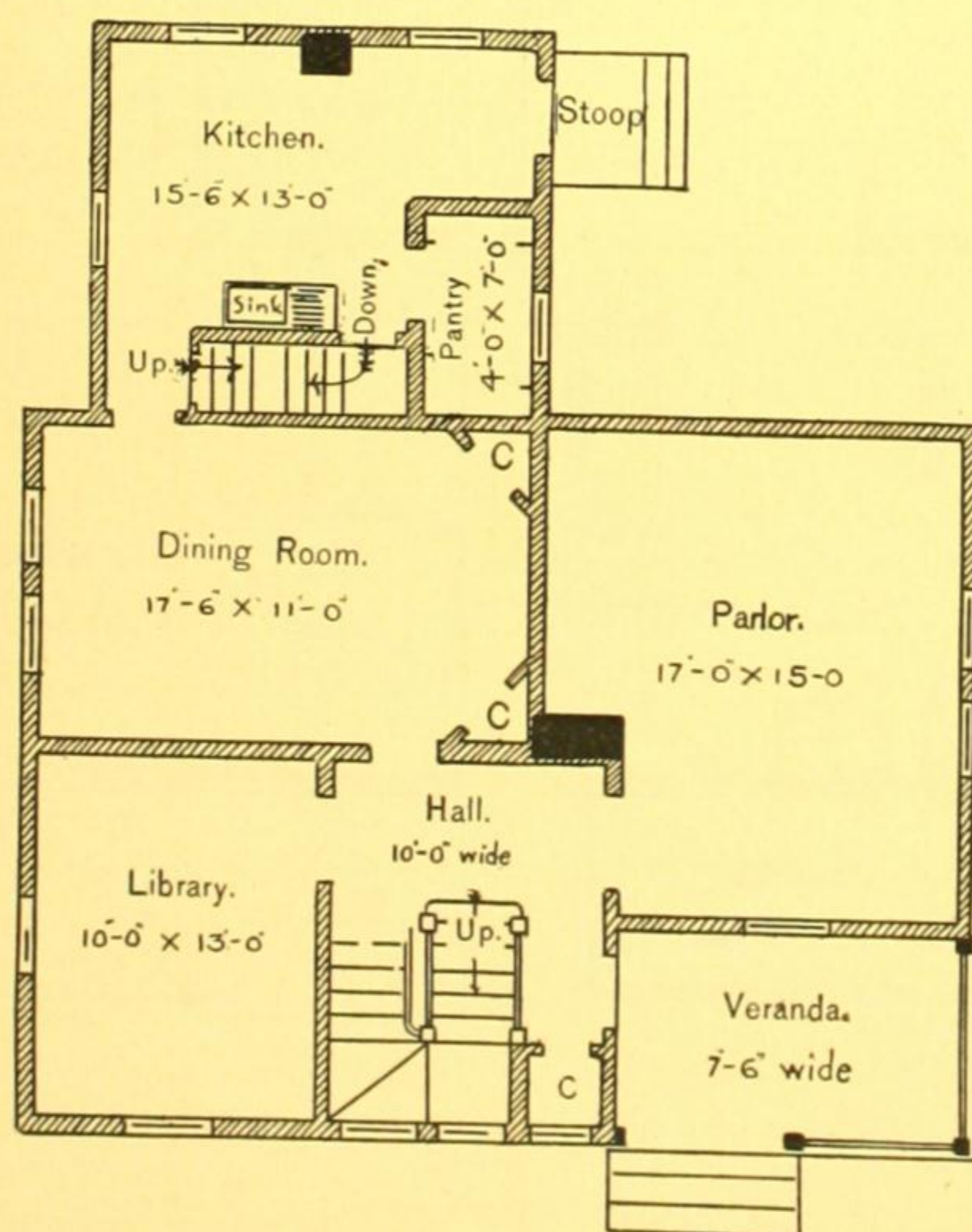
SHOPPELL'S MODERN HOUSES

DESIGN No. 595

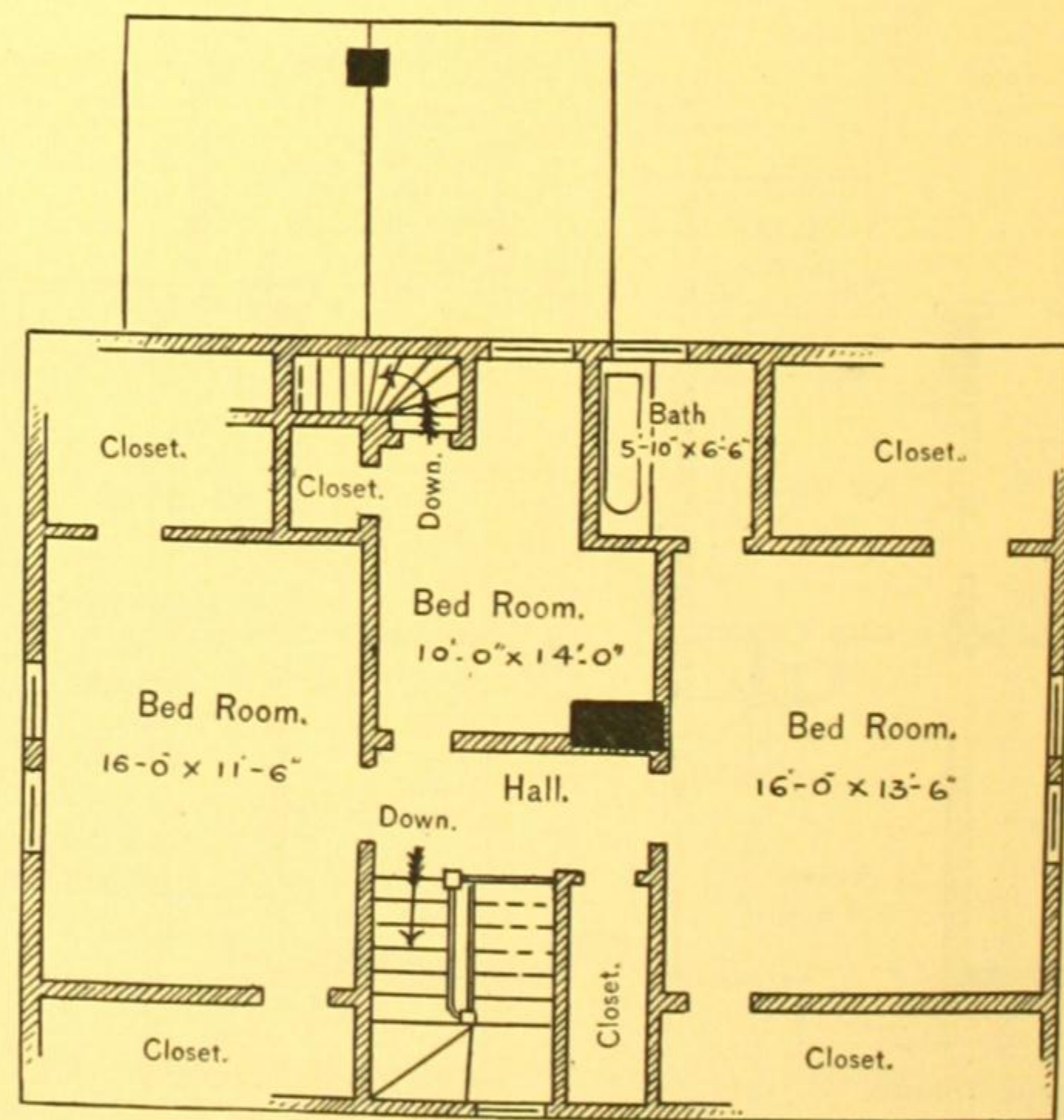
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



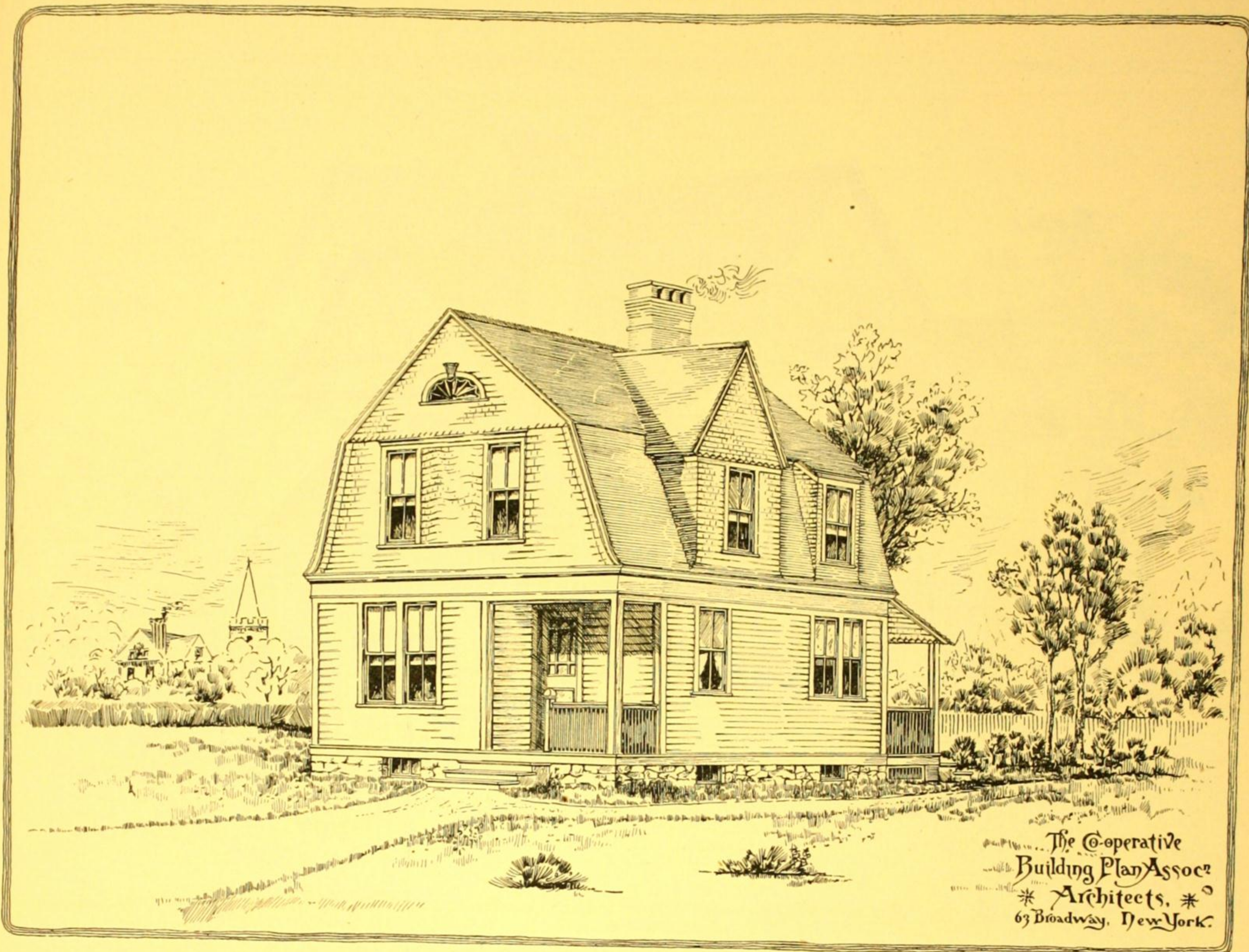
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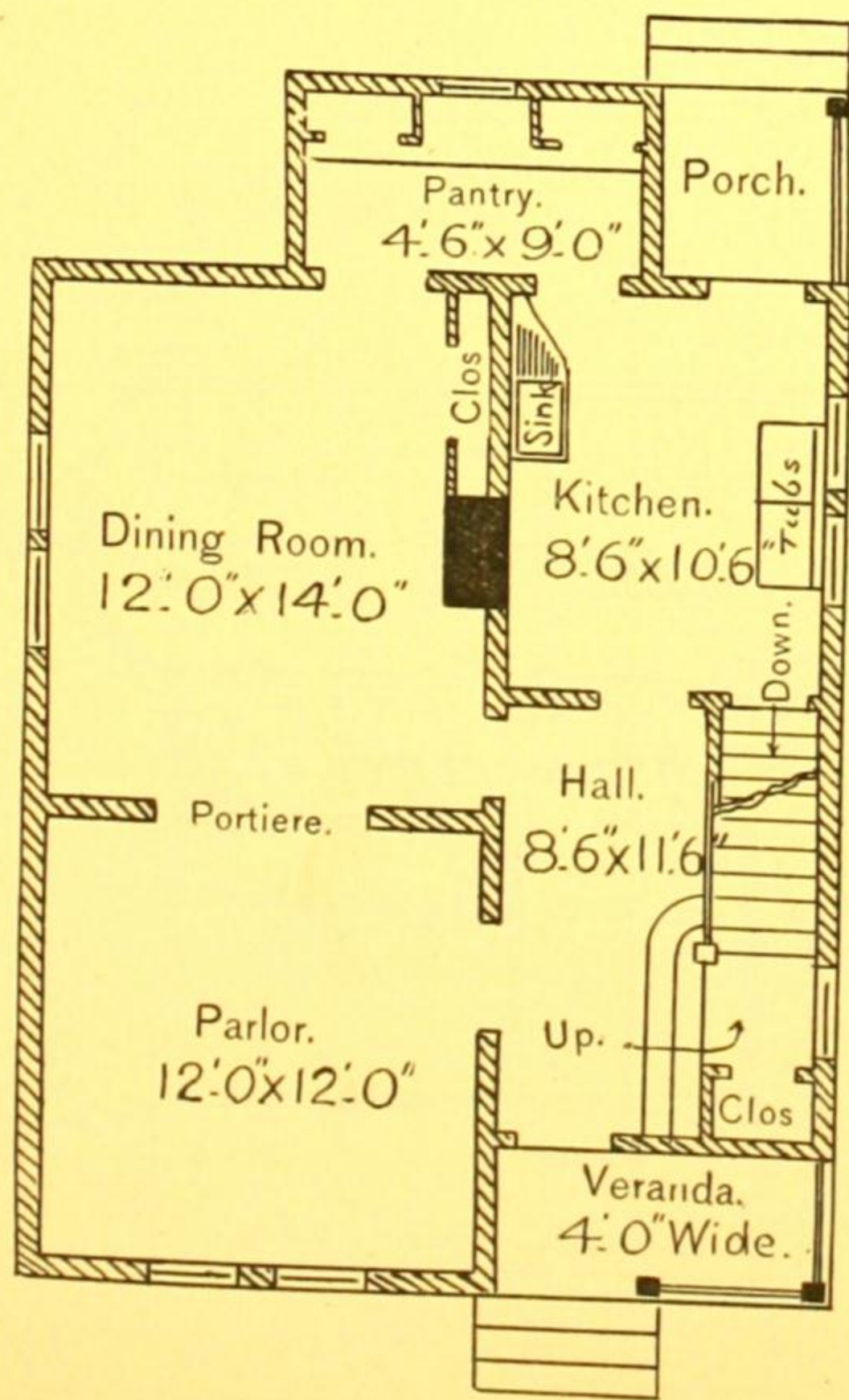
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

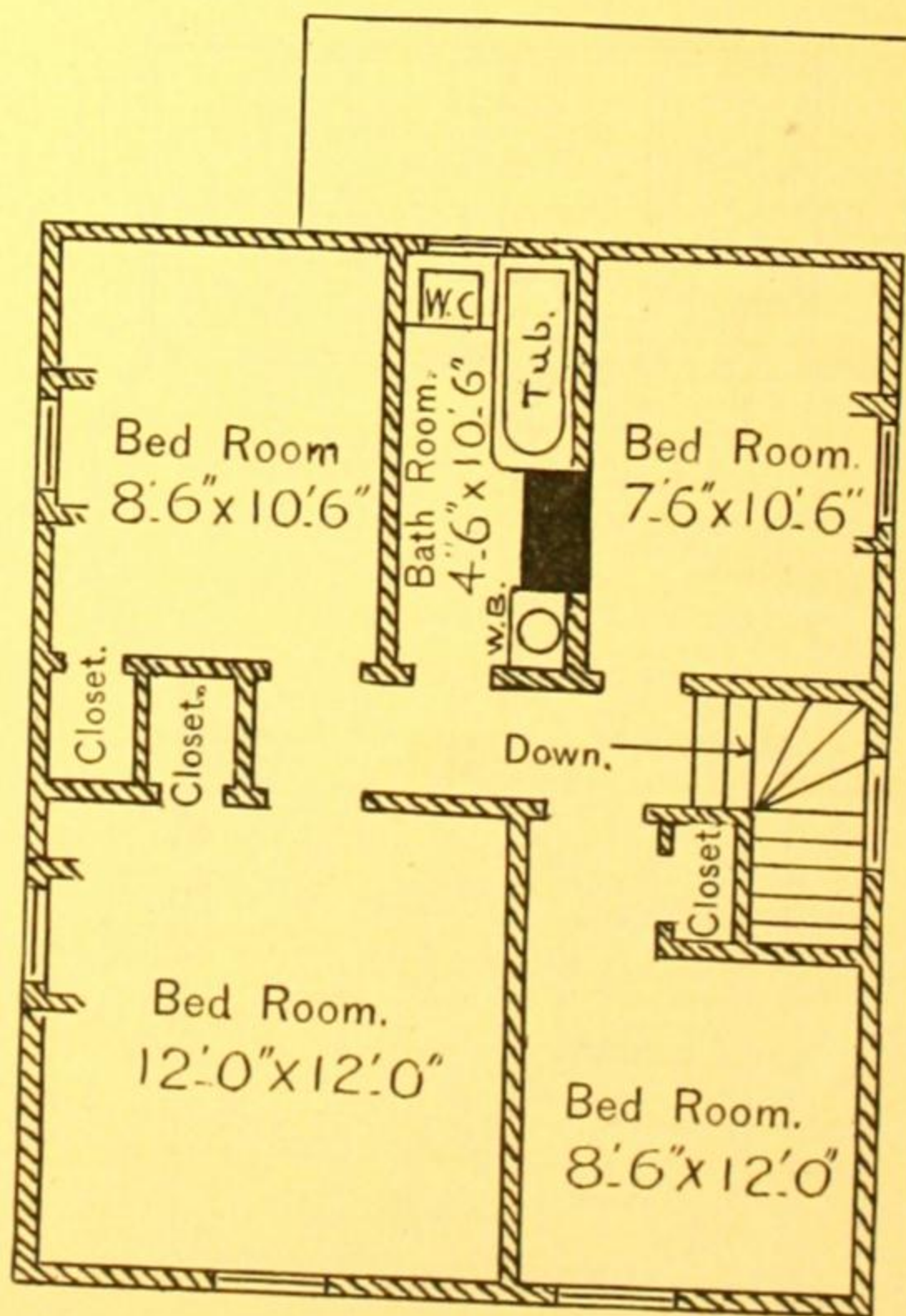
DESIGN No. 596



PERSPECTIVE VIEW.



FIRST FLOOR.



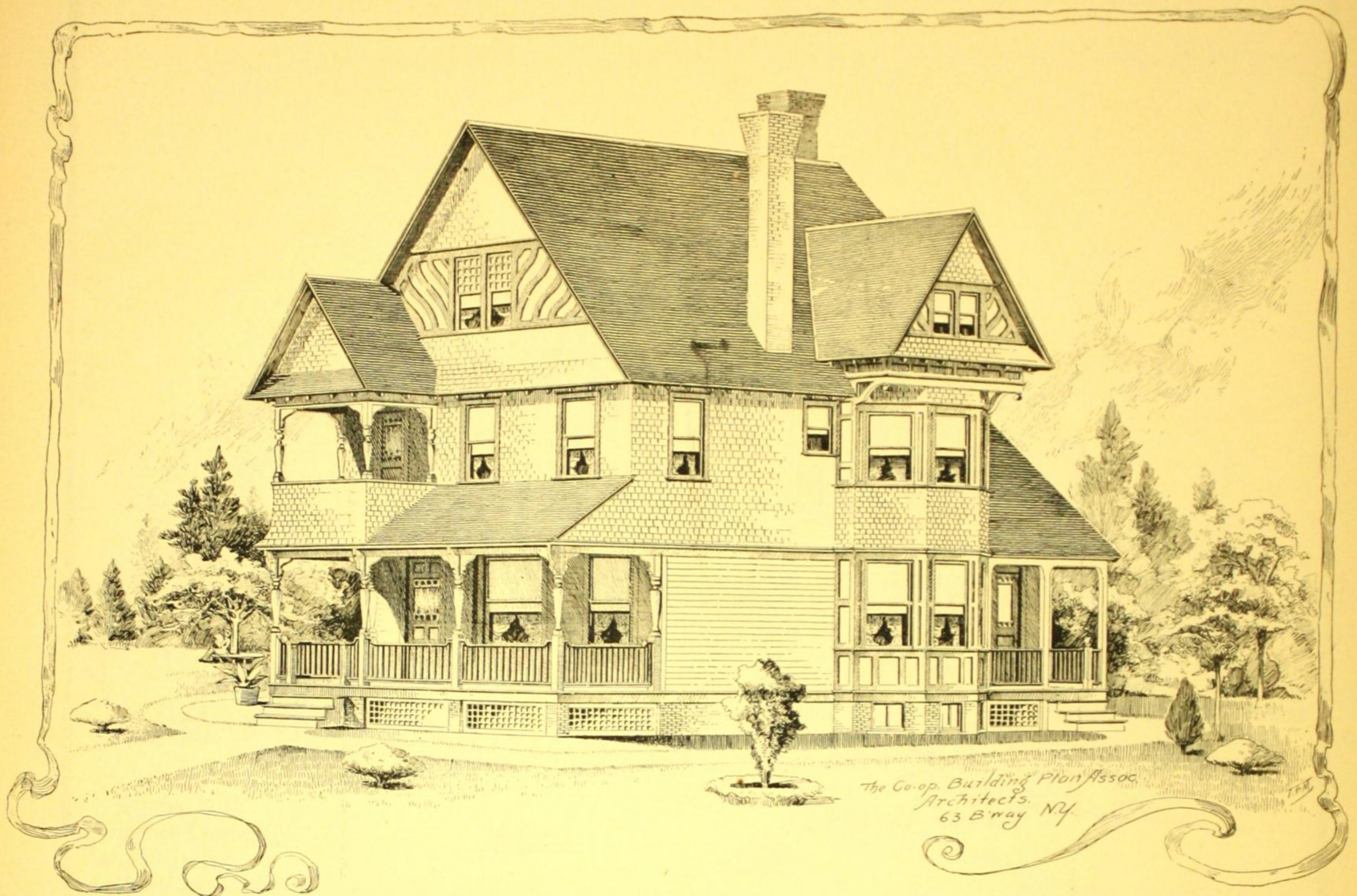
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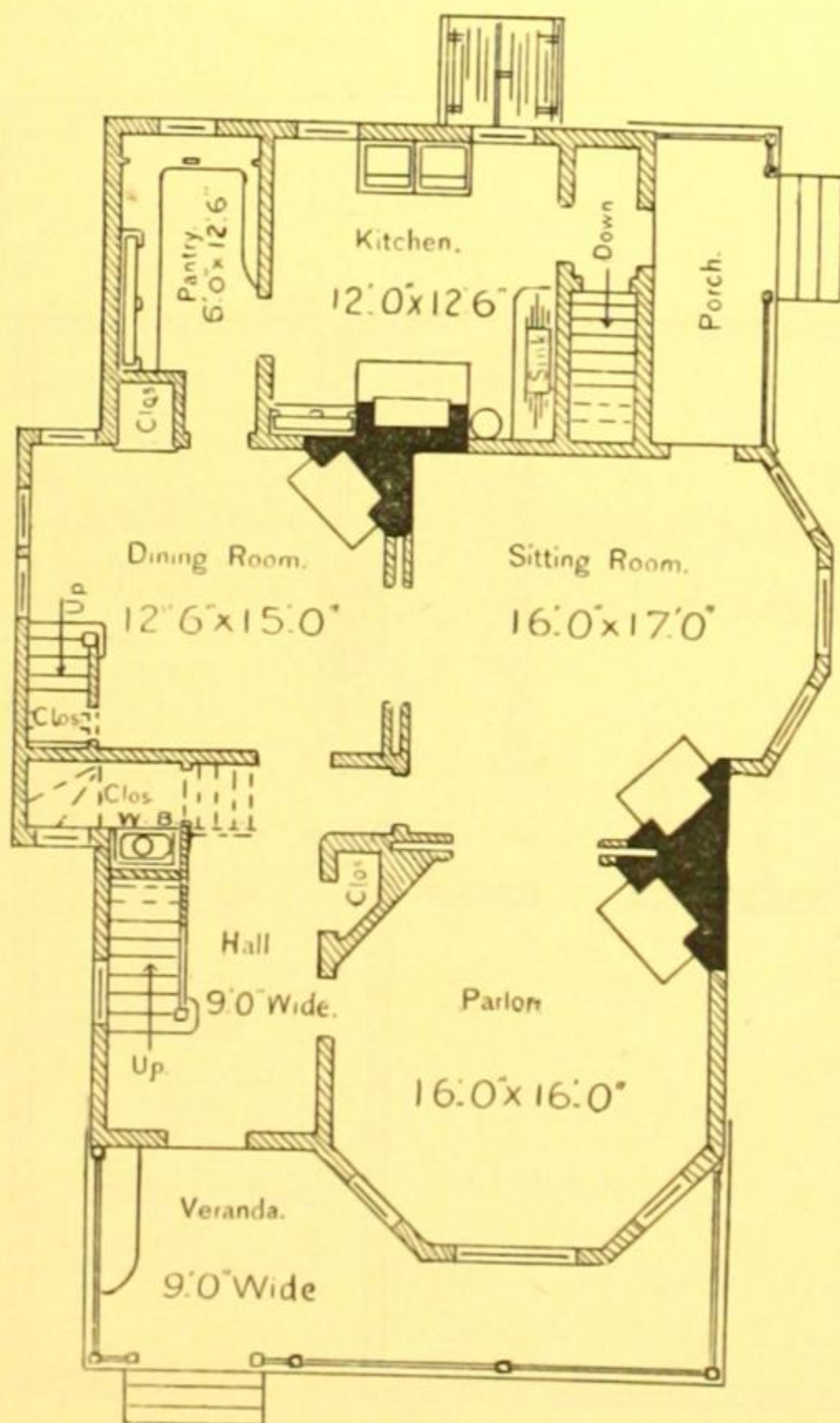
SHOPPELL'S MODERN HOUSES

DESIGN No. 597

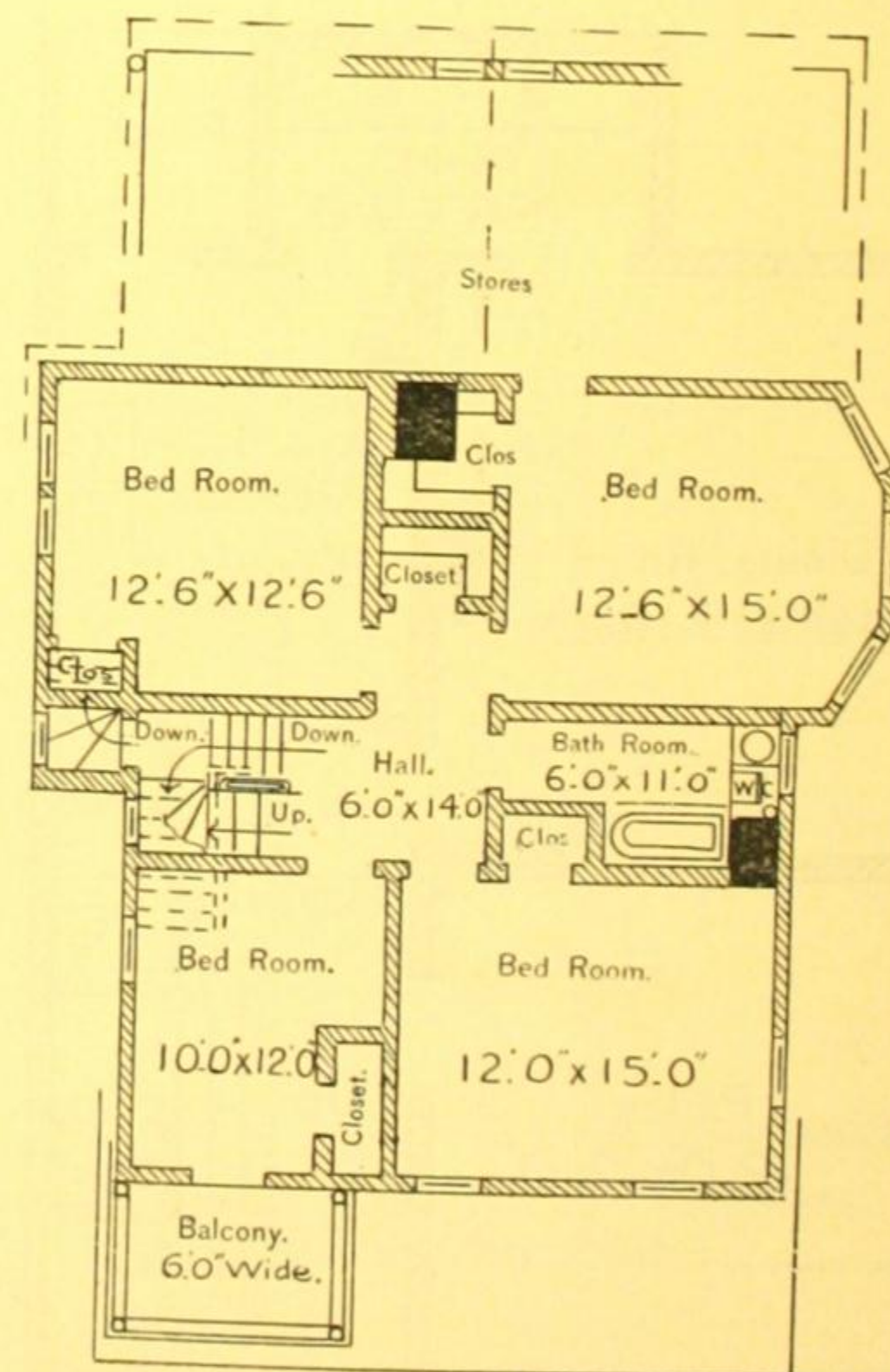
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



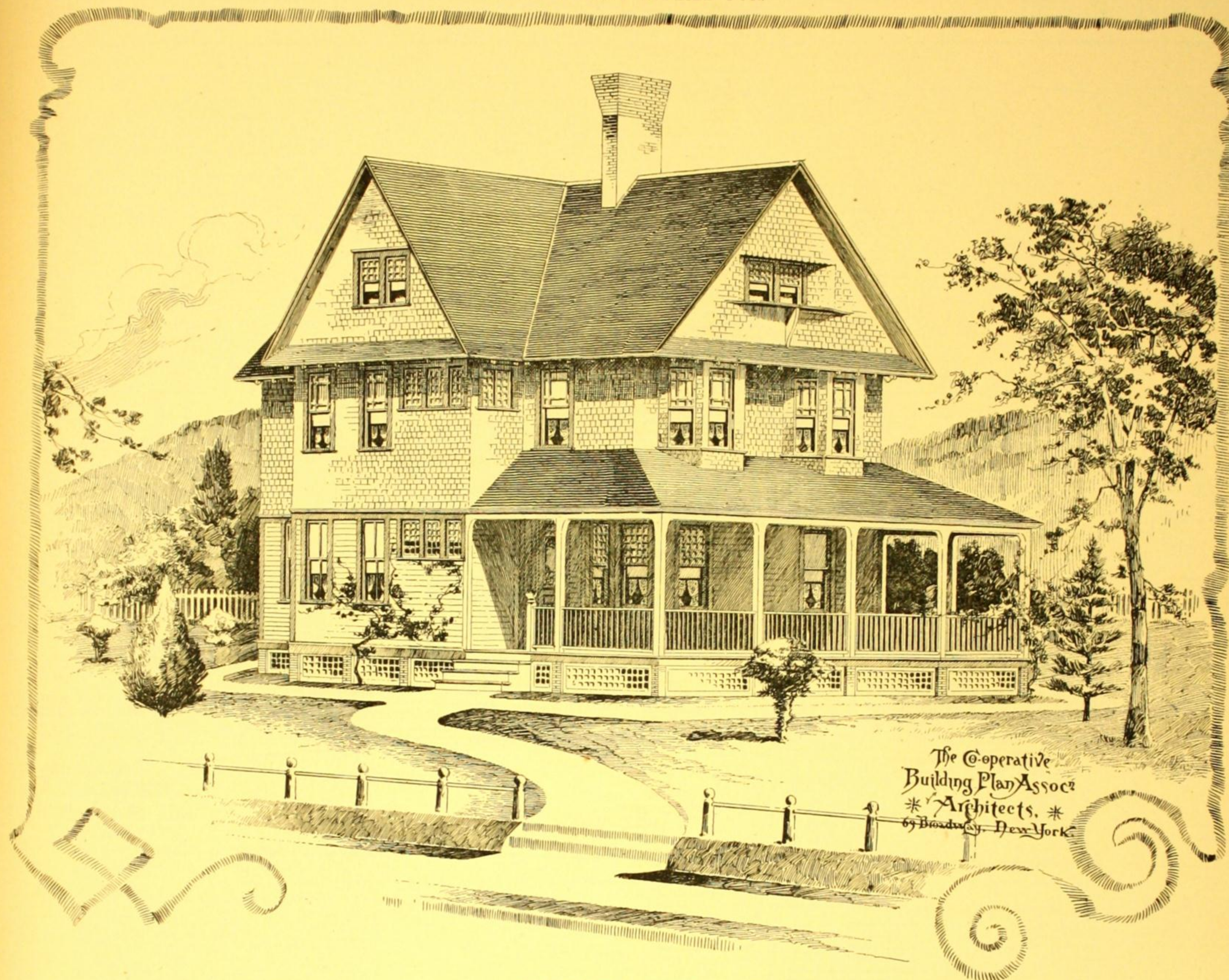
SECOND FLOOR.

The above design belongs to the "\$3500 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

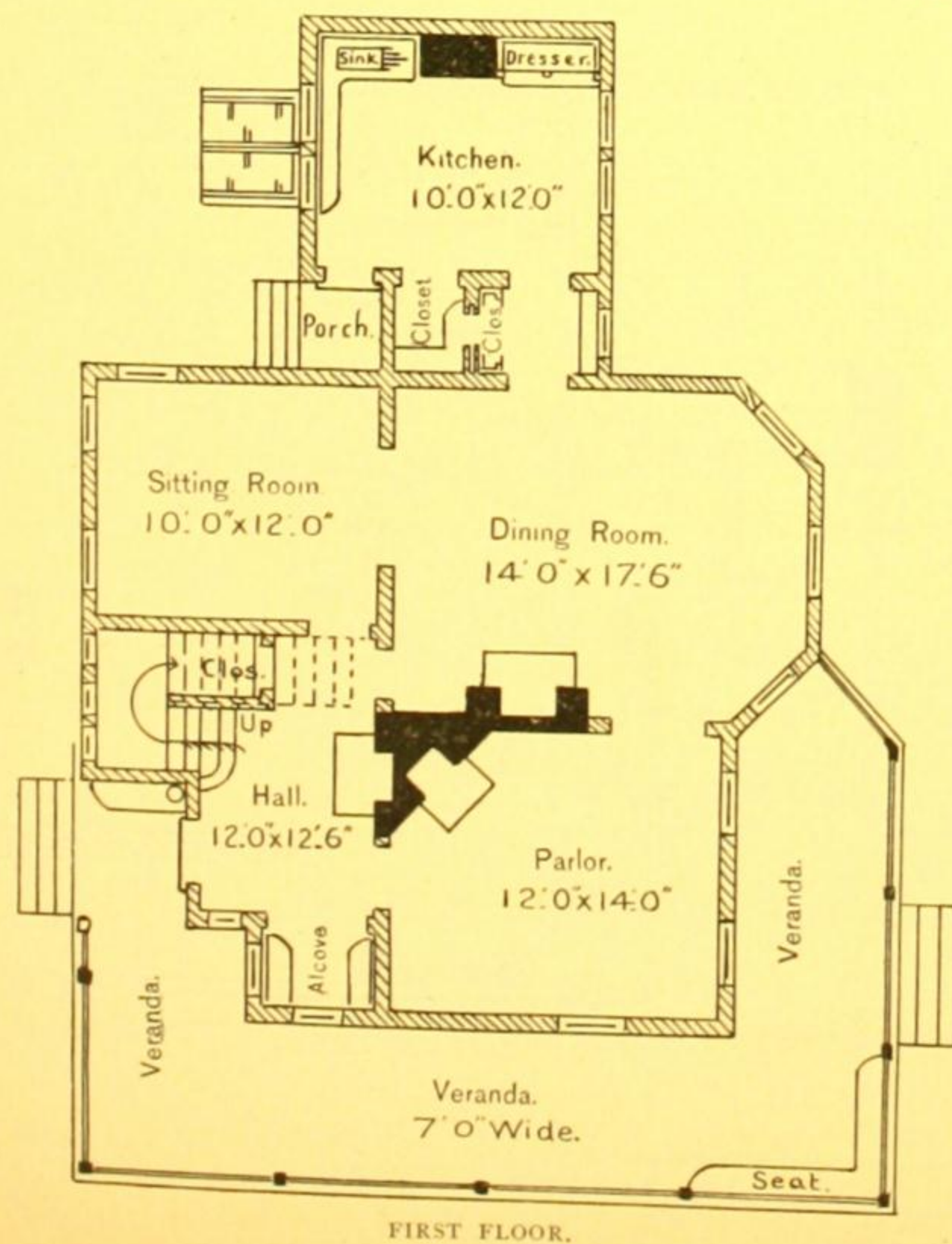
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DESIGN No. 598

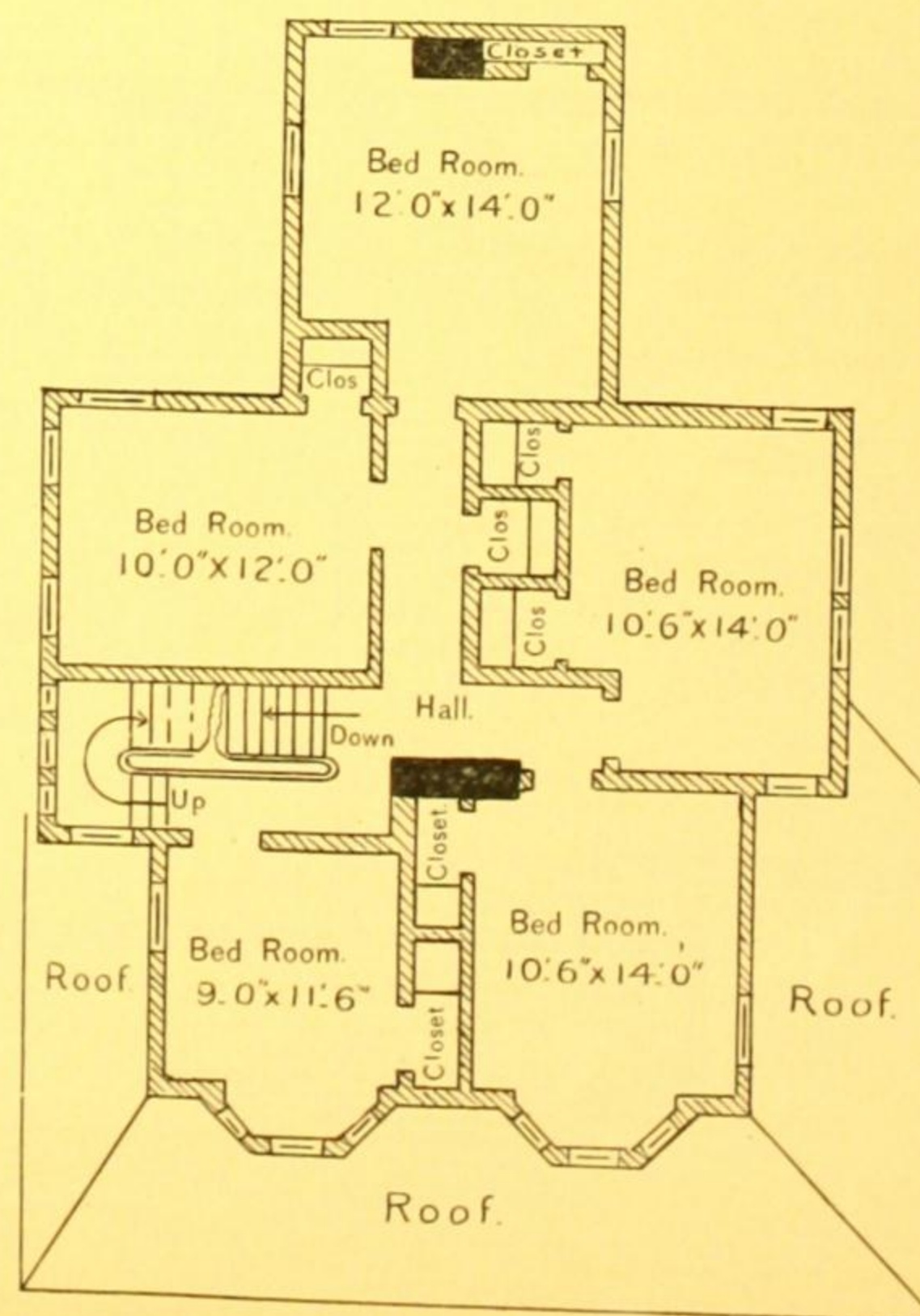


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PERSPECTIVE VIEW.



FIRST FLOOR.



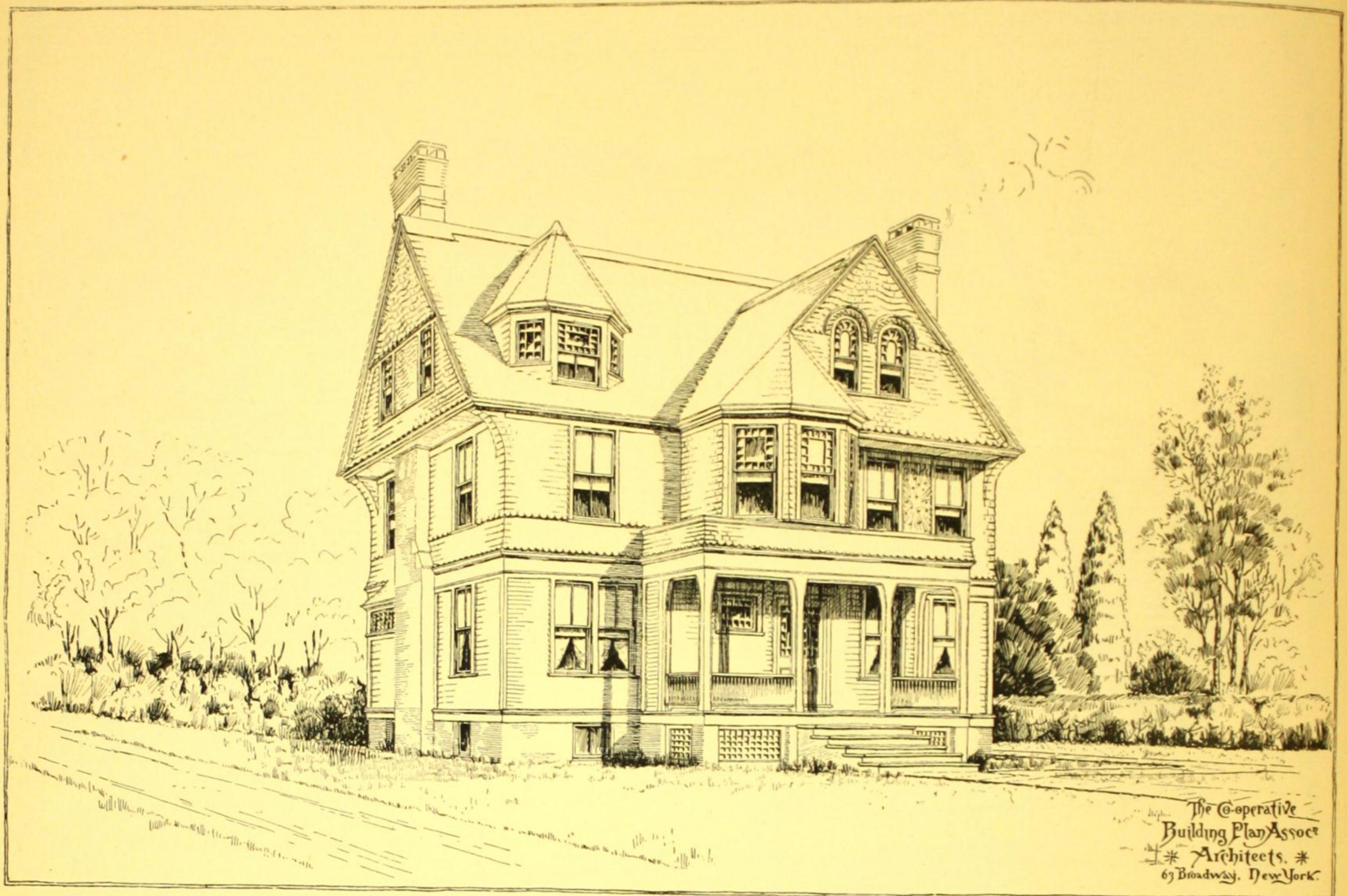
SECOND FLOOR.

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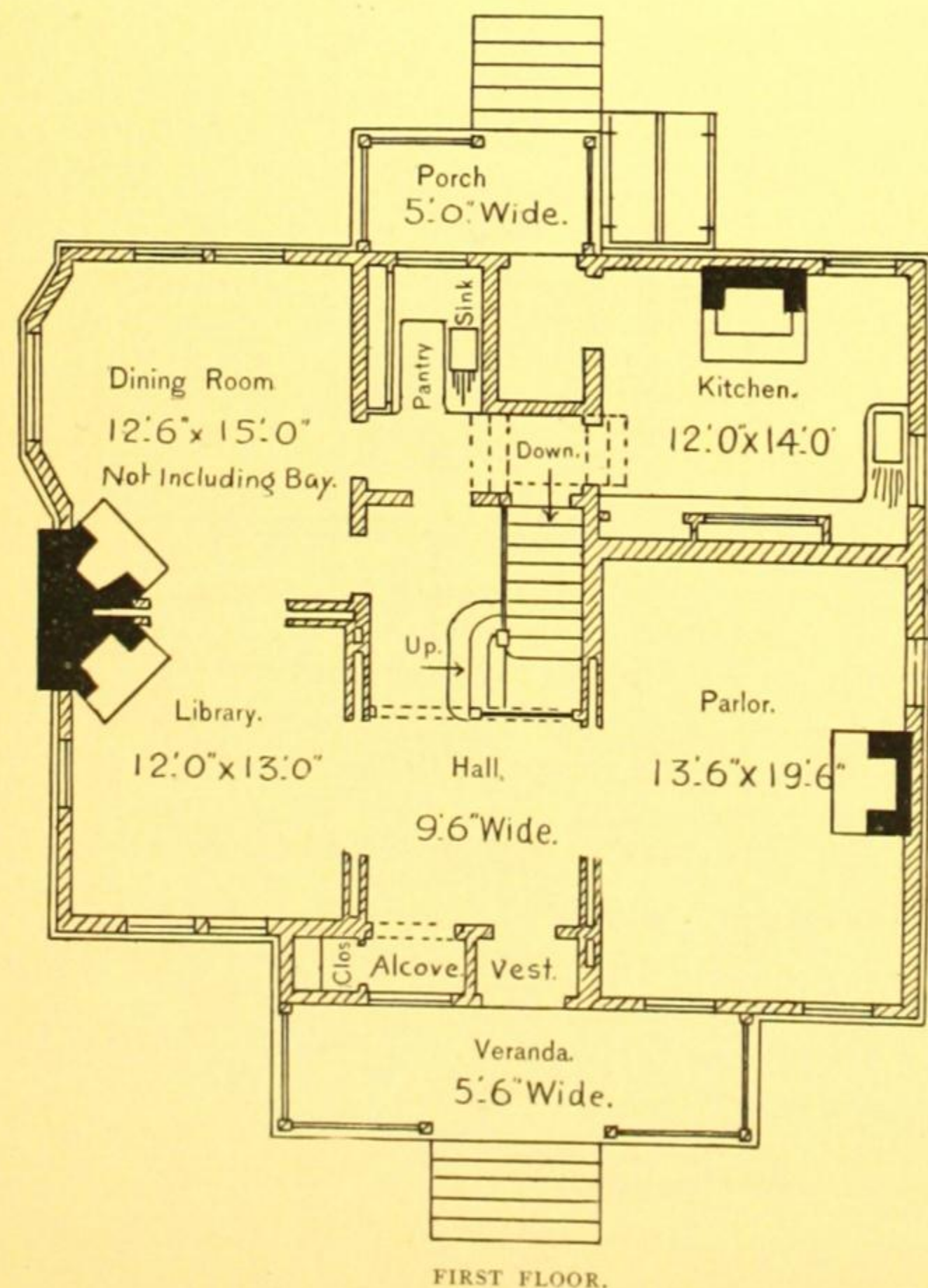
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

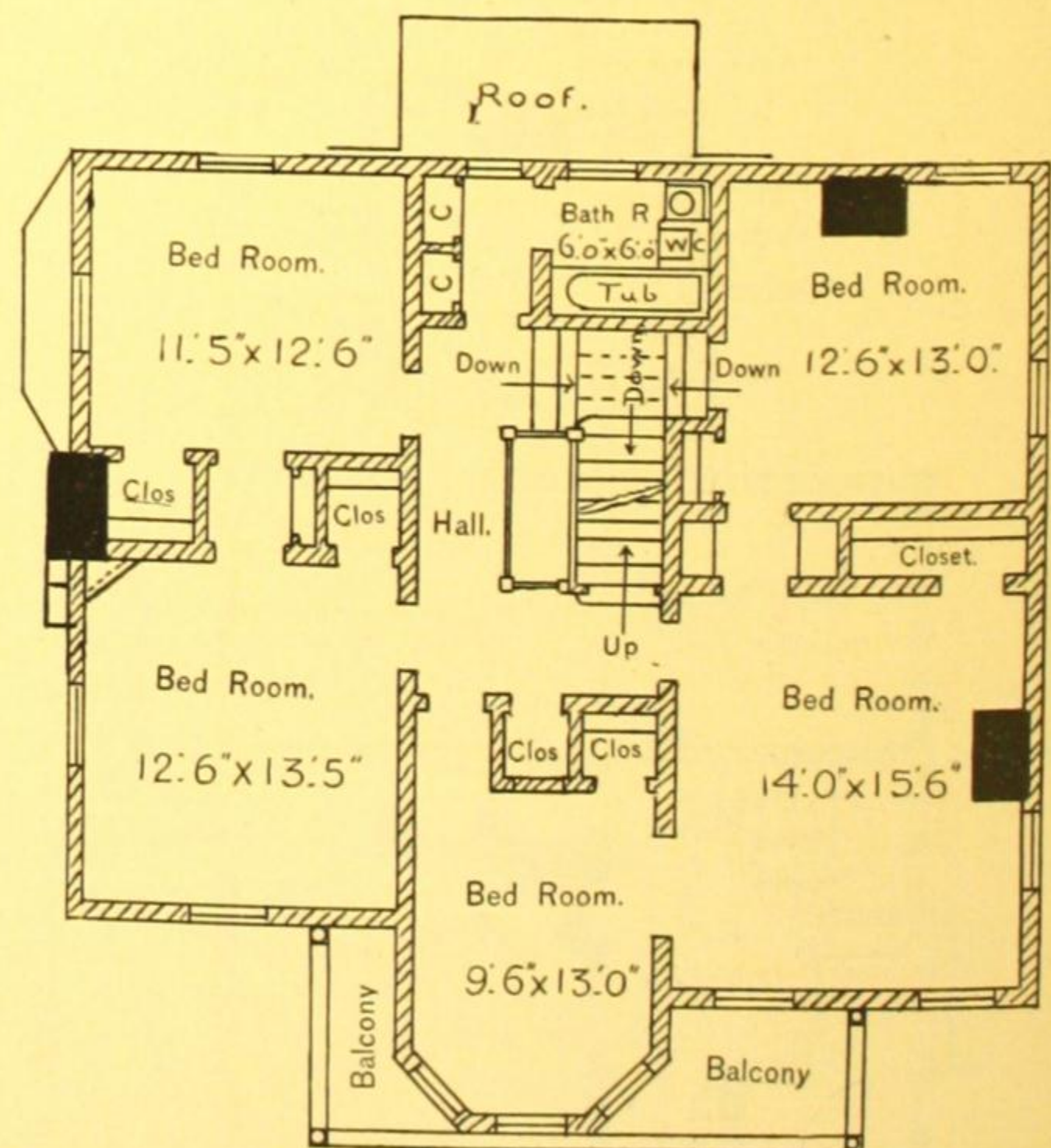
DESIGN No. 599



PERSPECTIVE VIEW.



FIRST FLOOR.

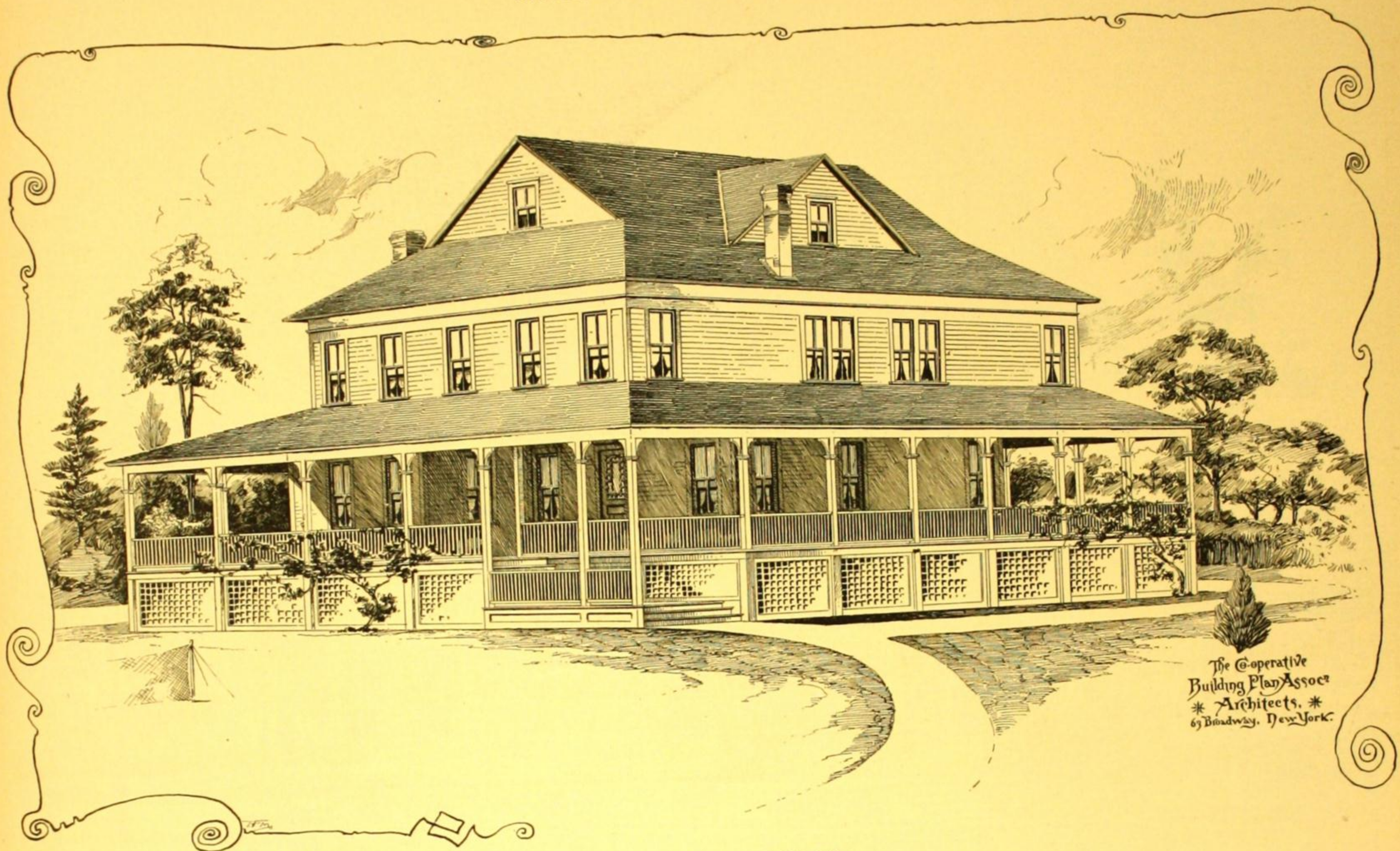


SECOND FLOOR.

The above design belongs to the "\$4000 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

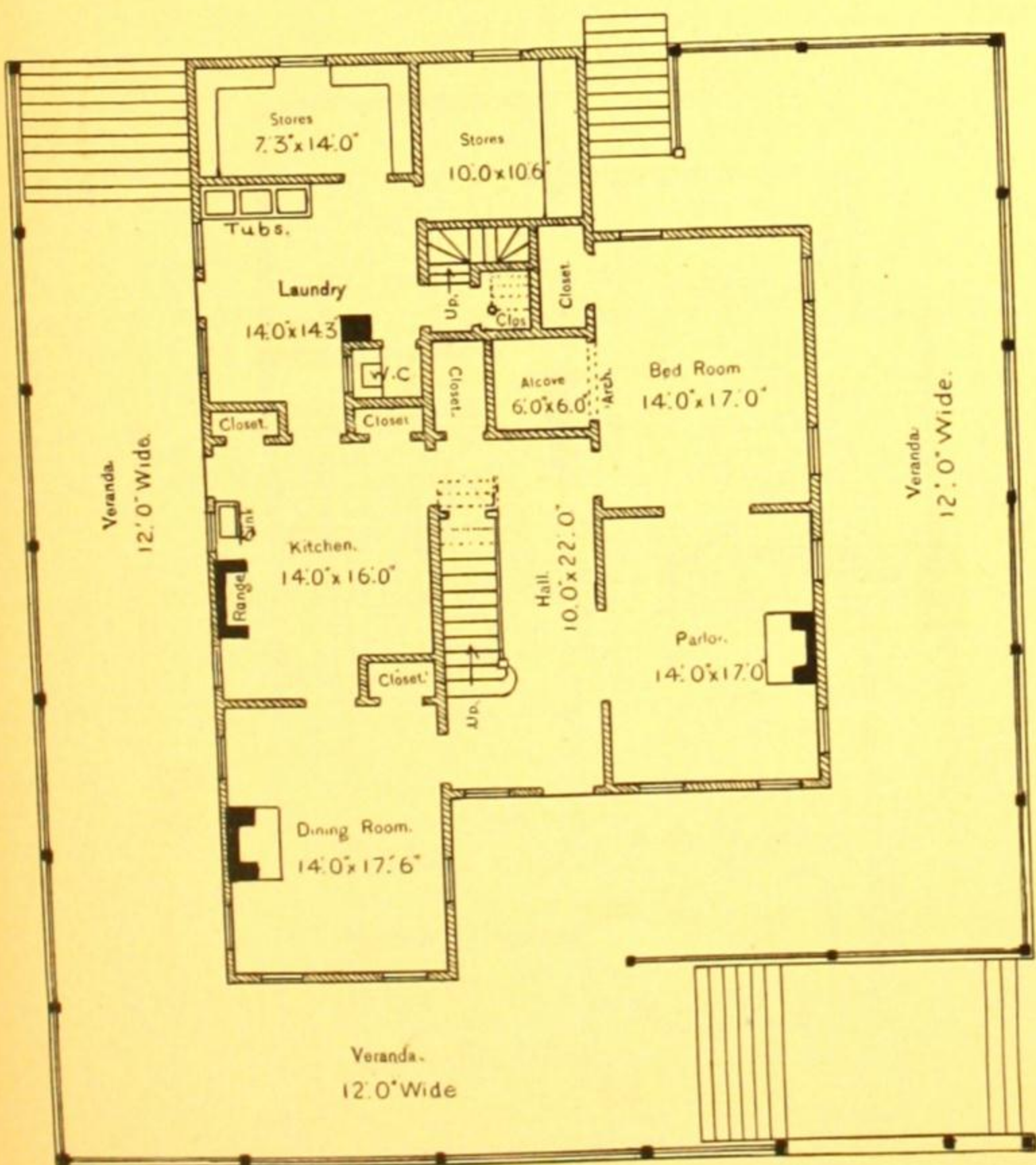
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

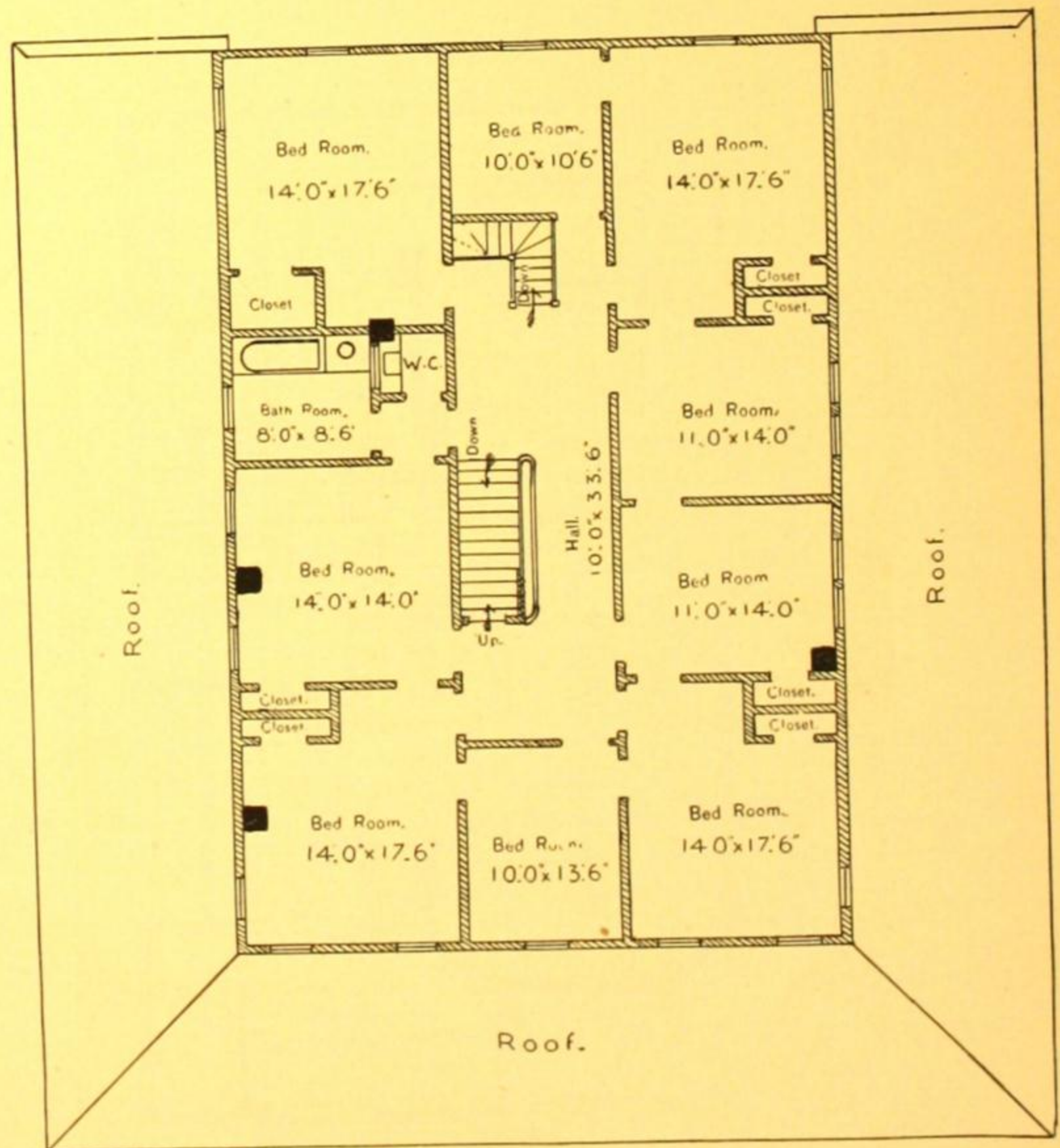


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PERSPECTIVE VIEW.



FIRST FLOOR.



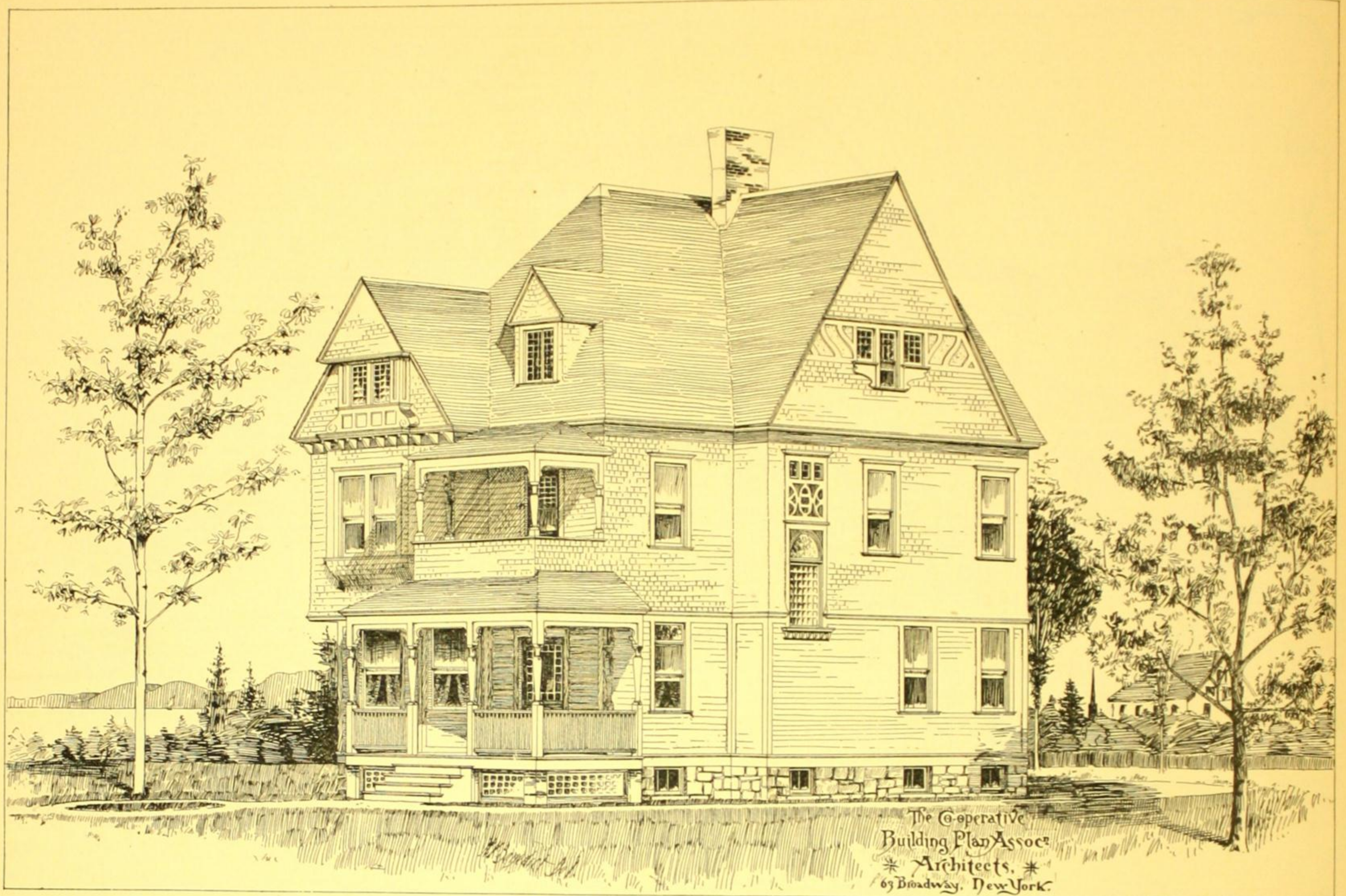
SECOND FLOOR.

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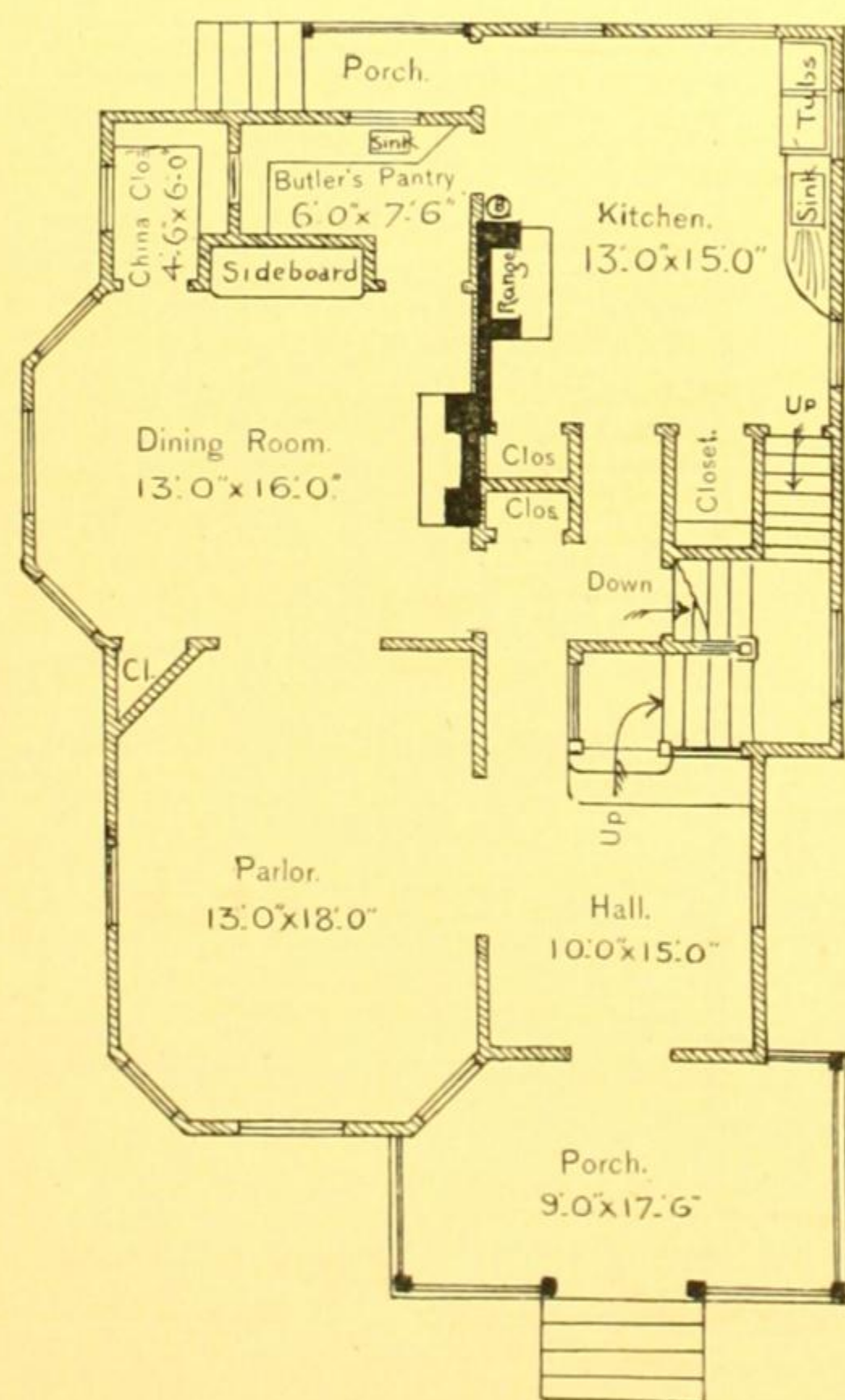
SHOPPELL'S MODERN HOUSES

DESIGN No. 601

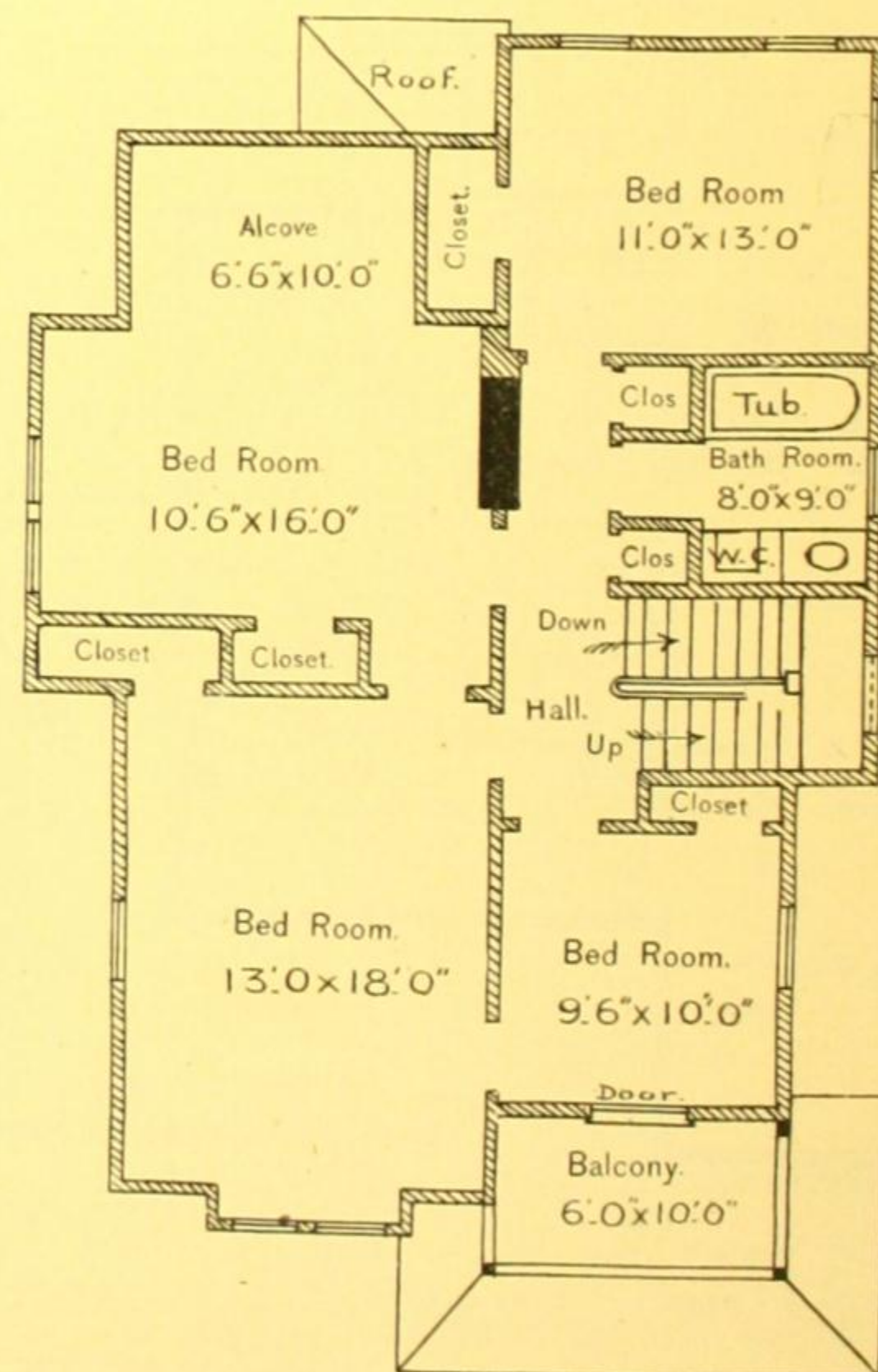
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.

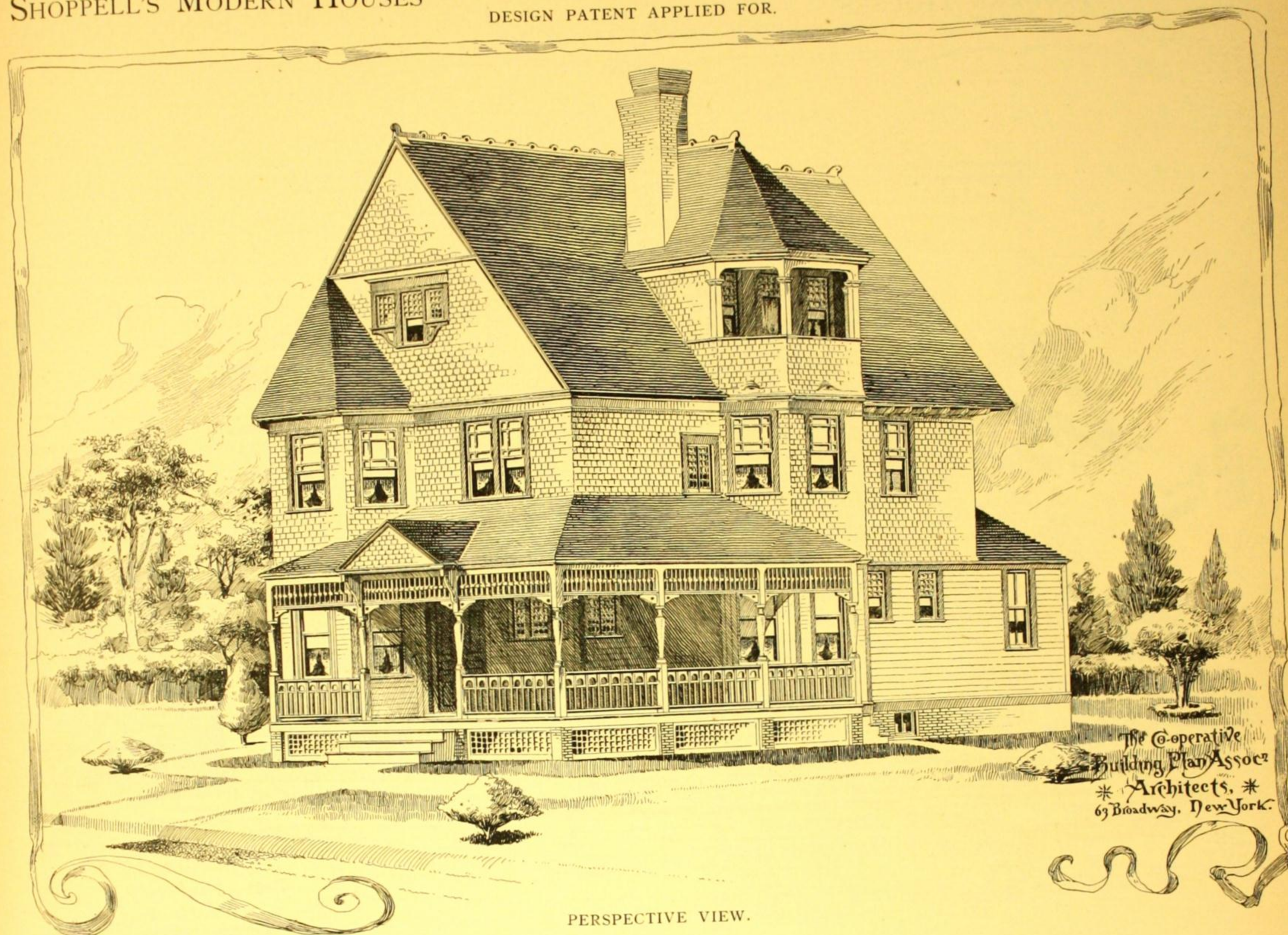


SECOND FLOOR.

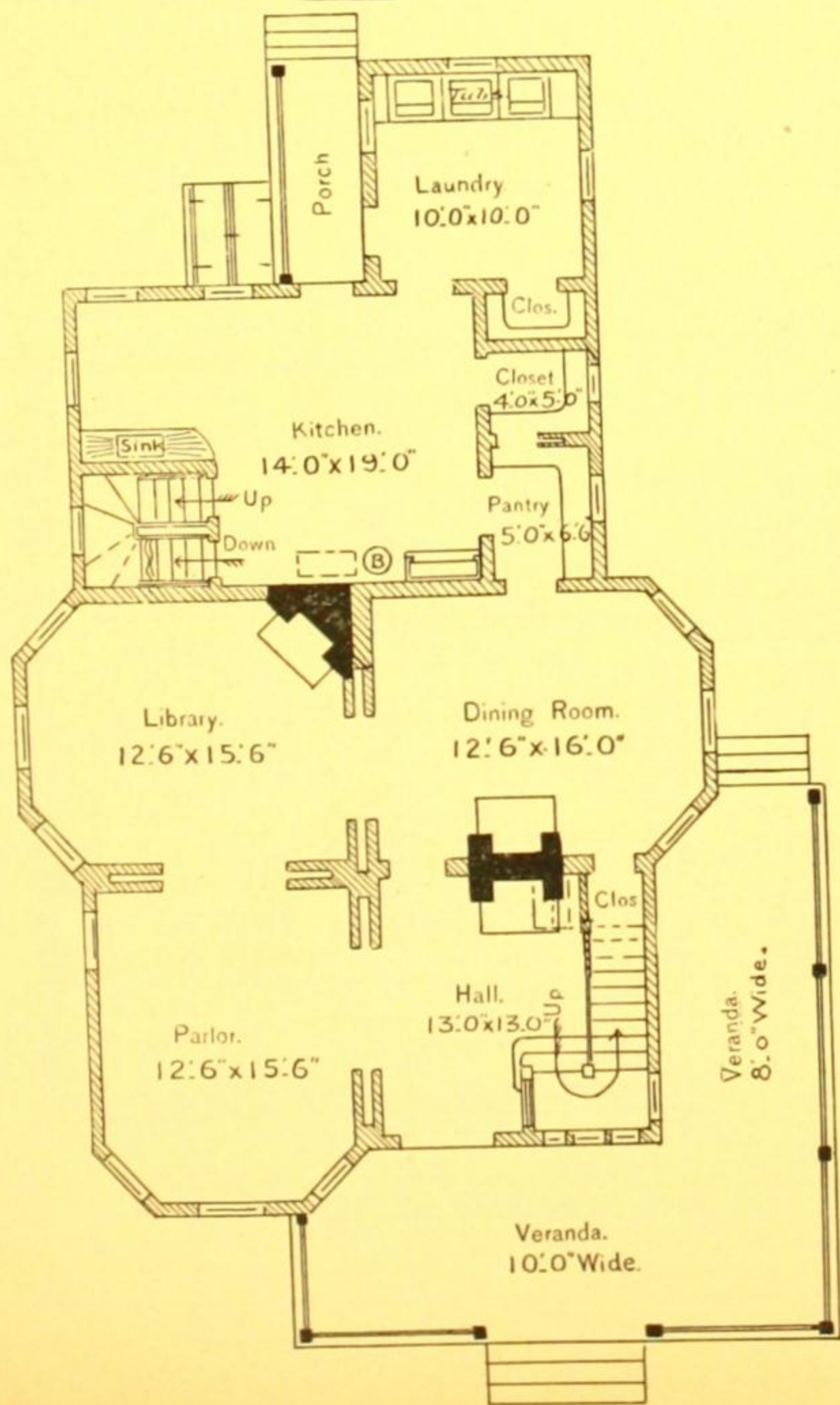
The above design belongs to the "\$3500 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

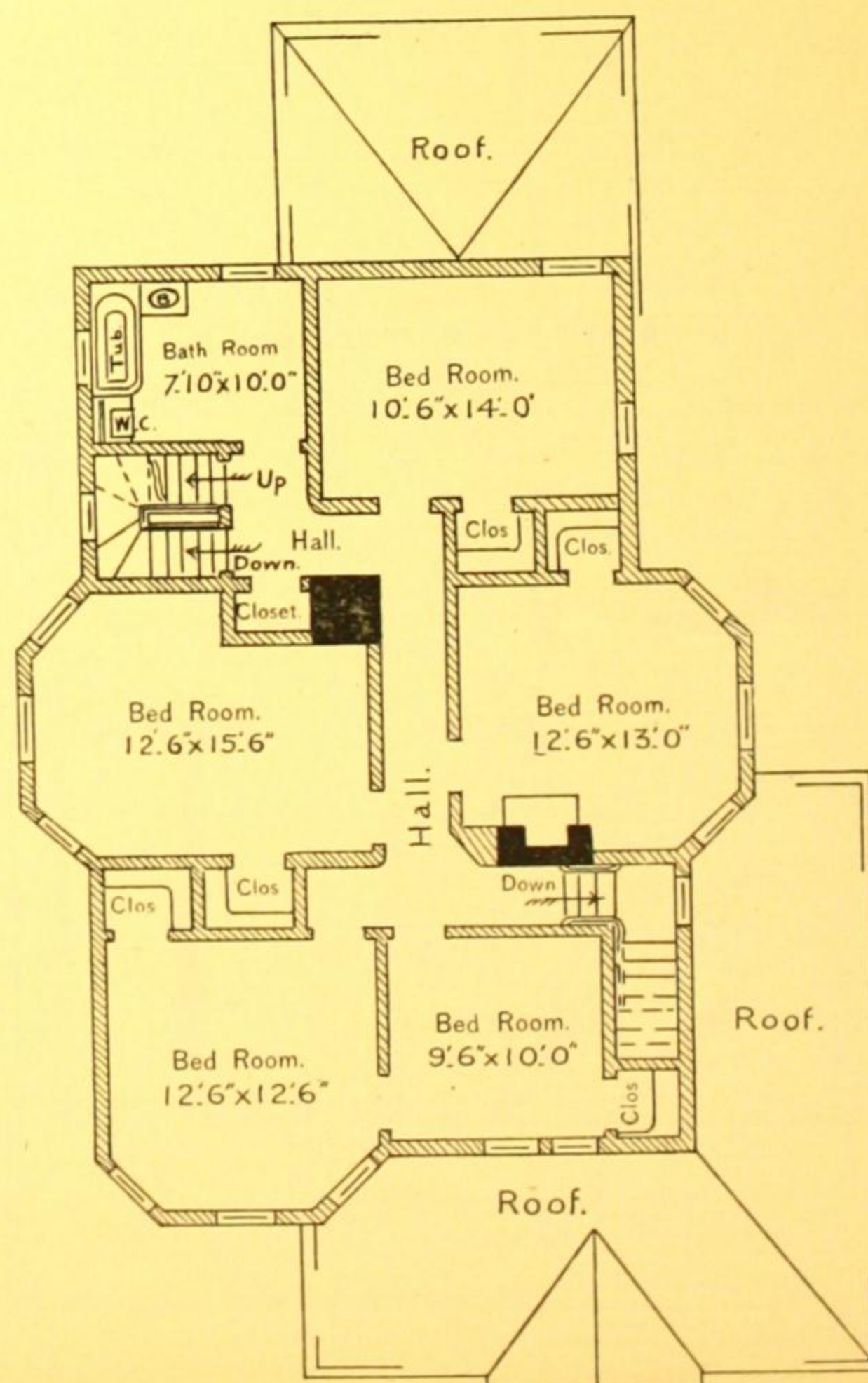
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



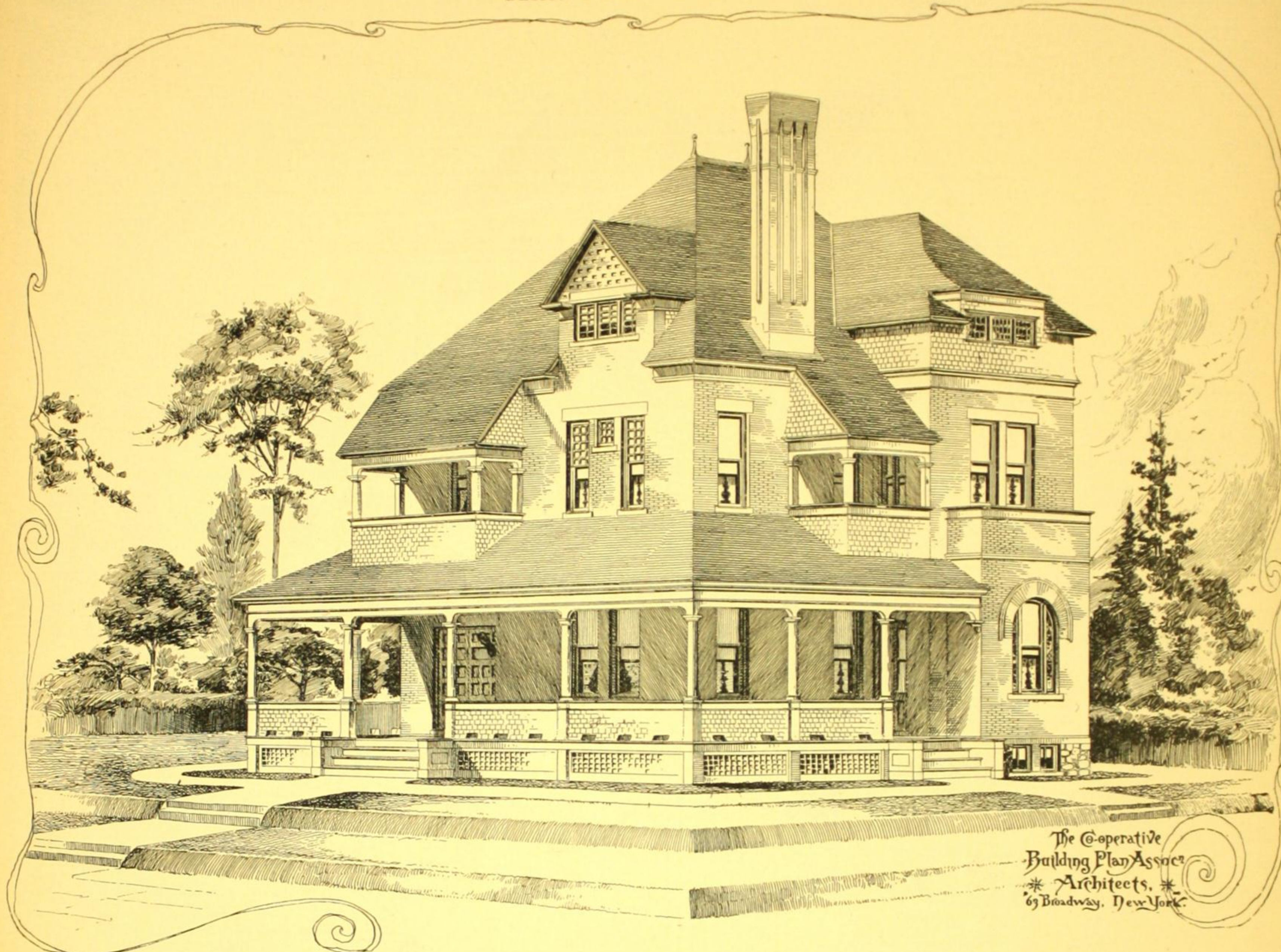
SECOND FLOOR.

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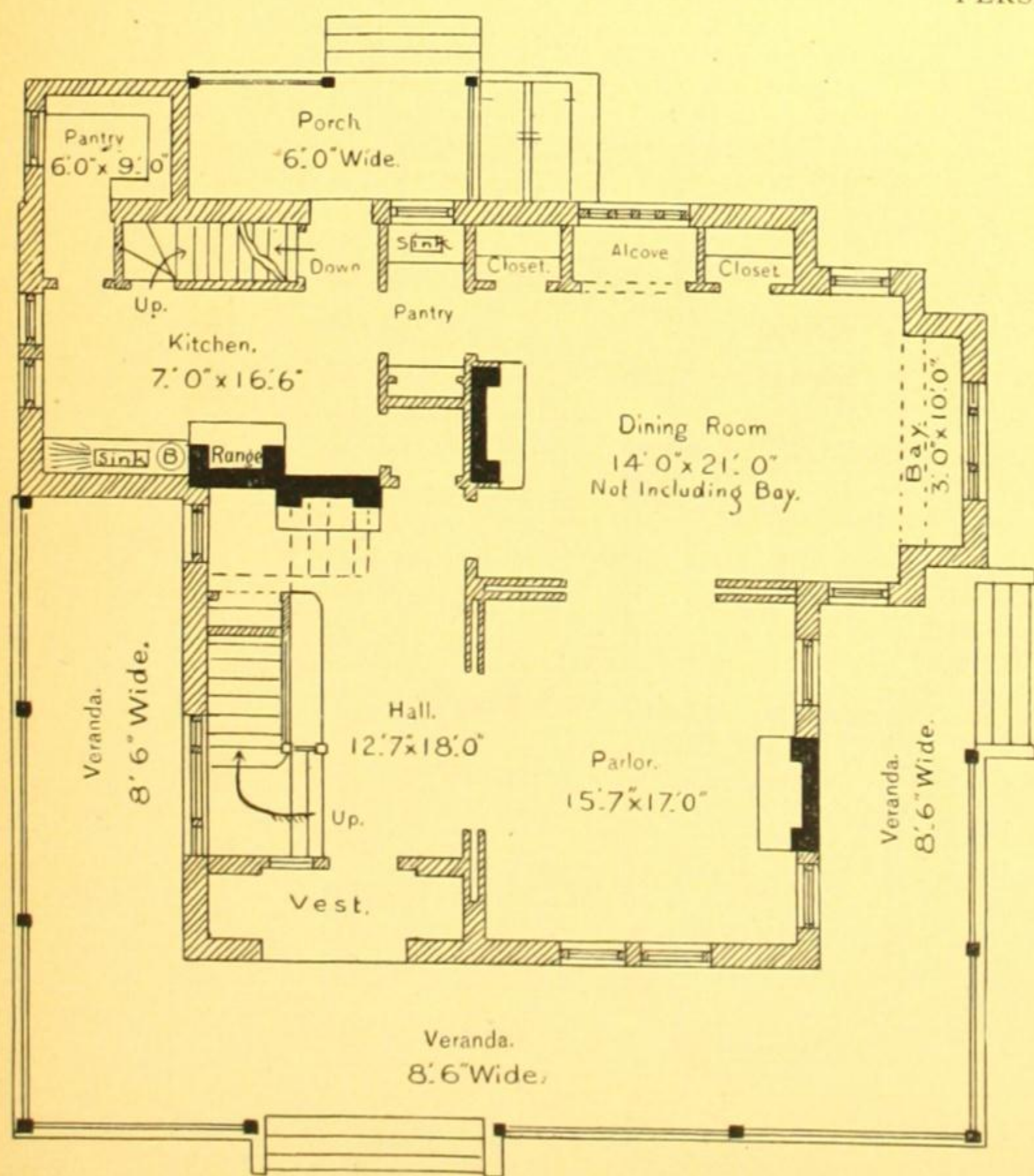
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

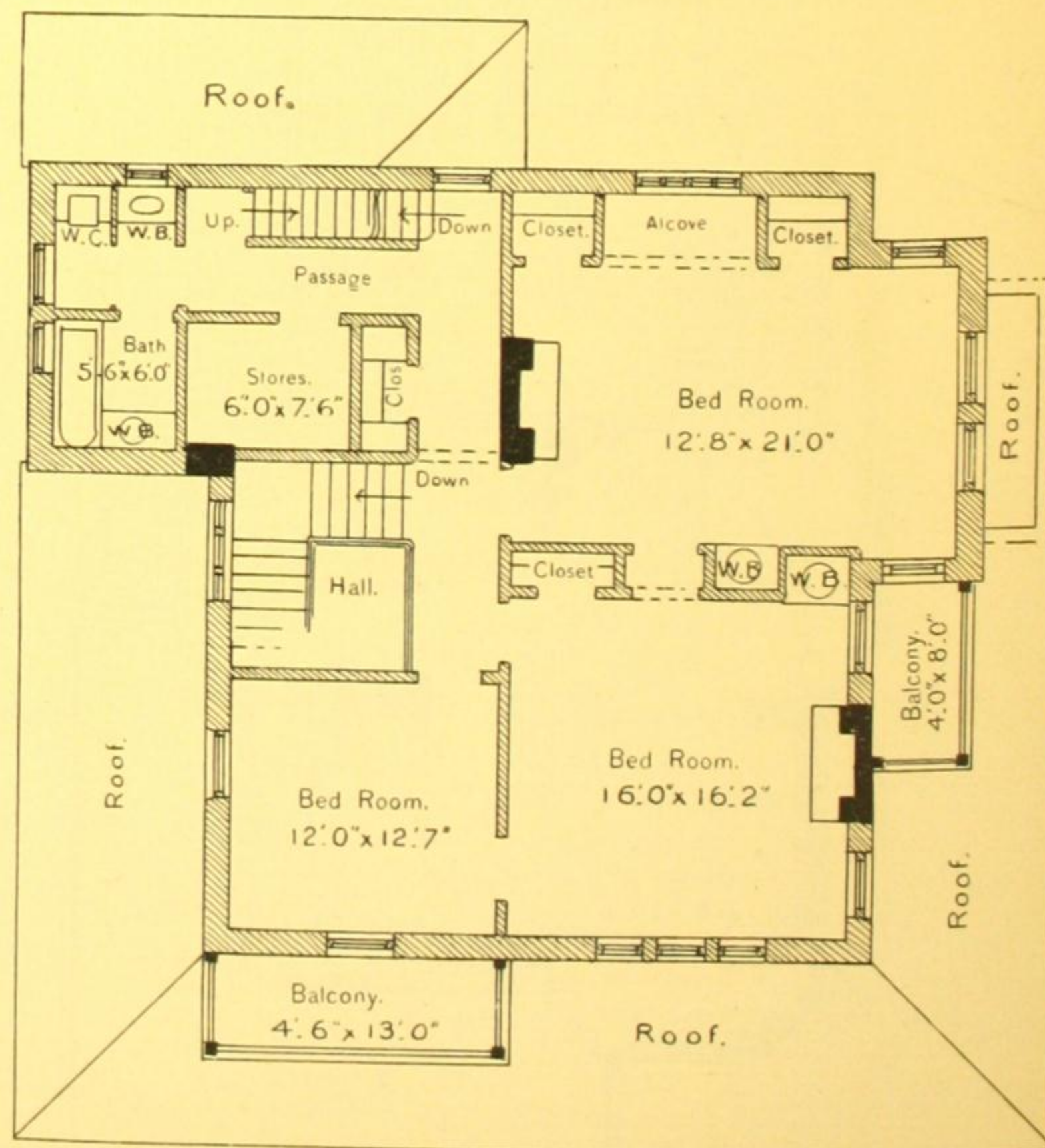
DESIGN No. 603



PERSPECTIVE VIEW.



FIRST FLOOR.

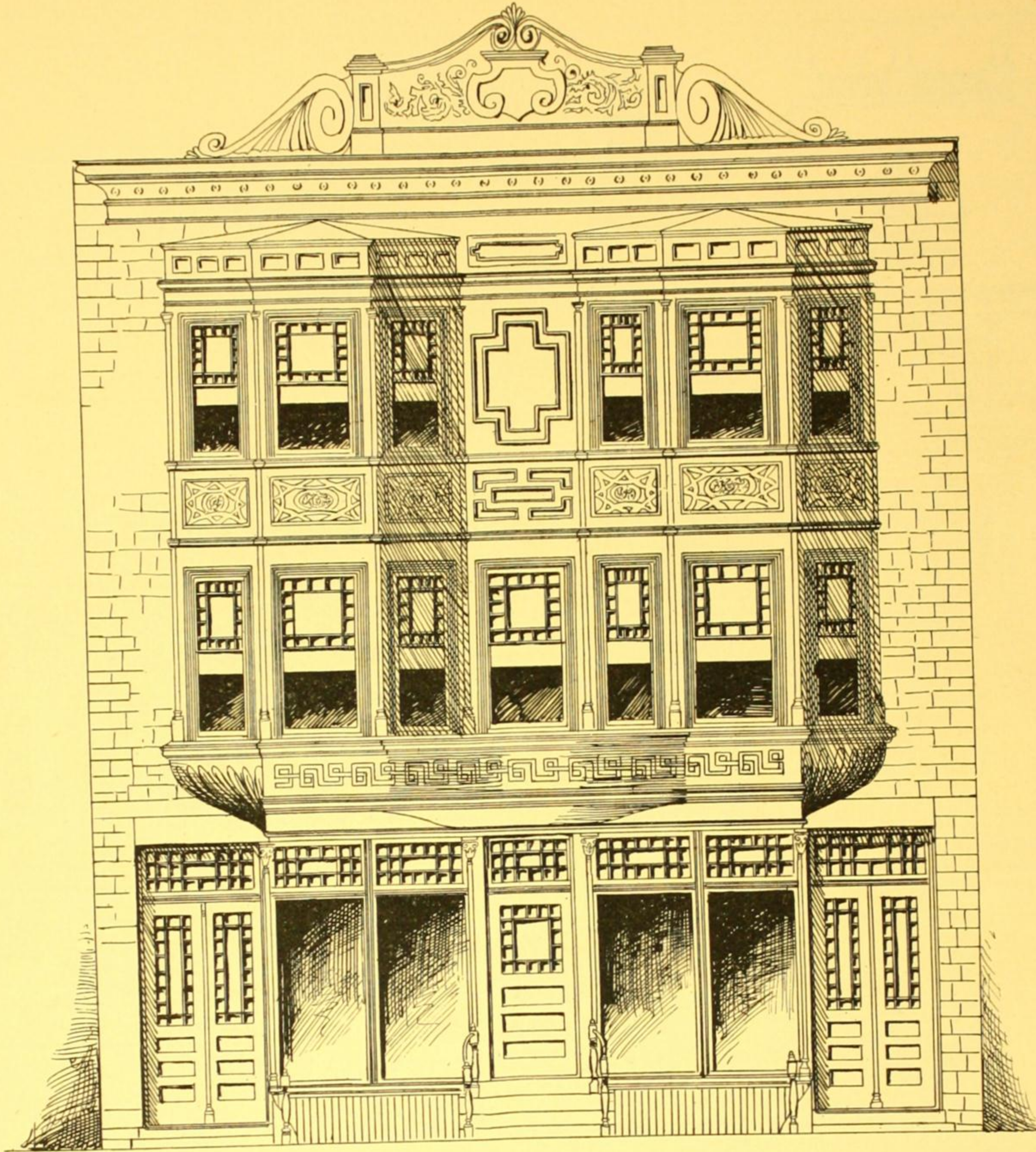


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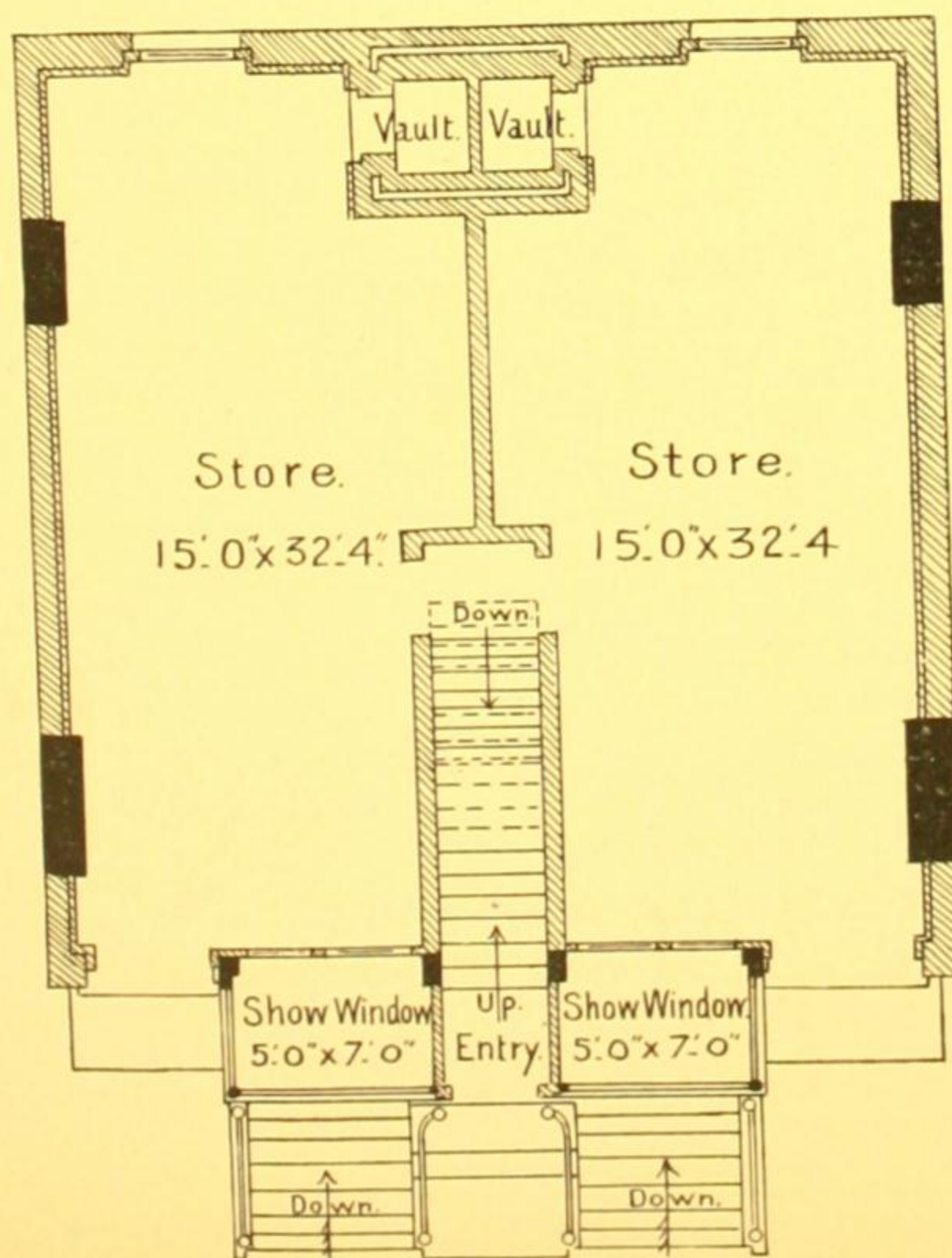
The above design belongs to the "\$6000 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

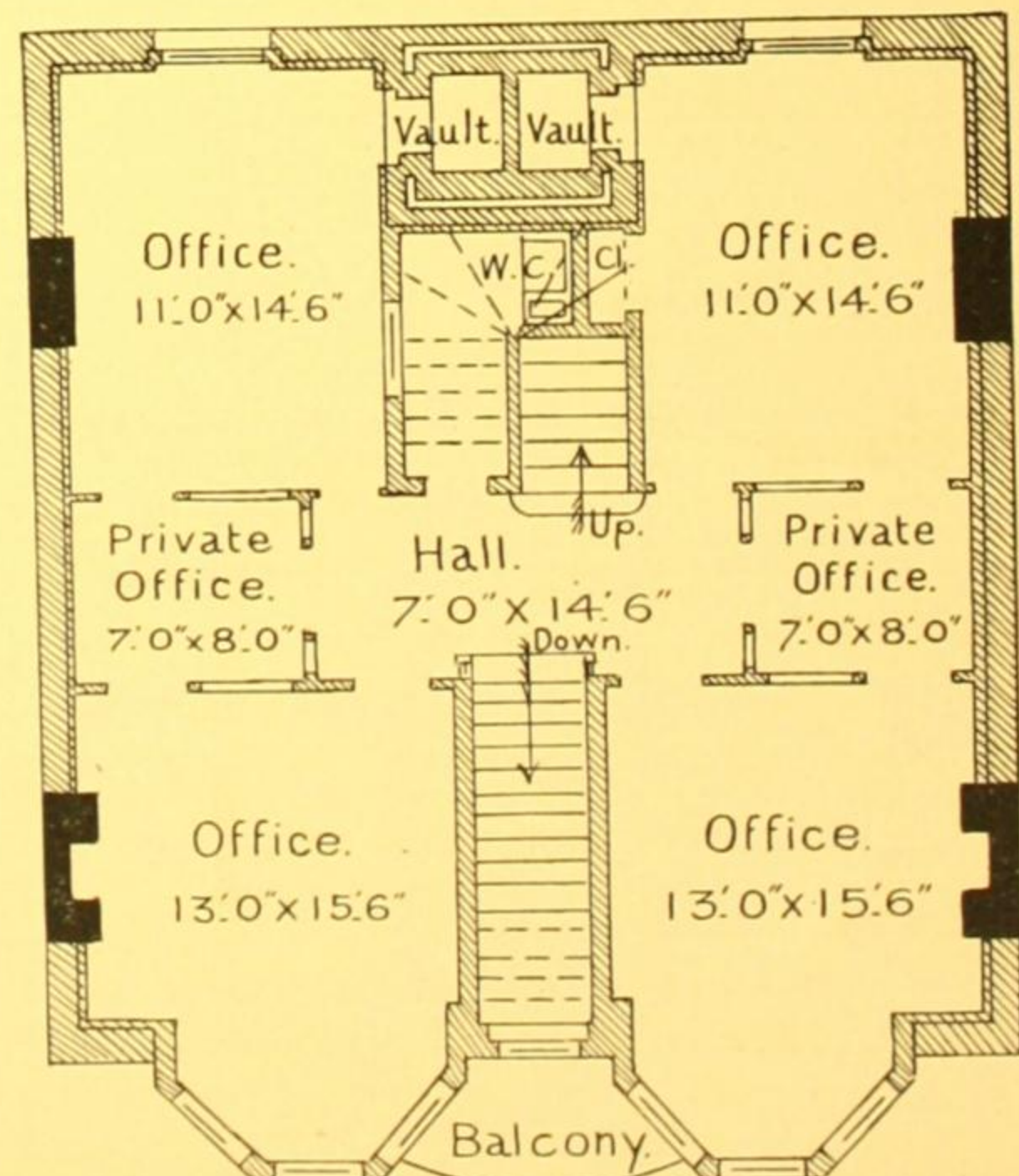
DESIGN PATENT APPLIED FOR.



FRONT ELEVATION.



FIRST FLOOR.



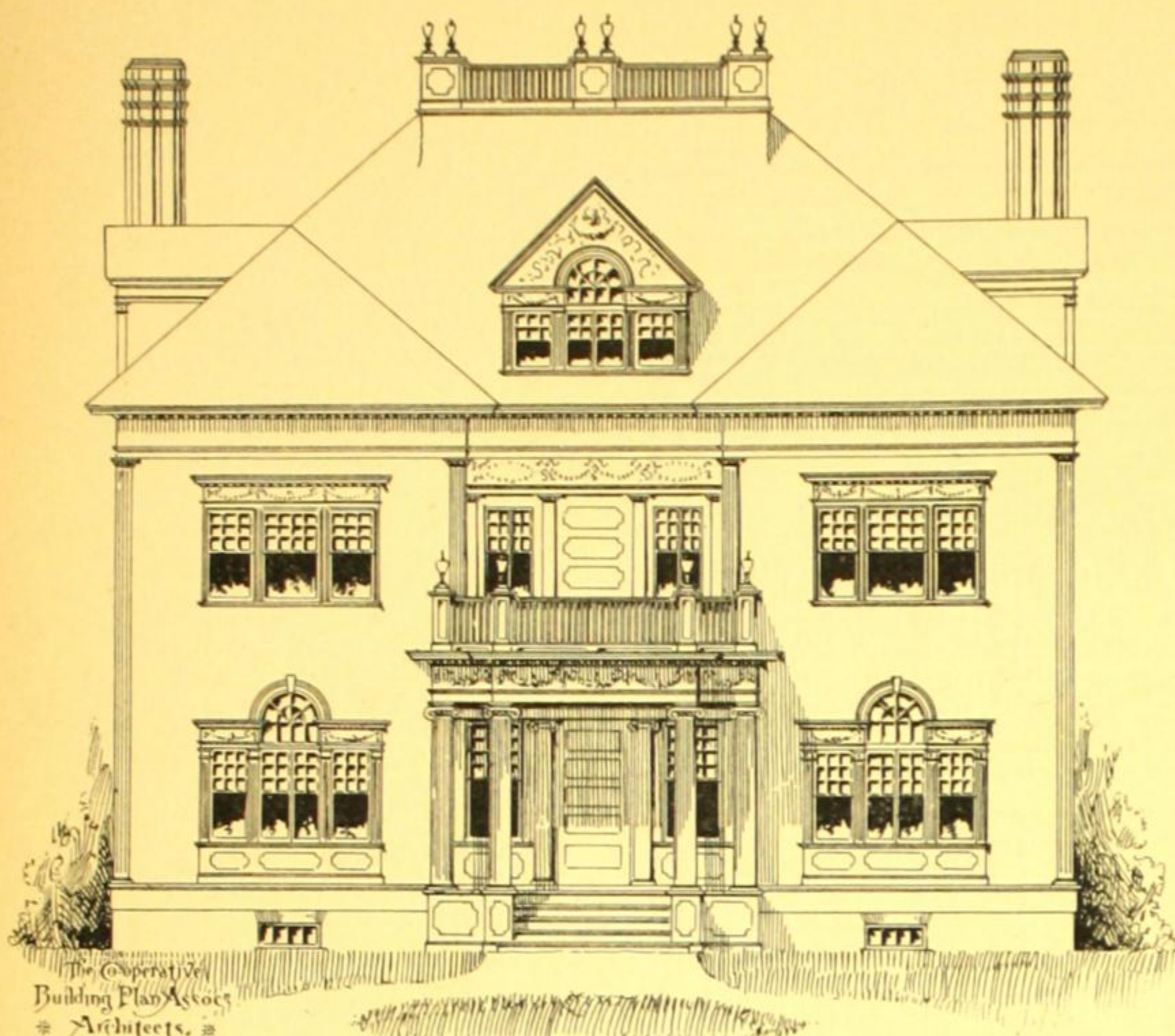
SECOND FLOOR.

The third floor is the same as the second, except that the Private Offices are omitted and the space of the same is equally divided among the four offices.

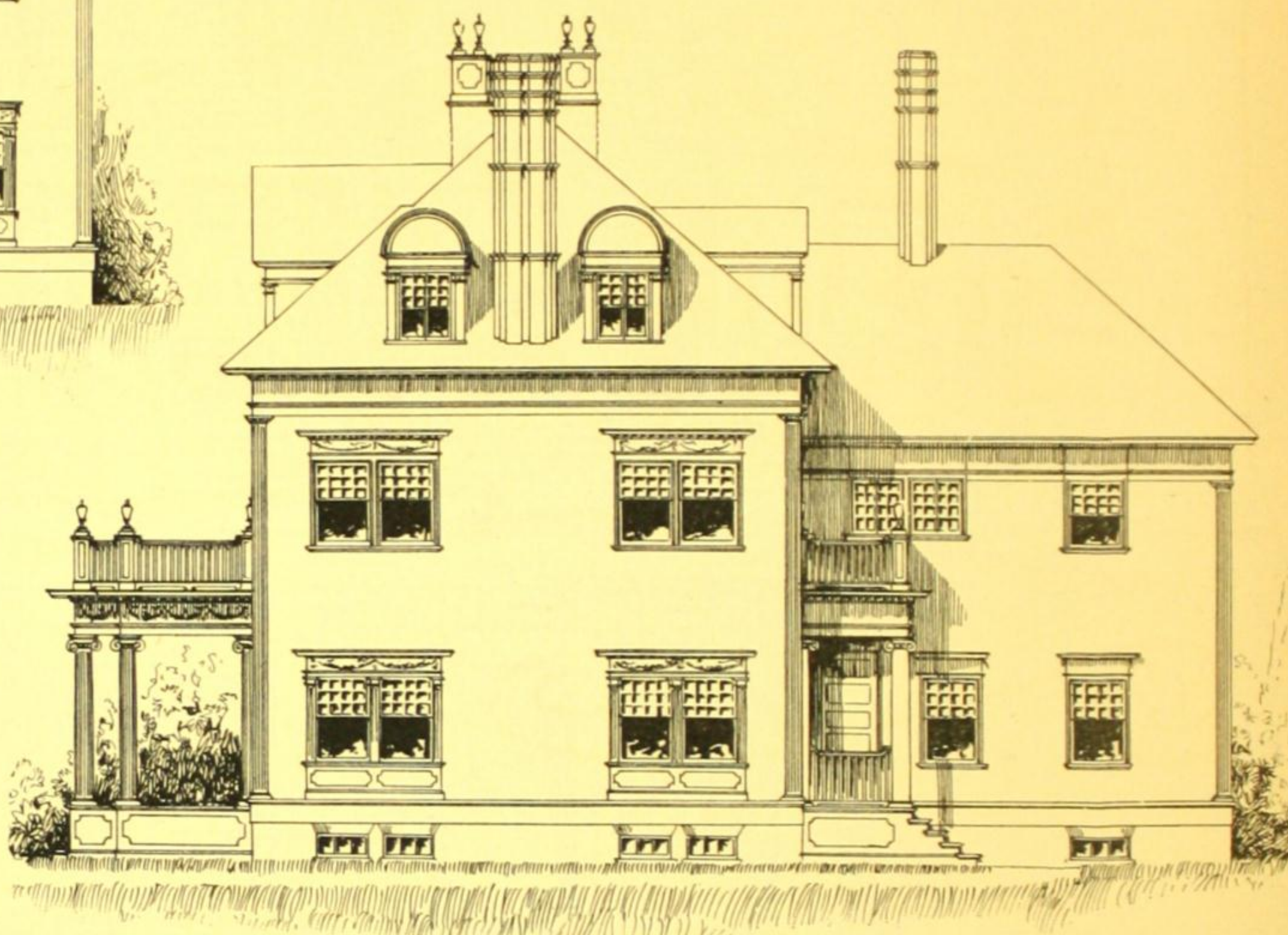
SHOPPELL'S MODERN HOUSES

DESIGN No. 605

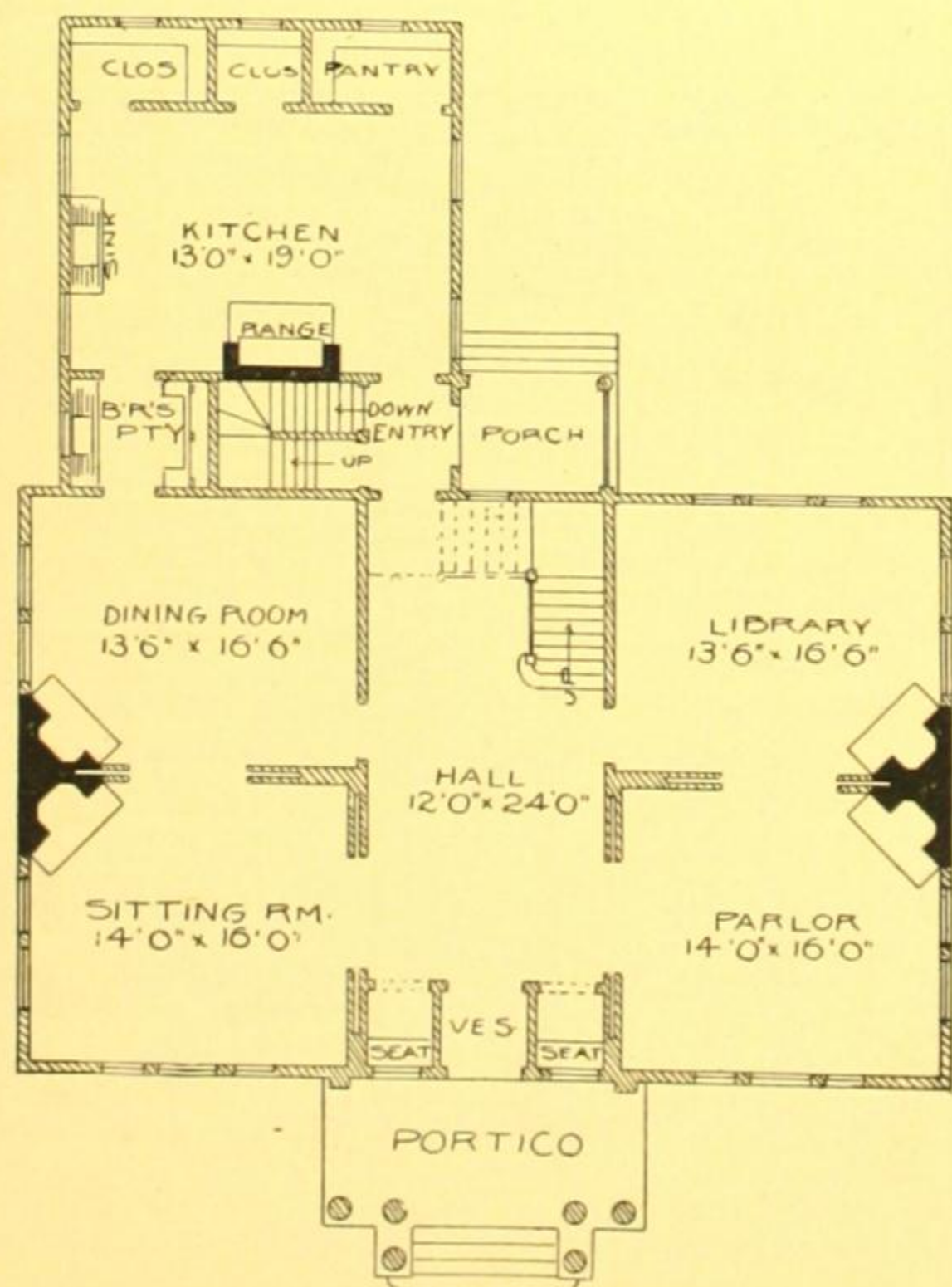
DESIGN PATENT APPLIED FOR.



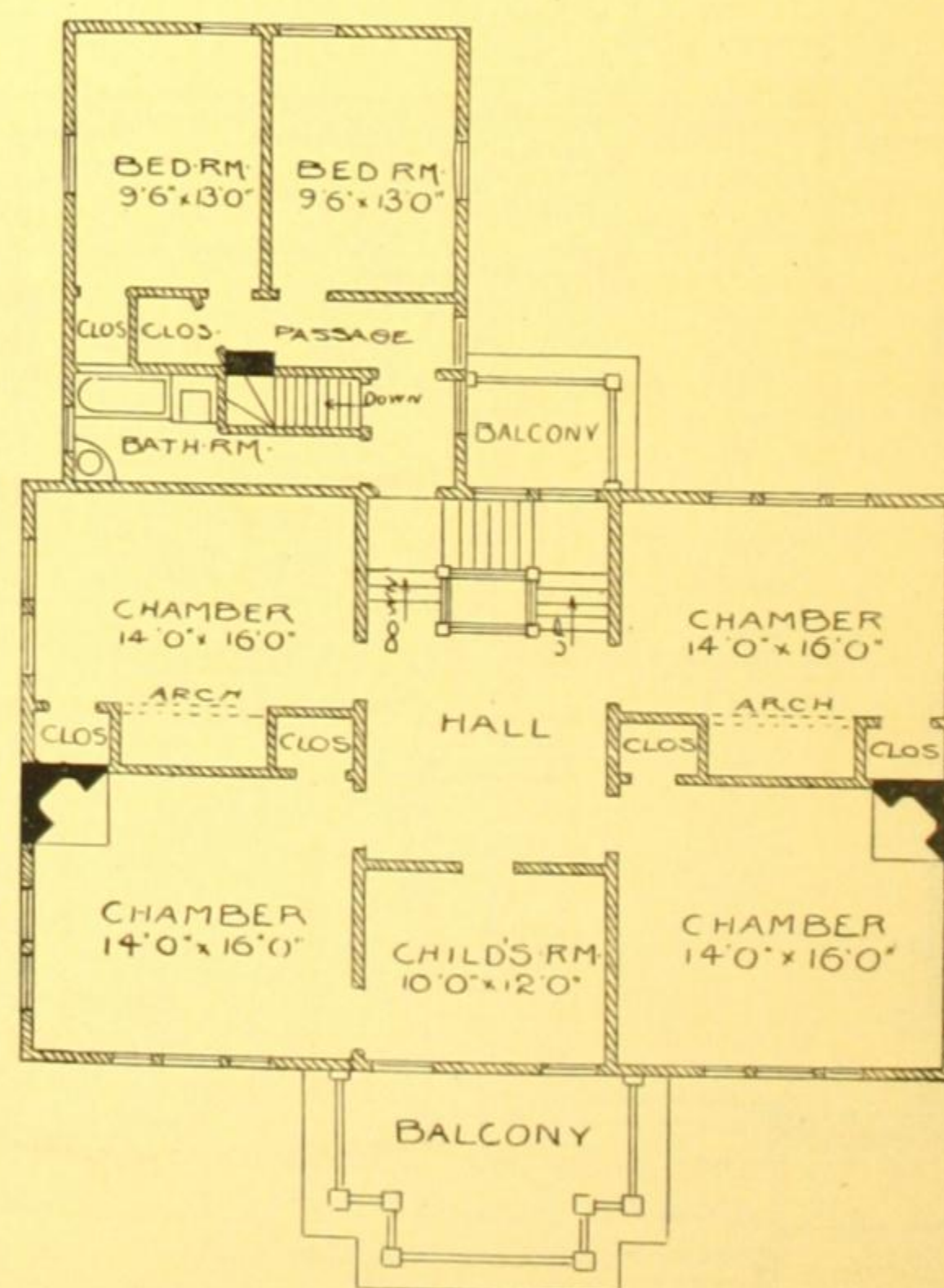
FRONT ELEVATION.



SIDE ELEVATION.



FIRST FLOOR.

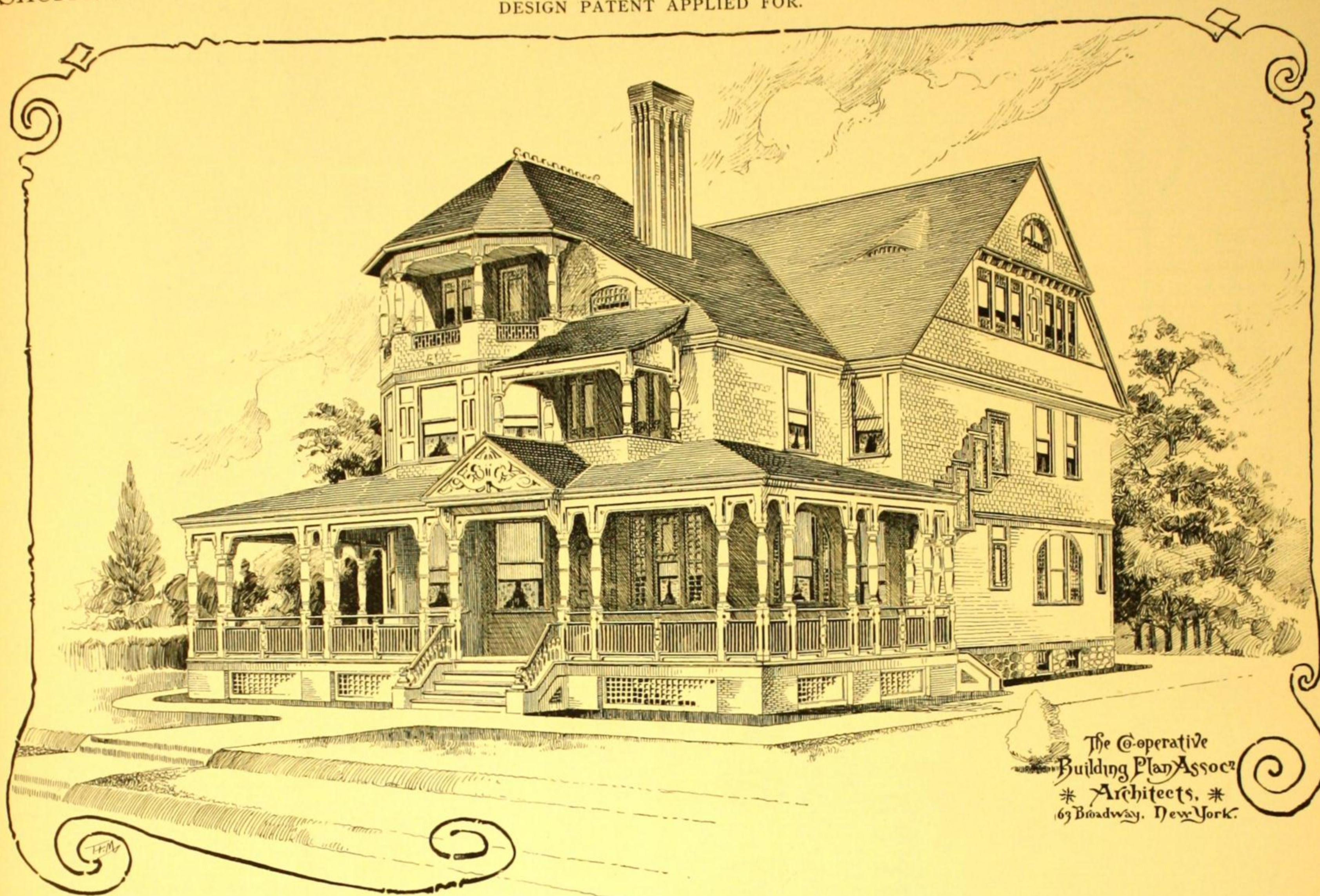


SECOND FLOOR.

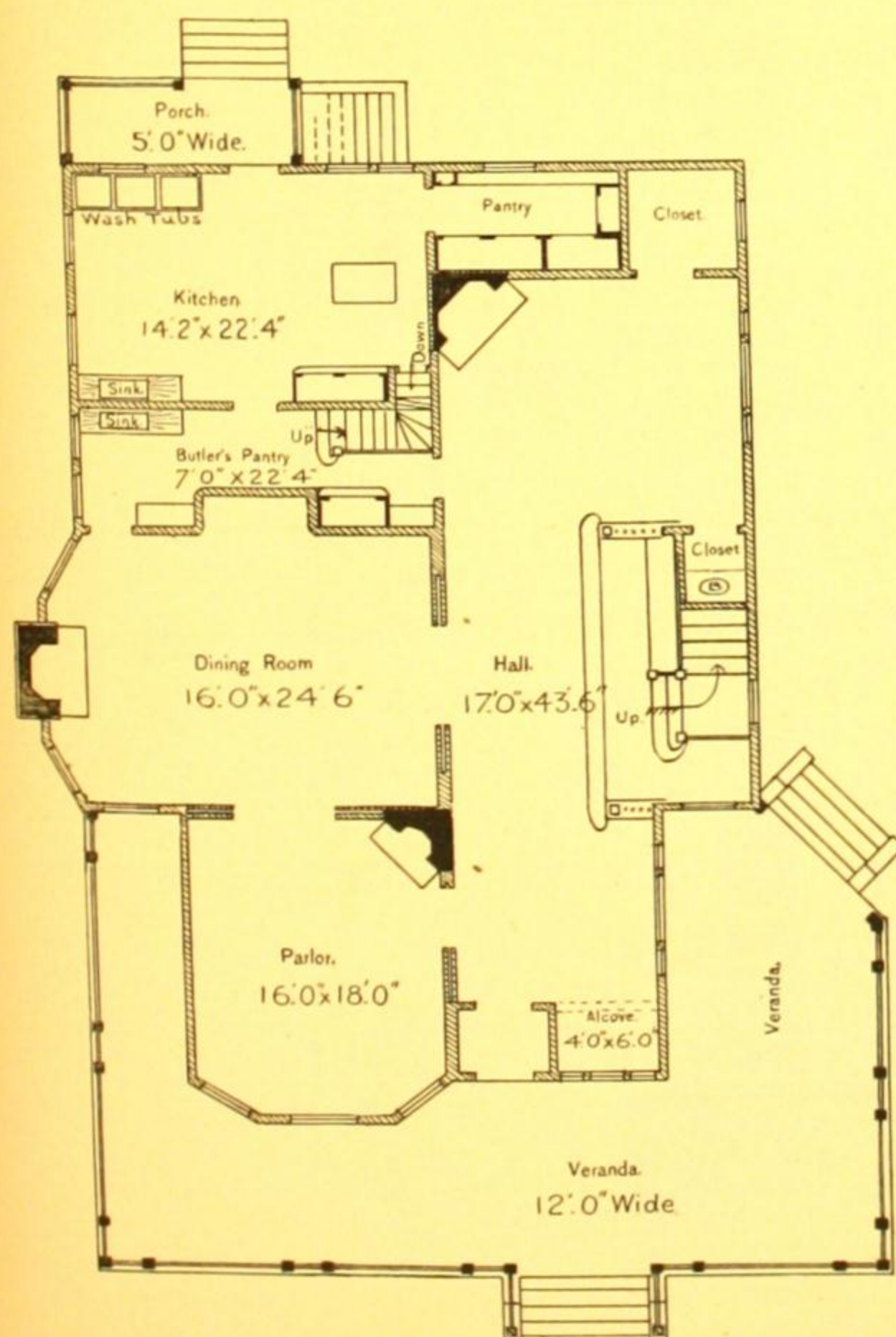
The above design belongs to the "\$7500 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

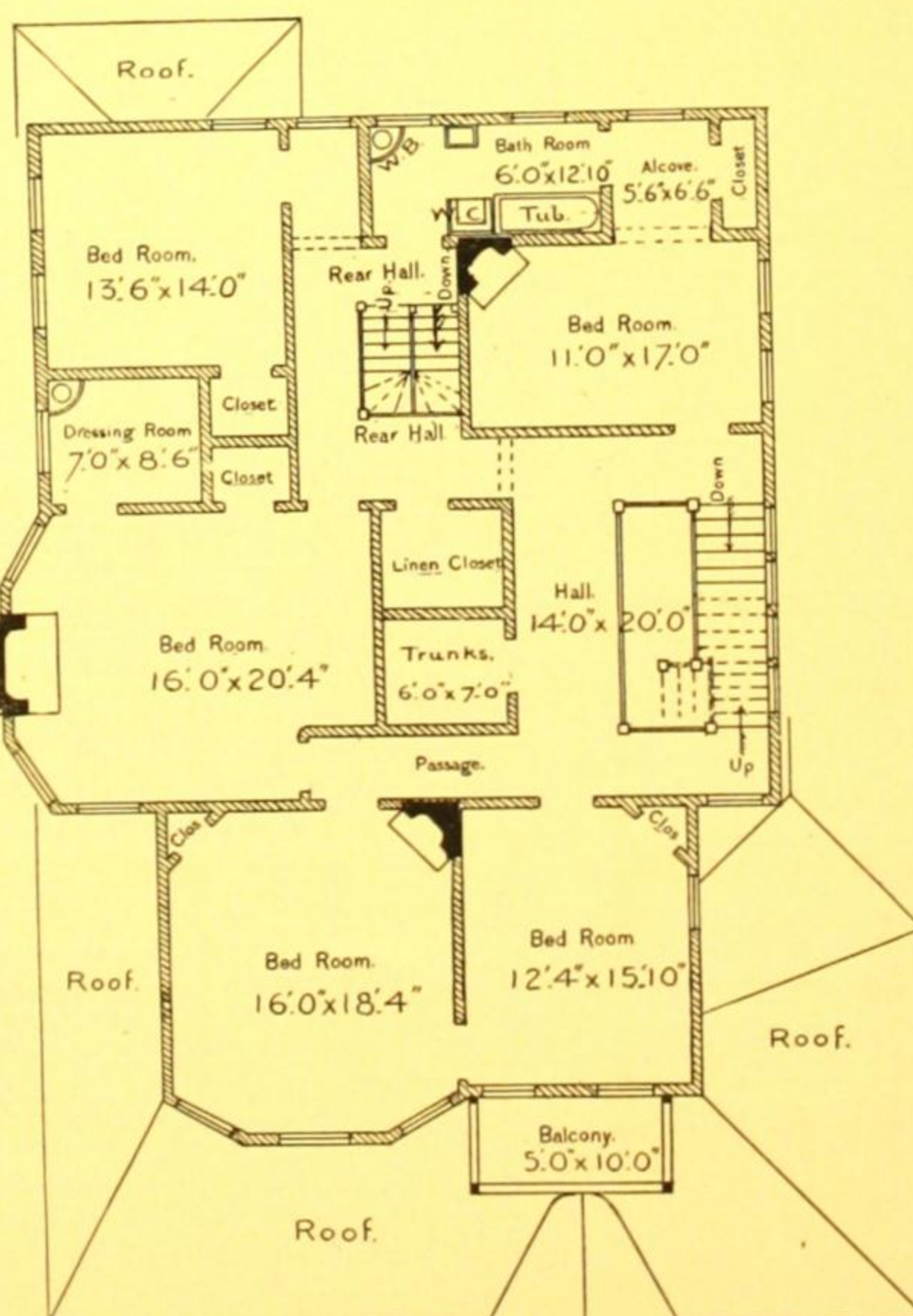
DESIGN PATENT APPLIED FOR.



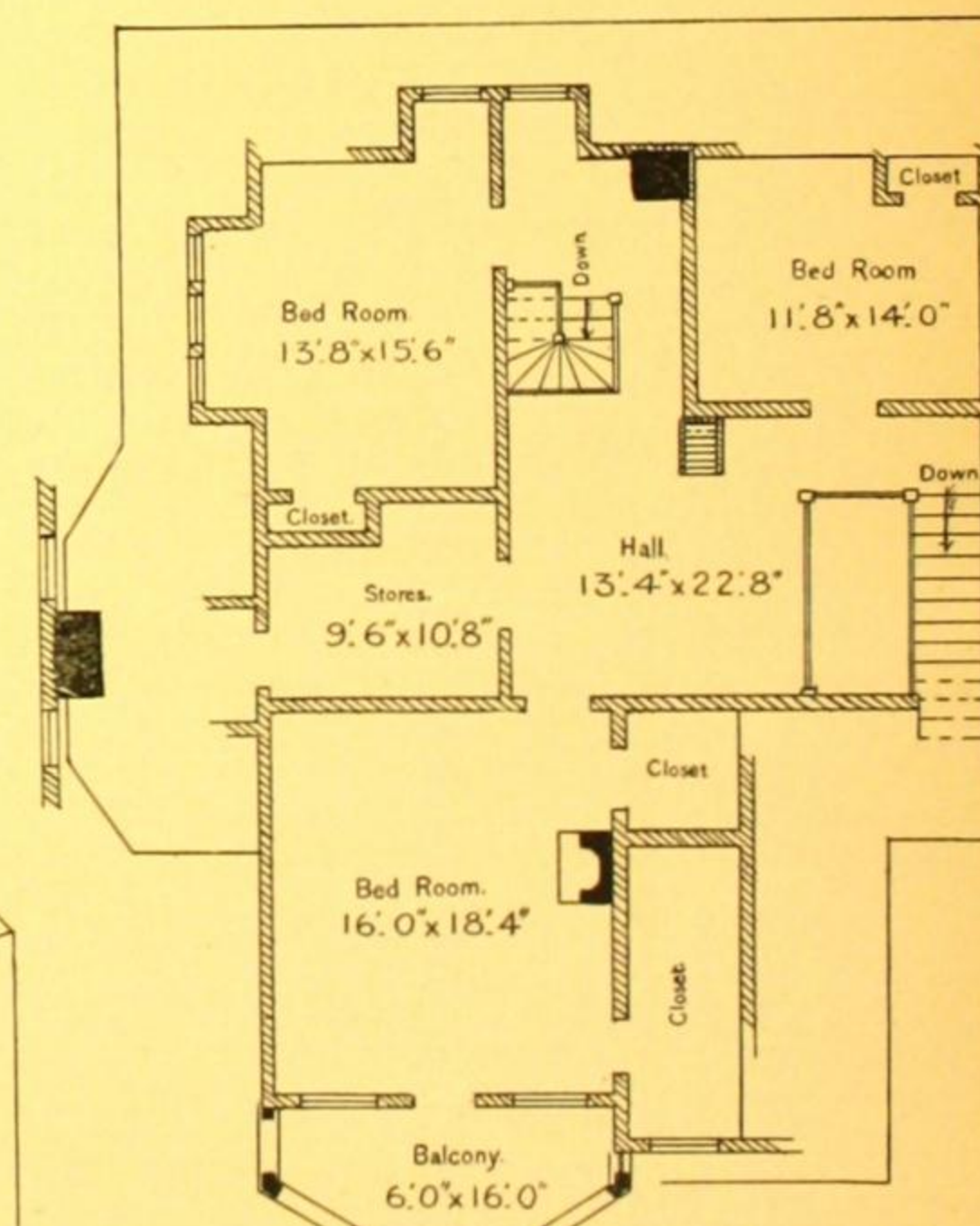
PERSPECTIVE VIEW.



FIRST FLOOR.



SECOND FLOOR.



THIRD FLOOR.

The above design belongs to the "\$10,000 Class." See page 95 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS, 63 BROADWAY, NEW YORK

See Description, Cost, etc. of this Design on "Descriptive Price List."

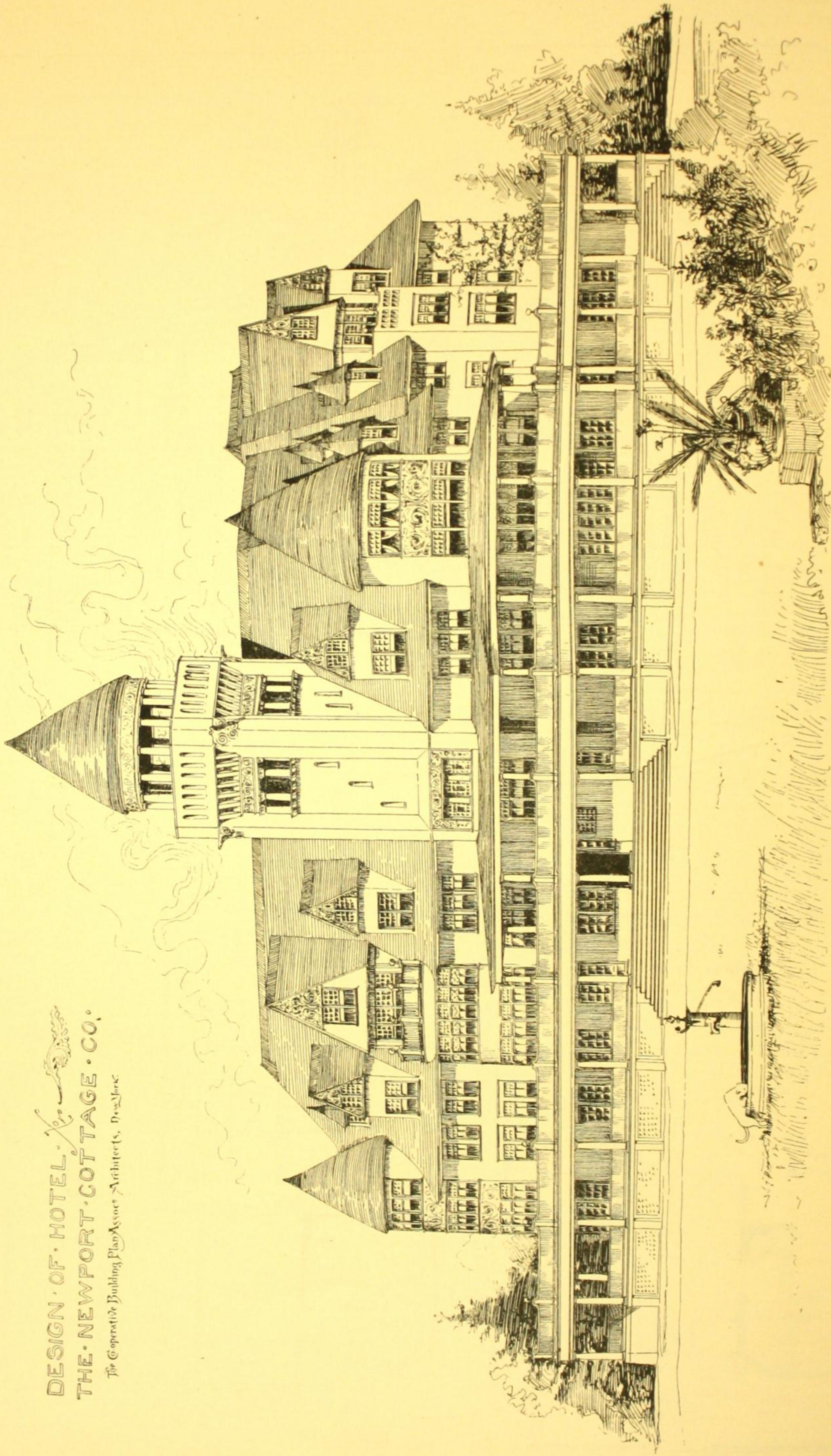
SEE PAGES 94 AND 95.

SHOPPELL'S MODERN HOUSES

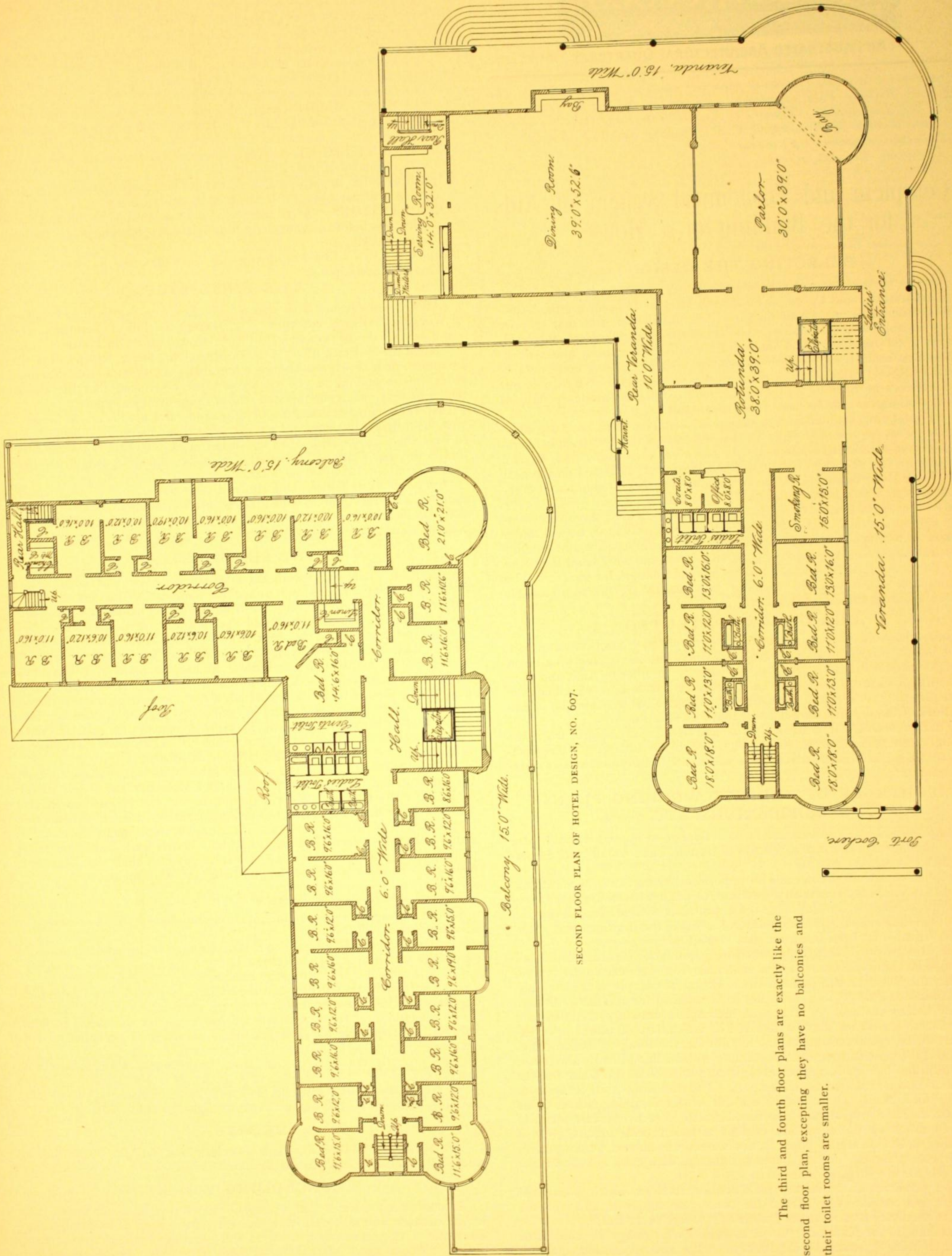
DESIGN No. 607

DESIGN PATENT APPLIED FOR.

DESIGN OF HOTEL.
THE NEWPORT COTTAGE CO.
The Co-operative Building Plan Association Architects, New York



PERSPECTIVE VIEW.



SECOND FLOOR PLAN OF HOTEL DESIGN, NO. 607.

The third and fourth floor plans are exactly like the second floor plan, excepting they have no balconies and their toilet rooms are smaller.

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

SHOPPELL'S MODERN HOUSES is published quarterly by the proprietors, The Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York, a new issue appearing January 1, April 1, July 1 and October 1 of each year. It is edited by R. W. Shoppell, C. M. Dissosway and W. K. Benedict. Price 25c. a number. \$1 a year. Advertising rates, \$6 an inch.

A Complete and Economical System of Aids for the Building of a House.

SELECTING THE DESIGN.

It may be fairly claimed that the building designs published and prepared by this Association, and known as Shoppell's Modern Houses, are the best—best in arrangement, in appearance and in construction, and that they are perfectly reliable as to estimates. Architects' estimates are often ridiculed, and with good reason, for too often their estimates are mere guess work. Our estimates result from carefully and laboriously calculating every item of material and every hour of labor required for each design. We exhibit our own confidence in them by guaranteeing their correctness, under penalty of charging nothing for our services if they are found to be incorrect.

If the intending builder finds a design in this book that "fills the bill," that answers his requirements fully, or that will answer them with slight alterations, his best course is to adopt it. If, however, he is undecided, he had better procure one or more of the Classified Portfolios, described on the next page. From these he can surely make a choice, for they present about every possible style and arrangement that can be devised.

Do not insist on having a very odd or a peculiar house; the owner himself is likely to tire of it, and if ever he is desirous of selling it, he will find a purchaser with difficulty. The best house is one whose exterior and interior are generally approved by people of good taste. On the other hand the house should not be too plain, such as a carpenter would design, for then it will be commonplace. It is believed that our publications are the most reliable guides in avoiding the extremes referred to.

* OUR DESIGNS PATENTED.

It often happens that when an owner has completed a handsome and convenient house, it is taken as a pattern, and similar houses spring up all over the neighborhood. This is annoying to many. In order to limit and control this duplication we are taking out patents for our designs, which enables us to require that owners and builders who use them, or who use the principal features of them, must have licenses to do so from us.

We charge nothing for a license. It is sent free for any design, when the Working Plans, Specifications, etc., of that design are ordered. We respectfully warn all unauthorized persons that we intend to fully protect our rights in this matter.

IMPORTANCE OF PERFECT WORKING PLANS, SPECIFICATIONS, ETC.

With proper aids it is an easy matter to build a good house; without them the most intelligent owner has a "world of trouble," and usually fails in getting satisfactory work.

Too often the owner is content with imperfect drawings and specifications. Sometimes he simply contracts for a duplicate of some other house, not knowing that the contractor can duplicate the appearance without duplicating the value. Sometimes he allows the contractor to make the drawings and specifications, which is far from being the part of wisdom.

The contractor is always apprehensive, with good reason, that labor troubles, delays, mistakes, advance of materials, etc., may eat up his margin of profit; therefore, he will perform the work just as cheaply as the drawings and specifications allow, and he is not to be blamed for it either, although for every dollar he saves by reason of incomplete drawings and defective specifications, the owner may be deprived of ten dollars of value. For example: If the specifications do not require the sheathing of the structure, why should the contractor spend forty dollars for sheathing boards and labor, even admitting that the increased strength and warmth of the house may be worth four hundred dollars to the owner? The sheathing is all covered up anyway. Or if the specifications do not call for the sheathing boards to be laid close together, why should not the contractor save five dollars' worth of boards by following the occasional custom of leaving wide cracks? Or, if the quality of the sheathing paper is not stated, why should he not put on the cheapest, saving five dollars, perhaps, although dampness will soon make it worthless for the purpose intended?

If the specifications do not call for a double first floor, which is essential to health and comfort, why should the contractor supply it, although the extra cost is only three dollars per "square" (10 feet by 10 feet)?

In the flues, in the plumbing, and in a hundred other things the contractor may save a little, by reason of imperfect drawings and specifications, at the expense of a great deal to the owner.

* As the design pages of this publication are made up sometime before printing them, the Patent claim has to be announced, simply, as "Applied For." But, by the time this publication reaches the hands of readers, it is confidently expected that all claims will be allowed. In fact, at the time of writing this last page, the Patent for one of the designs has been allowed and all the others are expected within a few days.

A COMPLETE SET OF PLANS, SPECIFICATIONS, etc.

The following is a full and complete list of architectural aids for the building of a house:

WORKING PLANS of the foundation, floors, roofs and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

COLOR SHEET giving examples of elevations properly colored, with directions for mixing and applying the paints.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

BILL OF QUANTITIES, giving the true quantities, in detail, of all the materials required.

THE FIRST STEP.

After the design has been selected, the first step is to order a complete set of Working Plans, Specifications, etc., except the Bill of Quantities, which is not needed if the owner intends to have the work done by contract.

When the Working Plans, Specifications, etc., arrive, which will be almost by return mail or express (charges prepaid), give them a close examination. After this examination the owner is often convinced that the alterations which he may have contemplated will not improve the design.

However, after examination, if alterations and modifications are wanted, write us fully about them and we will advise as to their practicability and as to their effect on the cost. We will make, also, the changes on the drawings and in the specifications, if requested to do so, charging a small fee (seldom exceeding five dollars) for the work.

Or, after examination and study, if the owner prefers some other design, we will allow him to exchange, by his returning to us all the drawings and specifications unused and allowing us twenty per cent. of their cost to cover the extra expenses involved.

THE SECOND STEP.

When the Plans and Specifications finally represent just what is wanted invite bids from builders and award the contract to the lowest approved bidder. Competition among builders, which is made possible only by having complete Working Plans and Specifications, is the only way to get the contract price down to the right figure. When there is no competition a builder studies the owner, trying to estimate how big a price he will stand; when there is competition the builder studies the plans and specifications trying to estimate how low he can do the work to get the contract. Do not make a mistake here. If the owner has a particular friend among the builders, who might naturally expect the work, it is a good opportunity for the friend to show his true friendship by figuring low for the contract, in competition with other builders. A true friend will not object to competition; he knows that it is the only wise course for the owner.

When the contract has been awarded send us the name of the contractor, the amount, the time for completion and a memorandum of any extras or omissions agreed upon. We will then write out the Agreement in proper form, dividing up the amount into several payments, each to become due at certain stages of the work. State the number of payments the contractor wants. The Agreement is a very important matter and should be properly prepared, the principal care being that at no payment shall the contractor be overpaid. We make no charge for preparing the Agreement.

SUMMARY.

The advantages offered to the intending builder by this Association may be summarized as follows:

1. The owner is supplied with a large number of the most approved designs from which to make a selection.
2. The estimates are thoroughly reliable.
3. The designs are patented and the owner is protected from unauthorized duplication of the house he builds.
4. Alterations of the design selected are made for the owner until they fully suit his requirements, or an exchange of design is permitted at small cost.
5. A properly written Agreement with the contractor is prepared without charge.
6. At all times the owner has full and free consultations, before commencing, during the progress and at the completion of the work.

REBATE.

From the price of Working Plans, Specifications, etc., the owner may deduct the amount he has paid us for books to the extent of five dollars.

CONCLUDING WORD.

In the limited space of a page many of the advantages of our system must be left unsaid; but we would like intending patrons to feel—as we believe every one of our numerous patrons do feel—that our dealings are characterized by a liberal spirit; that the most painstaking efforts are always made to please them and to serve their best interests.

Respectfully,

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS
63 BROADWAY, NEW YORK.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS, 63 BROADWAY, NEW YORK.

DESCRIPTIVE PRICE LIST

of

SHOPPELL'S MODERN HOUSE DESIGNS

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN No. Use	* Cost	† Size		‡ Materials				** Height of Stories				Price of Working Plans Spec. etc.	Price of Bill Materials.	*** REMARKS
		Front	Depth	Found'n	1st Story	2d Story	Roof	Cellar	1st Story	2d Story	3d Story			
588 Residence...	\$3300	30' 0"	48' 6"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	\$35.00	\$10.00	Cellar under whole house; one room finished in attic, space for one more; plastering is hard white; trim is yellow pine; staircase of cherry; plaster cornices and centres in hall, parlor and dining room. Colonial in style and regarded as a very pleasing design.
589 Stable.....	600	24' 0"	30' 0"	Posts	Clapbd	Shingls	Shingls	....	10' 0"	9' 6"	....	15.00	5.00	Wickets at the heads of stalls, through which feed may be passed without entering stalls.
590 Stable.....	400	16' 0"	22' 0"	Posts	Clapbd	Shingls	Shingls	....	10' 0"	....	....	15.00	5.00	Second story an open mow, with ample space for feed bins; large sliding door between stable and carriage room, when open admits a team entirely into stable, to be there unhitched. Convenient during stormy weather.
591 Residence...	600	24' 0"	39' 7"	Posts	Clapbd and Shingls	....	Shingls	6' 0"	10' 6"	....	....	15.00	5.00	Cellar under kitchen with plank walls; attic floored but no rooms finished; trim, white pine; walls and ceilings plastered; veranda or porch may be indefinitely extended to suit climate.
592 Residence...	1200	48' 0"	35' 0"	Posts	Clapbd	Shingls and Panels	Shingls	....	11' 0"	10' 0"	....	15.00	5.00	Designed for summer occupancy only; no cellar and no plastering; partitions all wood, covered with "plaster board;" store room may be converted into a bath room. A very serviceable and attractive summer cottage.
593 Residence...	1800	25' 6"	45' 6"	Brick	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 4"	....	20.00	10.00	Designed for one or two families; sinks and boilers in both kitchens; back stairs to second story; open garret, where two small rooms may be finished; hard white plaster walls and ceilings; white pine trim; ash stairs.
594 Residence...	2300	21' 6"	52' 6"	Brick	Clapbd	Clapbd	Shingls	7' 0"	10' 0"	9' 0"	....	25.00	10.00	Cellar under main part of house; all plumbing concentrated in or near kitchen; no fire-places, but mantels in parlor and dining room; no rooms in attic; plaster finished for papering; trim and stairway of white pine.
595 Residence...	1800	34' 0"	39' 0"	Stone	Clapbd	Shingls	Shingls	6' 6"	9' 6"	8' 6"	....	20.00	10.00	Cellar under all except kitchen; no attic; walls finished in hard white plaster; trim, white pine; main stairway ash; bath room has tub with cold water supply pipe. Convenient, quaint and pretty.
596 Residence...	1500	22' 0"	32' 6"	Stone	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 6"	....	20.00	10.00	Cellar under whole house; no attic rooms; stationary tubs and sink in kitchen; pantry forms a convenient passage between dining room and kitchen; bath room has tub, w. c. and wash bowl; gambrel roof and dormers in Colonial style.
597 Residence...	3300	34' 0"	51' 6"	Stone & Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	8' 10"	7' 6"	35.00	10.00	Cellar under whole house; set laundry tubs in kitchen; combined front and back stairs, economizing room; coat and hat closet in hall; three fire-places; two bedrooms and hall finished in attic; hard white plaster throughout; plaster cornices and centres in hall, parlor, sitting and dining rooms; oak trim in hall and dining room; Georgia pine in second story and white pine in balance of house; main stairs oak; mantels to cost \$80; house piped for gas; stained glass in staircase window.
598 Residence...	2600	34' 6"	49' 0"	Posts	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 6"	....	25.00	10.00	Cellar (with plank walls) under kitchen; sink in kitchen; ample closets; fire-places in hall, parlor and dining room; attic floored but not finished; space for three rooms and storage; hard plaster finish; white pine trim; ash stairway.
599 Residence...	4000	39' 6"	43' 6"	Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	8' 6"	8' 0"	40.00	10.00	Cellar under whole house; laundry, with three stationary tubs in basement; servants' w. c. in cellar; fire-places in parlor, library and dining room (with mantels costing \$25 each); four bedrooms in attic; interior finish is hard, white plaster; soft wood trim and hard wood staircase.
600 Residence...	6800	64' 0"	71' 6"	Brick	Clapbd	Clapbd	Tin	7' 0"	10' 0"	9' 0"	....	70.00	15.00	Cellar 13x40 feet under kitchen; brick cellar walls; balance of house on brick piers; fire-places in parlor and dining room; wide and ample verandas; attic floored, but unfinished; space for five or six rooms; interior finish hard, white plaster and white pine trim; main stairs ash.
601 Residence...	3500	30' 8"	48' 8"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 6"	8' 9"	8' 6"	35.00	10.00	Cellar under whole house with concrete floor; ample closets; fire-place in dining room; three bedrooms in attic; ceilings plastered hard white; side walls plastered for papering; trim, white pine; hall and staircase of oak.
602 Residence...	5500	33' 6"	62' 0"	Stone & Brick	Clapbd	Shingls	Shingls	6' 6"	9' 6"	9' 0"	....	55.00	15.00	Cellar under kitchen only; three set wash trays in laundry; ample closet room; four fire-places; attic floored but not finished; plaster hard, white finish; cornices and centres in hall, parlor, library and dining-room; trim, white pine; staircase, ash.
603 Residence...	6000	48' 0"	51' 6"	Stone & Brick	Brick	Brick	Shingls	7' 6"	12' 0"	11' 0"	....	60.00	15.00	Cellar under dining room and kitchen; five fire-places; alcove in dining room for side board; ample verandas; seat in hall and closet under main stairs; hard, white plastering throughout; plaster cornices and centres in parlor, dining room, halls, vestibule and three principal bedrooms; trim throughout in white wood; main stairway is oak; mantels to cost \$200 in all.
604 Stores.....	6000	33' 0"	44' 8"	Brick	Brick Stone & Iron	(2d & 3d) Brick Stone & Iron	Tin	7' 2"	11' 0"	9' 6"	9' 0"	60.00	15.00	Cellar under whole building; vaults in basement and in first and second stories; third story has four offices, somewhat larger than those on second floor, with large closets; a water closet on second floor serves for the second and third floors; show windows are large; hard, white plaster and white wood trim used throughout; two fire-places with \$35 mantels.
605 Residence...	7000	47' 0"	63' 0"	Stone & Brick	Clapbd	Clapbd	Shingls	7' 0"	11' 0"	9' 0"	8' 0"	70.00	20.00	The lower hall is finished with oak and has an oak floor and staircase; the rooms throughout are trimmed with soft woods, finished in natural colors or painted white; there are three bedrooms and a storage room in the attic, a cellar under the whole of the main house, and a laundry and servants' w. c. under the kitchen; all walls and ceilings are finished in hard, white plaster; regarded as a pure example of the best Colonial style.
606 Residence...	8500	51' 8"	72' 0"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	85.00	20.00	Cellar under whole house; servant's bath room and w. c. in cellar; seven fire-places; entire house plastered for papering; plaster cornices in parlor, four bedrooms and second story hall; trim of first story, oak; second story, whitewood, stained to imitate hard wood; third story, yellow pine; main stairway entirely of oak; house wired for electric bells and piped for gas; the hall ceiling shows open timber paneling; the dining room ceiling is paneled flat; in the attic there is a billiard room and two bedrooms.
607 Hotel.....	45,000	150' 0"	100' 0"	Stone	Clapbd	(2d & 3d) Shingls	Shingls	8' 6"	Dining Room 15' 0" else where 12' 0"	10' 0"	3d & 4th 9' 0"	....	....	Cellar to contain kitchen, laundry, furnace and coal rooms, billiard and bar-rooms, wine cellar, refrigerators, servants' w. c. and bath-rooms, barber shop, baggage room, steward's room, etc.; servants' sleeping quarters in attic; building heated by steam throughout; hydraulic elevator running from cellar to attic in tower; first story floor in rotunda, parlor, dining room and corridor to be hardwood; trim in rotunda, parlor and dining-room to be hardwood, elsewhere of soft wood, stained or oiled; plaster to be hard finish throughout.

* Cost is based on the prices for materials and labor that prevail in the vicinity of New York. In many places cost will be less. When Working Plans, Specifications, etc., are ordered, we carefully re-estimate the cost according to the client's local prices, which gives the client the sum at which, or very near which, he should be able to contract. This re-estimated cost is guaranteed to be correct; otherwise, we will return the fee paid us.

† Sizes given include all projections—porches, verandas, bay-windows, etc.

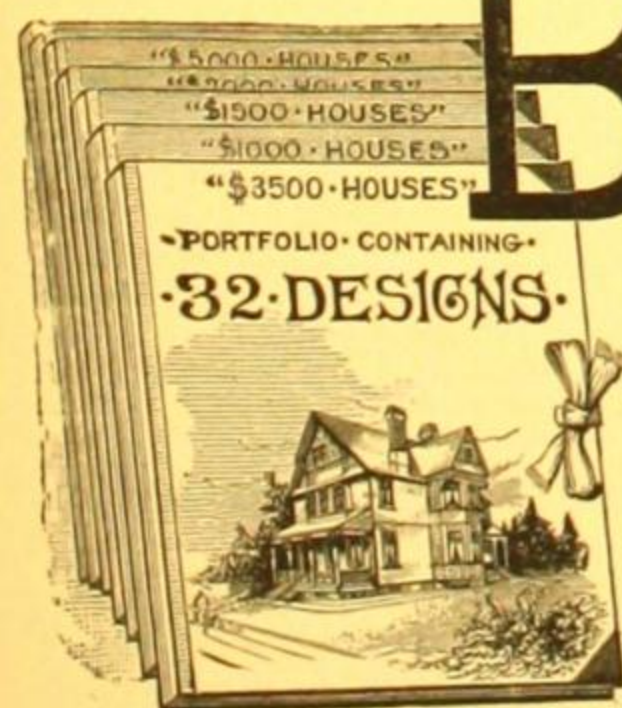
** Height of Stories may be changed, but it necessitates re-drawing the elevations, for which an additional charge of \$5 is made for a house that costs \$5000, and under; \$10 for a house that costs over \$5000.

†† These list prices are only about ONE-QUARTER of the amounts usually charged by other architects. The drawings, etc., that we send are on a larger scale, and are more complete and accurate than can be procured elsewhere at any price; they include Working Plans, Specifications, Detail Sheets, Color Sheets, Supplement Sheets about Cisterns, Earth Closets, Privies and Fences. Also Duplicate Agreements.

‡‡ A Bill of Materials is needed only in case the owner wishes to buy the materials.

*** We can send the Working Plans, Specifications, etc., of any of these designs REVERSED—for which we charge \$5 additional. What we mean by reversed is fully illustrated by holding the design before a strong light and viewing it from the back; the faint lines that show through show the design reversed.

SHOPPELL'S CLASSIFIED BUILDING DESIGNS



Complying with the oft-repeated request of many of our patrons, we have classified our Building Designs for Residences according to cost. This classification includes all of our popular designs and many new ones specially prepared for the purpose.

An owner may now choose from a large number of designs of the same cost, and not waste time on others. Each classification includes about the largest possible variety of designs its limit of cost allows. Usually the owner need look no further. See opposite column for list.

"Truly called perfect aids to intending builders."—*Christian Herald, N. Y.*

LIST OF CLASSIFICATIONS.

Views, floor plans, all dimensions and full descriptions are given. Printed on heavy supercalendered plate paper—size of page, 10½ x 14 inches. Each classification enclosed in a handsome cloth portfolio.

Portfolio of	Portfolio of
" *\$1000 Houses; 25 Designs.	" *\$5000 Houses; 25 Designs.
" *\$1500 " 25 "	" *\$6000 " 22 "
" *\$2000 " 25 "	" *\$7500 " 20 "
" *\$2500 " 25 "	" *\$10,000 " 16 "
" *\$3000 " 28 "	" *Stables and Carriage Houses,
" *\$3500 " 32 "	various costs; 16 Designs.
" *\$4000 " 26 "	

* Exact cost of each design stated and its correctness guaranteed. In many cases the exact costs are slightly under or over the "class" figure. Prices for materials and labor given on which costs are based.

PRICES: One Portfolio, \$2.00; Three Portfolios, \$5.00; Seven Portfolios, \$10.00; Twelve Portfolios (the full set), \$15.00. Delivered by mail or express, all charges prepaid.

Remit by Check on Local Bank, Draft, P. O. Order, Express Order, or enclose bills and Register the Letter.

Address: THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, Architects,

(Or for a shorter address, R. W. SHOPPELL,) 63 Broadway, New York.

REFERENCES BY PERMISSION

The names of patrons appearing on this page are printed by authority of their written permission, in answer to the following letter addressed to each of them, after the completion of their buildings. Limited space admits of giving a few only.

"Dear Sir:—If our work for you has proved satisfactory, will you kindly permit us to include your name in our reference list? Yours very respectfully,

"THE CO-OPERATIVE BUILDING PLAN ASS'N, 63 Broadway, New York.

"Per R. W. SHOPPELL."

- H. D. Reaves, Santa Barbara, Cal., who says:
"My house looks very pretty and its plan is most admirable."
- R. W. Sargent, Esq., Greenwich, Conn., who says:
"My house outshines anything around here for the money."
- A. E. Skelding, Esq., Riverside, Conn., who says:
"I have built eleven houses in this place, some from designs by architects to whom I have paid very high prices; but none have pleased me so much as the last house, which I built from your Plans. In future I shall use them; they are cheaper and I consider them more practical than others."
- Jesse D. Phelps, Esq., Attorney, Minto, Dakota, who says:
"You have full permission to use my name. I am thoroughly pleased with my house. It shows much better in reality than the conception on paper. I have built it at less expense by having Plans, Specifications and Estimates."
- Jas. G. Eastwood, Esq., cor. Howard ave. and 17th st., Washington, D. C., who says:
"I am living in the house I built last summer from Plans and Specifications furnished by you, and will say that your work was satisfactory in every respect."
- Thos. W. Wilson, Esq., Dover, Del., who says:
"Your Plans and Specifications saved me much valuable time and money."
- Julius Hayden, Supt. Jacksonville & Atlantic R.R., Jacksonville Fla., who says:
"I am very much pleased with the house built from your Plans."
- Chas. E. Thorne, Esq., Welaka, Putnam Co., Fla., who says:
"With your Plans I have made my house—simply beautiful! I have recommended your work to others, and hope they will have the good sense and far-sighted economy to patronize you."
- Prof. W. S. Wilson, Agri. College, Dahlgren, Ga., who says:
"I am satisfied that through you one can get the assistance of architects on the most reasonable terms possible."
- J. A. Nourse, Esq., with the Sawyer-Goodman Co., Lumber, Chicago, Ill., who says:
"I shall take pleasure in recommending your Plans whenever opportunity occurs. The house which I built attracts attention, and I am asked frequently where I got the Plans."
- R. S. Dickie, Esq., Chicago, Ill., who says:
"We believe your work to be of inestimable advantage to those contemplating building."
- E. A. Thomas, Esq., East St. Louis, Ill., who says:
"The cost of our house runs under your estimate."
- E. M. Wood, Esq., Grand Crossing, Ill., who says:
"The Plans you sent me saved me a good many dollars in the construction of my house."
- Geo. Webster, Jr., Esq., Marion, Ind., who says:
"You have permission to refer to me in any manner you see proper. I have a handsome and very convenient dwelling, made from your Plans, and I was well pleased with your promptness in furnishing Plans, Details, etc."
- Jas. Alexander Leonard, Esq., Decorah, Iowa, who says:
"I can most heartily recommend your Association as filling the bill complete, so far as I am concerned."
- M. R. Mudge, Esq., Banker, Eskridge, Kansas, who says:
"The Plans worked out all right; the carpenter and mason had no trouble with them whatever."
- D. C. Morgan, Esq., Attorney, Monroe, La., who says:
"It affords me pleasure to unite with your other customers in commending you to the public for your artistic manner of getting up building plans."
- M. T. Denham, Treasurer Eastern Forge Co., Portland, Maine, who says:
"Your system is, undoubtedly, the best yet devised to secure to people just such homes as they could wish."
- Capt. Wm. E. Nason, Saco, Maine, who says:
"A great many people speak well of the Plans, and pronounce the building as one of the finest in Saco."
- A. Hoen, Esq., Baltimore, Md., who says:
"The house has attracted considerable attention and you will probably receive inquiries from some of my neighbors who contemplate building."
- J. D. Mallory, Esq., 22 Light street, Baltimore, Md., who says:
"Your Plans were of great use to me, and saved me \$450 on my house."
- C. W. Kennard, Esq., Chestertown, Md., who says:
"My house is perfect, combines beauty with great utility of space—not a foot of waste room in it. It has been pronounced worth \$500 more than an adjoining house which cost \$750 more than mine. I candidly believe I have a house that is worth \$1,000 more than it cost me. Your excellent Plans have the credit. The house complete, finished in the best manner, cost me \$50 less than your estimate."
- F. R. Lewis, Esq., Westfield, Mass., who says:
"I am abundantly satisfied with the Plans obtained from you, and take pleasure in recommending your Plan to my acquaintances."
- Jas. W. Taylor, Esq., Amesbury, Mass., who says:
"I feel confident that your Plans and very complete Specifications saved me several hundred dollars; my house more than realizes my most sanguine expectations."
- W. T. Smith, Esq., Osceola, Mich., who says:
"I must say that the Working Plans, etc., you sent me were much better than I expected to get. They would have cost me five times the amount here."
- H. A. Smith, Cashier Merchants' National Bank, Duluth, Minn., who says:
"I have just completed a house from the Plans you sent me. They have given the best of satisfaction. The mechanic in charge tells me they are quite accurate and intelligible to work from."
- L. M. Edwards, Esq., Bank, Bowling Green, Mo., who says:
"I built from your designs, and have the 'slickest' house in town. I think I saved three to four hundred dollars by having your Plans and Specifications."
- J. A. Matteson, Esq., Cape Girardeau, Mo., who says:
"We are more than satisfied with your work. I do not hesitate to refer to you any parties in this vicinity who contemplate building."
- C. H. Wolcott, Esq., Billings, Montana, who says:
"Your Plans and Specifications have given unqualified satisfaction, reducing the cost of building twenty-five per cent."
- W. M. Cowen, Esq., Wellington, Kansas, who says:
"The house I erected from your Plans is not only beautiful but convenient; it is admired by all. The contractors (Jackson & Mishler) join with me in recommending your Plans to all who contemplate building."
- R. Beattie, President Beattie Manufacturing Co., Little Falls, N. J., who says:
"Have built ten cottages from your Plans and they are all very satisfactory."
- Harry Kucher, Esq., Camden, N. J., who says:
"Just putting the finishing touches on the house built from your Plans and Specifications. It is conceded to be the nicest and most complete small house in the neighborhood. Ezra Lippencott, a life-long builder of Camden, says that any of your Plans can be put up at your figures unless labor is high."
- Rev. Wm. R. Nairn, Franklin, Essex Co., N. J., who says:
"I have used your Plans and the houses, which are now occupied, have proved very satisfactory as to comfort, convenience and appearance."
- Prof. A. A. Tittsworth, Rutgers College, New Brunswick, N. J., who says:
"After receiving the House Plans I made arrangements which necessitated a change of residence, and I sold the Plans to the contractors, Messrs. A. & O. Burdick, who completed the house and I understand were well pleased; as well they might be for they were able to sell the house at a good profit even before it was completed."
- W. R. Merchant, Esq., with Banking House of Geo. K. Sistares' Sons, 18 Broad street, New York city, who says:
"From the Plans and Specifications prepared by you, I have built a house in every respect satisfactory. It affords me pleasure to testify to the fact."
- John T. Delany, Esq., Chaumont, N. Y., who says:
"My house is up, and it is a little gem; neat, cheap and convenient."
- Francis Gerber, Esq., Sayville, L. I., N. Y., who says:
"The Plans I received from you were all that could be desired. The builder had no trouble in working from them. The house is now completed and is acknowledged to be the most convenient, substantial and the handsomest house in our village."
- Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), who says:
"I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."
- Wm. A. Sloane, Esq., Port Richmond, N. Y., who says:
"I built my house for the price named in your book. Everybody likes it."
- John T. Cowles, Esq., Ridgewood, L. I., N. Y., who says:
"The house I built will stand comparison with other houses in this town that cost two or three times the money to erect."
- W. E. Peebles, Banker, Pender, Neb., who says:
"I take great pleasure in saying that I used one of your Plans, and I am more than satisfied with the result. I have a beautiful dwelling, costing not more than an ordinary building, but worth twice as much, either to sell or live in, on account of its convenient interior and its beautiful exterior."
- Geo. J. Burgess, Esq., Arapahoe, Neb., who says:
"I am very well satisfied; the house is a daisy—looks nicer than it did in the engraving."
- Norman C. Raff, Esq., Albuquerque, N. M., who says:
"You are at liberty to use my name. I built two houses from your Plans, and they give excellent satisfaction."
- Wm. M. Lowther, Esq., Findlay, Ohio, who says:
"I shall always deem it a pleasure to impart information to all who make inquiries concerning your Association, with whom I have had the pleasure of doing business, and the prompt manner in which you responded to my recent order."
- E. B. Dennis, Attorney, Newark, Ohio, who says:
"The house built from the Plans procured of you is satisfactory, and is very much admired. The house could be built here for considerably less than your estimate."
- George H. Bonte, Esq., Cincinnati, Ohio, who says:
"The Plans were satisfactory in all respects. Your estimate of cost was very close. I have the finest, prettiest and best built house in South Nor- it, and that is saying a great deal; it is acknowledged to be the finest and best of the three or four hundred houses that are in the neighborhood."
- M. D. Harter, Esq., Treasurer, the Aultman & Taylor Co., Mansfield, Ohio, who says:
"I like your plans and methods as far as I know them. I say this after having built two houses under them."
- Frank Dayton, Esq., Portland, Oregon, who says:
"I am exceedingly well pleased and have a lovely cozy little home that is much admired."
- E. Payson Porter, Esq., Statistical Sec'y Int. S. S. Convention, 725 Chestnut street, Philadelphia, Pa., who says:
"It gives me pleasure to say that the cottage built after the Plans you sent me, and which we call Sylvan Lodge, is not only satisfactory in every respect, but charming."
- Louis Renstein, Esq., Philadelphia, Pa., who says:
"I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."
- L. R. Frost, Esq., Furniture & Lumber, Towanda, Pa., who says:
"I give you permission to use my name in any way to help on the good work of building artistic houses. The house you designed for me last fall is about completed, and is admired by every one. I find your books a great help. Several parties that contemplated building have had the use of them, which will probably give you several orders."
- J. C. Brader, Esq., Nanticoke, Pa., who says:
"Your work for me has given the best of satisfaction and I can cheerfully recommend the same to those who contemplate building."
- John J. Houghton, Cashier First National Bank, Ambler, Pa., who says:
"The Plans purchased from your Association have been used in building six houses. The Plans were very satisfactory and the houses present quite a new style of architecture in our neighborhood. They make beautiful houses at a moderate cost. I am satisfied that your Association is of great benefit to all who intend to build. I willingly add my name to your list of references and heartily commend your work."
- Benjamin Crowther, Esq., Upland, Del. Co., Pa., who says:
"Your architectural work for me has been very satisfactory not only to me, but to others who saw my house in the course of erection. One of the largest property owners said to me: 'I have been through your house from cellar to attic and think it very complete; it must have cost a deal of thought to arrange everything so well. It is an ornament to our town.'"
- F. E. Smith, Esq., Tioga, Pa., who says:
"I have built country houses, barns, etc., a great number. I have never had plans, specifications and full details that I was so well pleased with as with yours."
- L. F. Jeanmaire, Esq., McMinnville, Tenn., who says:
"I am delighted with my house. I have received many flattering praises."
- James F. Lukens, Esq., Union City, Tenn., who says:
"I was well pleased with the Plans, and consider their cost as money well spent. I have the handsomest and best business house in this city. I take pleasure in referring to your Association all parties here that I find are going to build."
- Geo. Smith, Esq., Galveston, Texas, who says:
"I built according to your Plans, and am much pleased with the result. I certainly saved \$125 by having your Plans and Specifications."
- Ross White, Esq., Brattleboro, Vt., who says:
"The Plans you supplied for my house have been more than satisfactory in every respect. I have been the means of your getting three orders in this town and shall be glad to have you refer to me at any time."
- J. A. Allen, Esq., Shawano, Wis., who says:
"The Plans we received from you we used for a parsonage, and I must, in justice, say that they gave entire satisfaction in every particular."
- F. & J. Skelding, Neepawa, Manitoba, who say:
"You can use our name. We found everything exactly as required in the Plans sent us—Drawings and Specifications all perfect."

SHOPPELL'S MODERN HOUSES

AN ILLUSTRATED ARCHITECTURAL QUARTERLY

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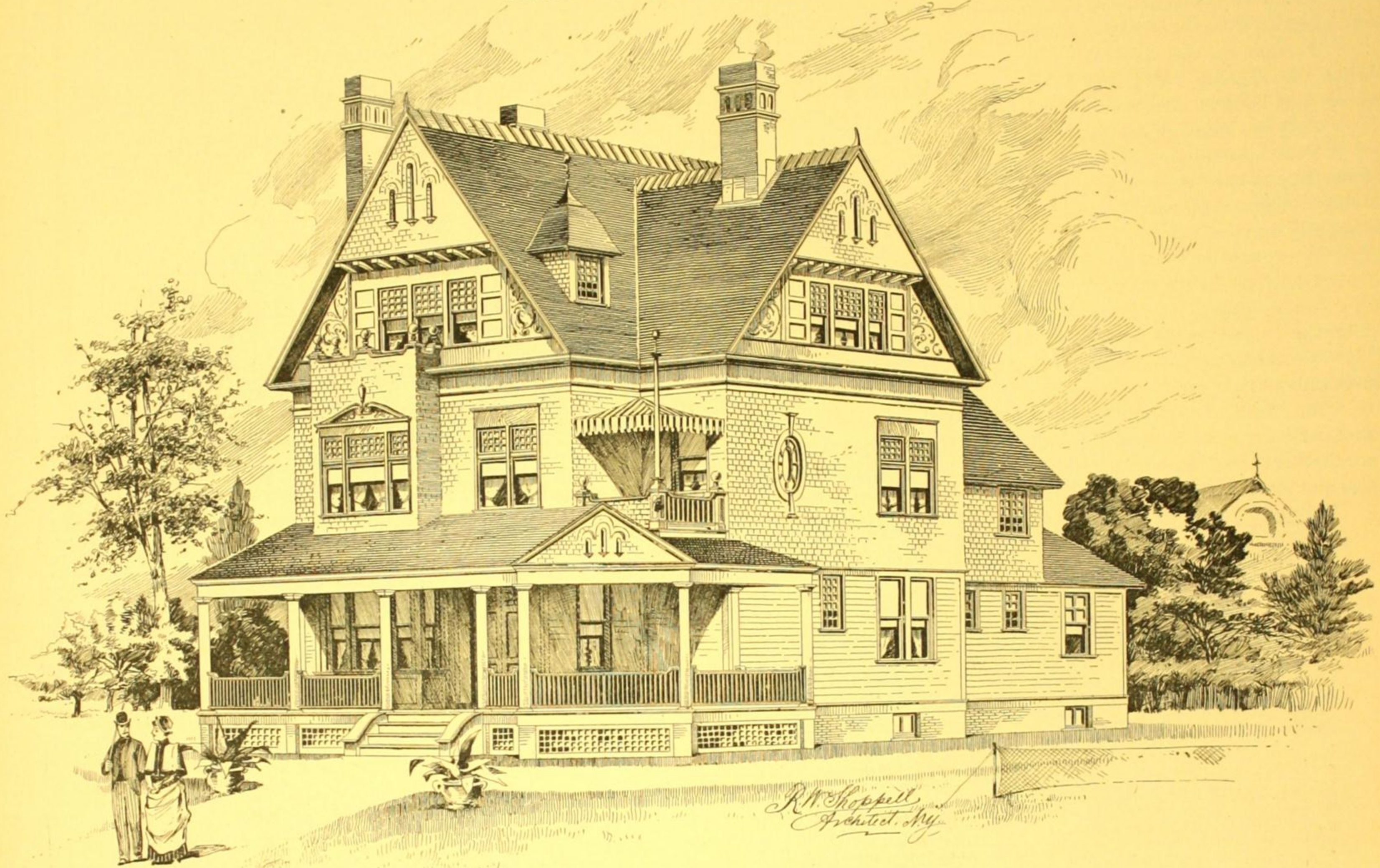
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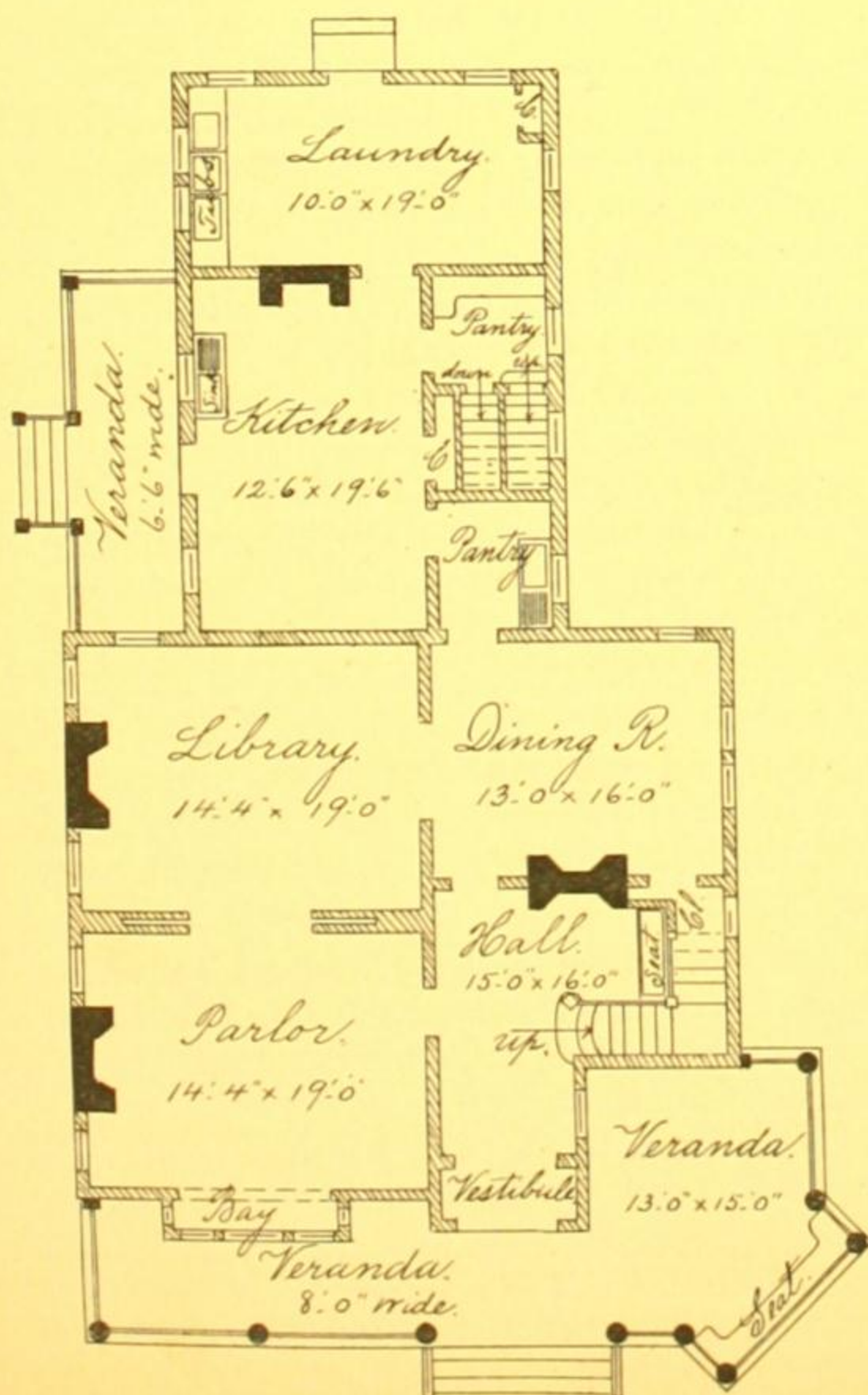
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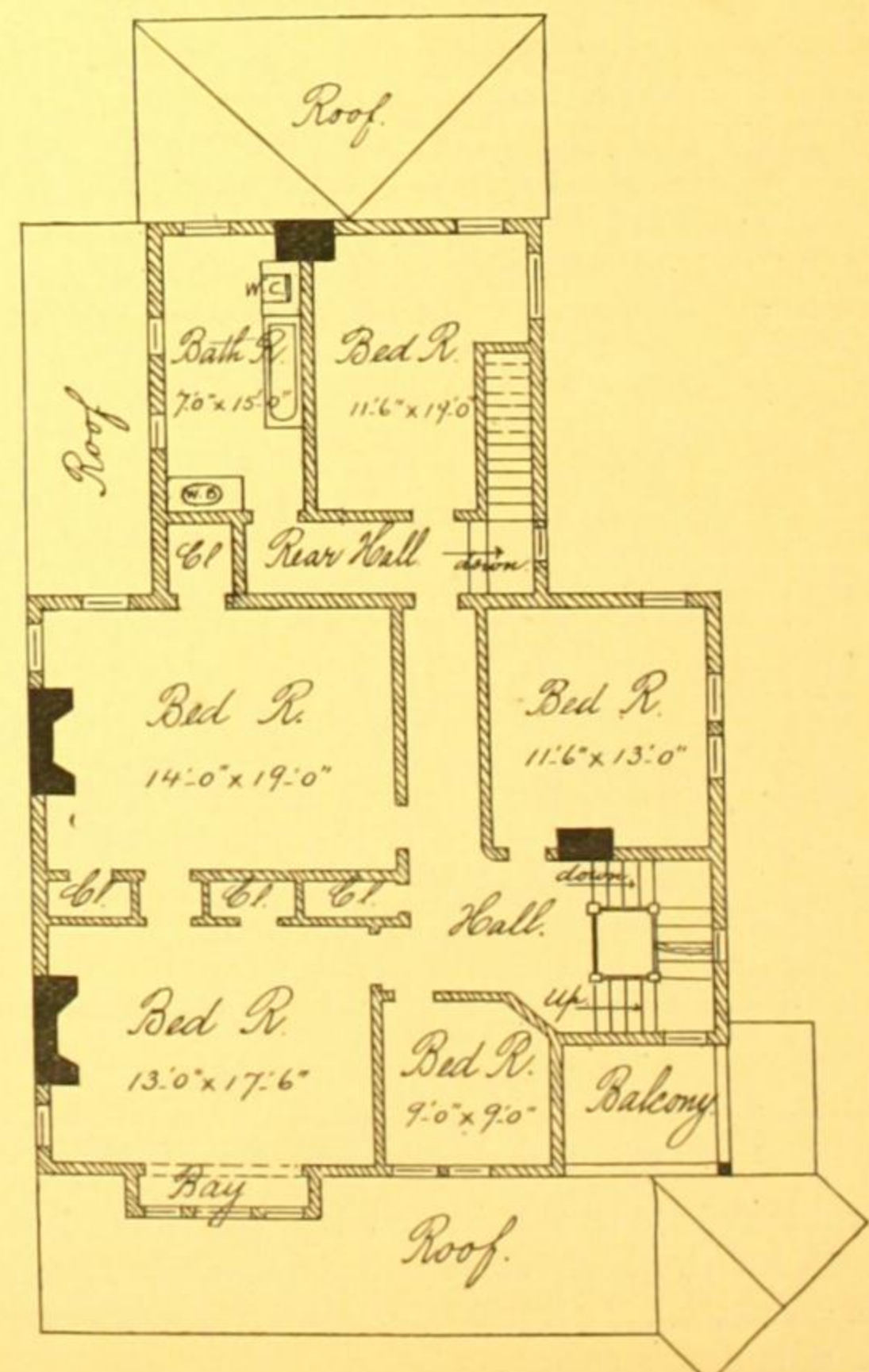
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The Habitations of Man in all Ages.

BY VIOLET-LE-DUC.

Translated by BENJ. BUCKNALL, Architect.

CHAPTER XXVI.

THE FEUDAL PERIOD.

"SO then," said Epergos to the host of the inn where he was staying in the abbatial town of Cluny, "thou thinkest we may travel as far as the Duchy of Lorraine without danger—my companion and myself?"

"I cannot say that, exactly; but if you will wait two days, our lord the Abbot, who is going to visit one of his great priories near the city of Epinal, with a large body of men, will be very glad of your company."

"And how must we equip ourselves?"

"You must provide yourselves with a gambison (a quilted leathern tunic), an iron cap, and a strong cutlass, and present yourself before him as a couple of brave fellows. My neighbor, Michel le Boen, and myself will be security for you."

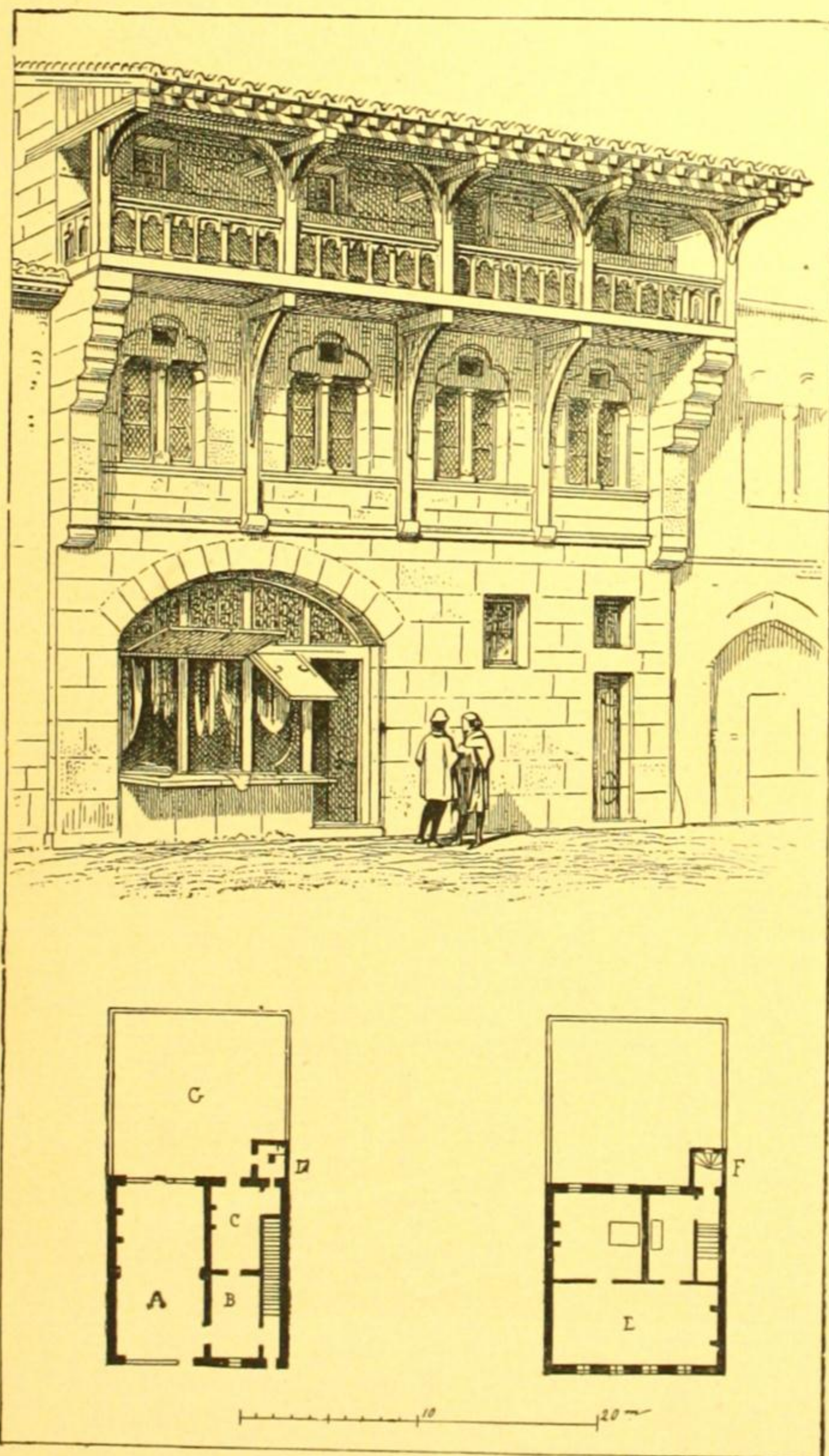
"Well, what do you say to it, Doxius?"

"I say," replied he, "that it is scarcely desirable to wear such harness."

"Come, come! Did not I see thee donning the hauberk to fight the Albigenses no great while ago?"

"We are in a Christian country, and it is surprising that we cannot travel without this gear."

"But what would you have? It must be so. I should not care about our being robbed—it would not be the first time; but it is of importance that we should not be delayed in our mission to Duke Thibaut. Let us go and see neighbor Michel le Boen."



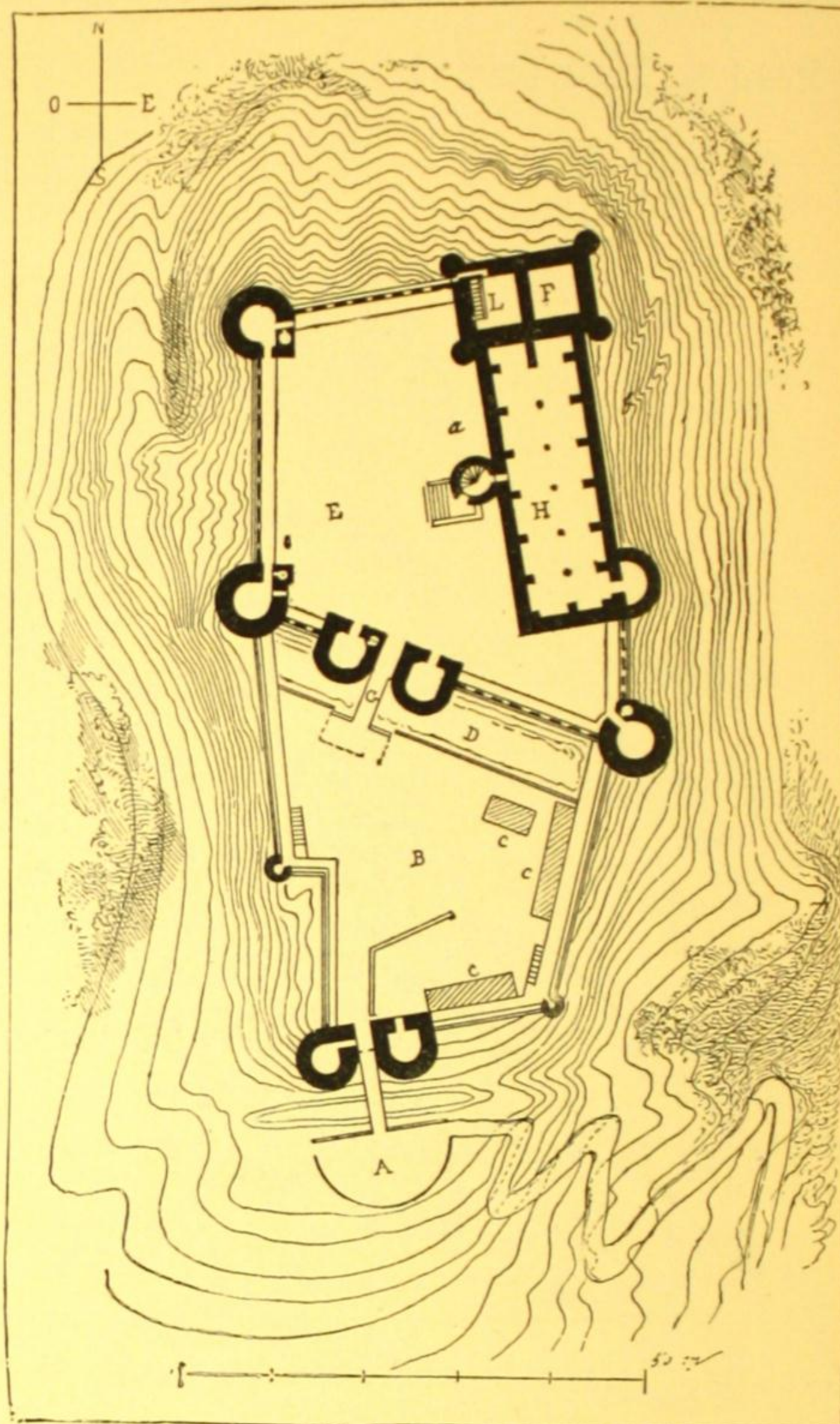
HOUSE OF A BOURGEOIS OF CLUNY (A.D. 1200).—FIG. 96.

The innkeeper* conducted the travelers to Michel's house, and they found him in his shop. A comely dwelling is the house of Michel the woollen-draper, fig. 96. It consists, on the ground-floor, of a large shop A, a parlor B, and a kitchen C, with wash-house and latrines at D. A straight flight of stairs opposite a door that opens directly on the street, con-

ducts to the first story, which comprises the room E, and two bed chambers. Above the small building D, rises a staircase mounting to the story under the roof where the apprentices are lodged, and which serves for a garret.

At G, a court lights the back part of the dwelling.

The street front of the house is of good dressed stone like all the dwellings of the bourgeois of Cluny; with a wooden balcony covered by the roof, at the upper story.



PLAN OF FEUDAL CASTLE (A.D. 1220).—FIG. 97.

Michel hastened to call his wife, when he knew the object of the innkeeper's visit, asking her to have wine brought into the parlor; and at the request of Epergos, he showed the travelers his house. The chief apartment—the room where the family assembled—was provided with a very large fire-place, and hung with serge; the ceiling, with the joists showing, was painted, and had a very gay appearance. Neatness reigned everywhere; for the mistress of the house, a good manager, knew how to keep things in the best order. Benches that served for chests, large oak cupboards ornamented with iron-work, and a large table round which were ranged stools, furnished the room and shone in the rays of the sun, which percolated through the thick glass bull's-eyes filling the windows.

Michel le Boen put his chaperon over his cotte, and all four set out for the abbey.

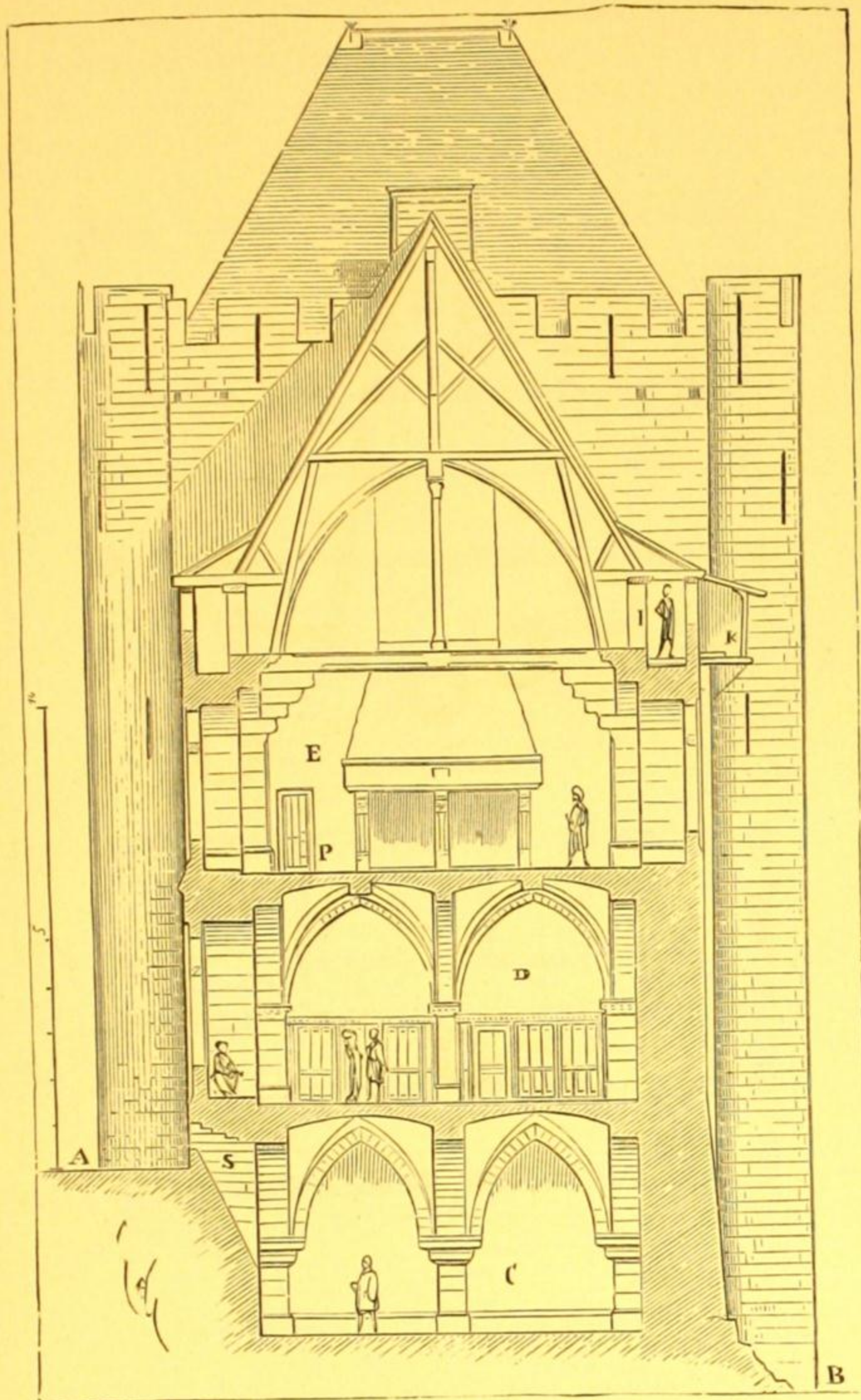
Two days afterwards the cavalcade started. Epergos and Doxius covered each with a strong broigne (a cuirass made of leather), armed with cutlasses, and with headpieces of iron, mounted on stout chargers, made part of the troop, which consisted of a dozen monks with the abbot at their head, and about fifty retainers of the abbey armed, besides our two travelers. They were a lively party, and went cheerily along, taking four meals a day.

* * * * *

In due time they reached the Castle of Bellefontaine, where the Duke was then holding court. As envoys bearing sealed letters, our travelers were permitted to wander as they pleased about the castle until such time as the Duke could give them an audience.

The Castle of Bellefontaine (fig. 97) occupies the summit of a steep rocky spur, dotted with a few clumps of stunted firs. The only approach is by a winding road on the southern side. In this quarter a large barbican A, inclosed by a plain battlemented wall of masonry, fronts a bridge thrown over a ditch excavated in the rock. This bridge, which in case of siege is easily taken away, is protected by two large towers between which is the gateway, defended by a machicoulis, and closed by gates and a portcullis. When the

entrance between the two towers has been passed, admission is gained by a slight incline into the bailey or fore-court inclosed by lofty battlemented walls, and against which on the inside are placed the stables and servants' quarters *c*. These buildings are of timber, and can be quickly destroyed if the bailey appears to be in danger of falling into the hands of the enemy, and the garrison are obliged to retreat within the castle, which is separated from the bailey by a second deep ditch *d*, likewise sunk in the rock.



SECTION OF MAIN BUILDING OF FEUDAL CASTLE.—FIG. 98.

In front of the bridge of the castle is a small barbican defended by a simple palisade. This bridge *a*, arranged like that before mentioned, is protected by two towers, with a gate between them. On passing this, admittance is gained into the court *e*, which is surrounded by high walls with strong towers at the angles. The inhabited part of the castle consists only of the great building *h*, and the donjon *f*. A broad circular staircase with a flight of steps in front, leads to the different stories of this building, which is sufficiently defended on the outer side by the inaccessible escarpment which it overlooks.

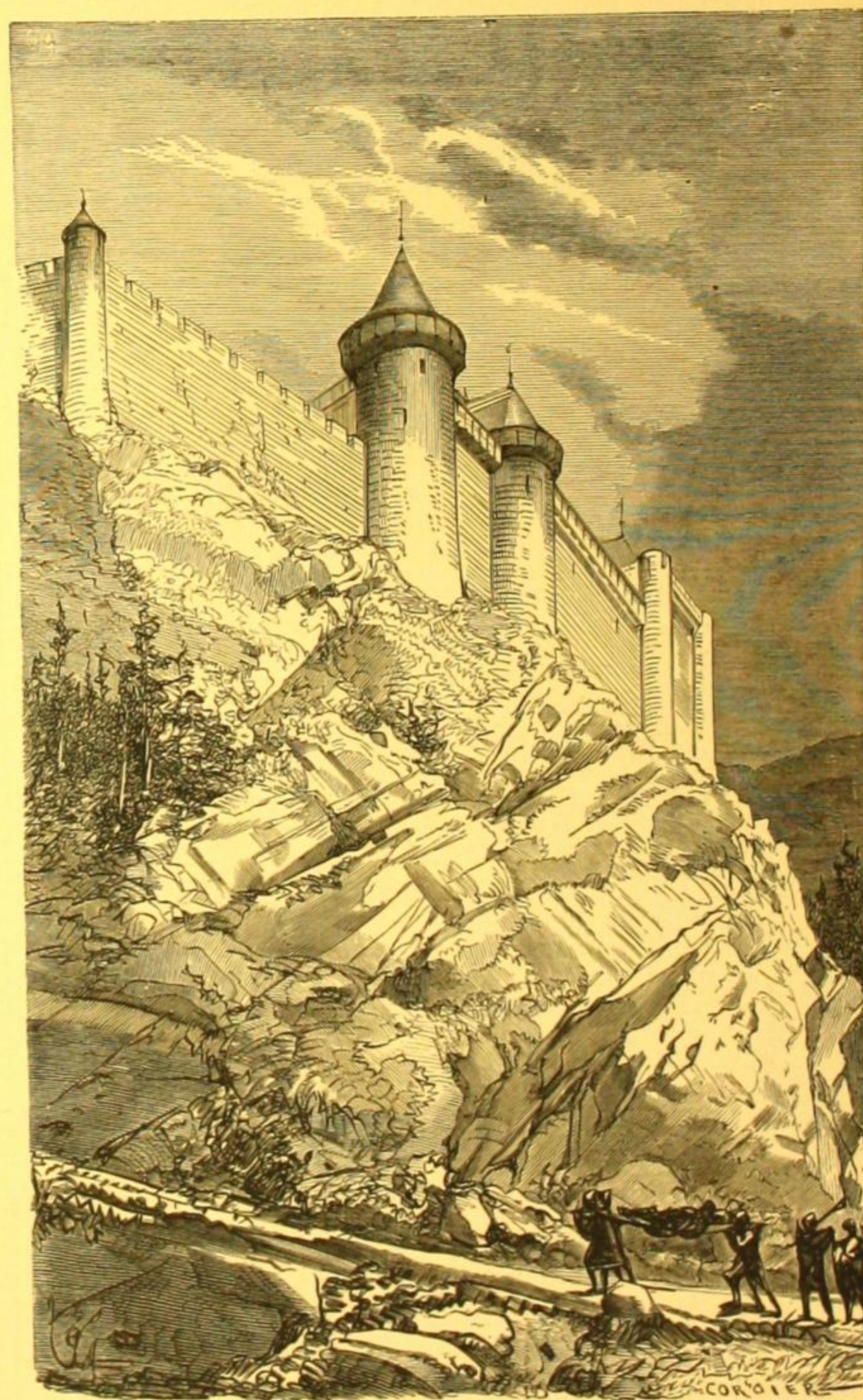
A transverse section on the line *a b* gives the arrangement of the interiors of this large building (fig. 98). The level of the court is at *a*, and the rocky escarpment at *b*. From the court there is a descent to the vaulted basement story *c*, appropriated to the kitchens and the storage of provisions, which are let down by a windlass. These cellars get light through the wide air-holes *s*. The floor of the ground-story apartments is somewhat raised above the level of the court. This ground-story is vaulted in two spans like the cellars on a row of slender pillars; and is divided by wooden screens (*clotets*) into several rooms having each a window overlooking the court. These are occupied by the barons and knights who are intimate friends of the Duke. Above is the great hall *e*, which occupies the entire length of the building as far as the donjon. At each end is a vast fire-place. The great hall is covered with a fine boarded roof, upon whose tie-beams—in the event of a siege—might be placed a wooden floor, capable of affording quarters for a numerous garrison, which would then be in close proximity to and at the level of the defences *i*, consisting of a crenelated rampart-walk to which at need are added timber hoardings *k*, for the purpose of protecting the foot of the walls, and shielding the archers and cross-bowmen.

From the great hall the only communication with the donjon is by the small door *p*, which is strongly barred and closed besides with a portcullis. It is in the donjon that the lord of the castle resides. The donjon is divided in its entire height by a partition wall (see the plan, fig. 97), and the only way from one of the two apartments into the other is by narrow and indirect

passages. The heights of the floors of the donjon are at the level of those of the main building; but the only entrance to the donjon from without is by a doorway at the level of the first story and a ladder. The usual way by which the Seigneur goes to his apartments is by mounting the principal stairs, crossing the great hall, and entering by the small door *p*. The way into the rooms of the ground-floor and the cellars, from the first story of the donjon, is by a straight flight of steps *l*, in the interior. From the cellar story there is an exit leading to the rocks outside by a narrow passage cut through the thickness of the wall, and a postern masked by the northwest angle turret. The defences of the donjon command those of the main building as shown by the section; and one of the turrets contains a flight of stairs leading from the first story to the second and to the battlements above, which can be furnished with hoardings. The chapel is contrived in one of the rooms of the donjon, and wells sunk in the rock in several places supply fine clear water.

Fig. 99 gives the view of this castle from the southeast side.

The mission with which Epergos was intrusted was neither more nor less than to furnish Duke Thibaut with new information in the art of fortifying strong places—information brought from Palestine by Baron Guy, who had taken a very active part in the defence of the Castle of La Roche-Pont against the Duke of Burgundy, about twenty years before. Baron Guy was dead, but his nephew the Sieur de la Roche-Pont, whose eldest son had espoused a daughter of Duke Thibaut, was extremely desirous of transmitting to his kinsman the valuable information collected by this Baron Guy, not only respecting fortification but the composition of Greek Fire and rockets. The Duke who was aware of the object of our travelers' visit, directed that Epergos, in particular—as the part of the mission especially intrusted to Doxius had no reference to fortification—should be invited to occupy himself in inspecting the most secret arrangements for the defence of the Castle until he could find time to converse with him; consequently, when an audience was granted him, Epergos could speak to the Duke with knowledge.



EXTERIOR VIEW OF MAIN BUILDING OF FEUDAL CASTLE.—FIG. 99.

"Sir Duke," said he, "your Castle of Bellefontaine is better defended by its situation than by human handiwork; the purport of my mission, therefore, is inapplicable to a stronghold like this. But so puissant a noble could not resolve to shut himself up in an eagle's nest like this and wait for his enemy, as one of his vassals might do. He will require strong fortresses in the open country, where he may collect his armies and give them a strong position. Now in Syria the Christians often have to defend an immense territory against an enemy who is on the alert and is always armed; and if

they have lost Jerusalem, it has not been for want of defensive precautions, but because divisions sprang up among them and they were unable to unite their forces at the opportune moment.

"Baron Guy, uncle of the Sieur de la Roche-Pont, who had a good memory and profound experience, and who had in his time been a warrior in Syria, had made use of his opportunities to collect a great deal of information relating to the art of fortifying not only isolated places but a whole district; and it is this information, digested by his nephew, which I am commissioned by him to convey to you. It is contained in these parchments, the handwriting being that of a clerk, Brother Jerome; but verbal explanations will be necessary, which I am ready to give with your lordship's permission."

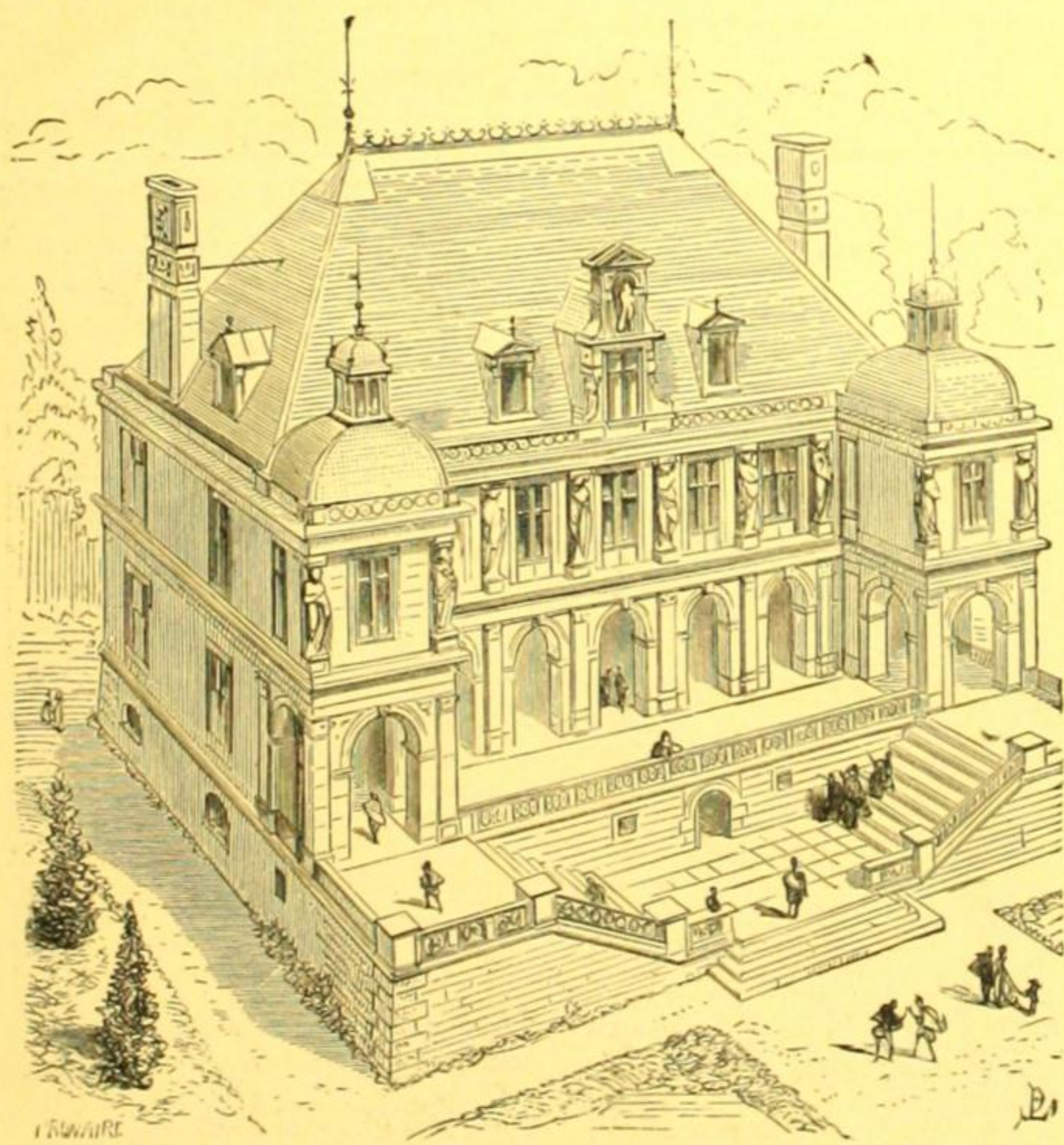
And so Epergos fulfilled his mission to the satisfaction of the Duke; for he was able to prove to him that the castles hitherto built were too contracted; that in the event of a vigorous attack the defence was obstructed by its arrangements, and that the garrison could not take the offensive if the opportunity was presented; that the defences should be extended; and that by means of very strong posts, detached, but able to communicate with one another by signals, they should protect the approaches to a considerable distance, and stop the march of an enemy, or oblige him to divide his forces.

The Duke listened attentively to Epergos, and having caused a transcript to be made of all he said, he entertained him with the best of everything. Doxius having also conveyed his message to the Duke, the companions went their way, loaded with handsome presents.

CHAPTER XXVII.

THE RENAISSANCE.

"My good and learned friend," said Epergos to Philibert—an architect in great request in the construction of important buildings both in the provinces and in the city—"my good and learned friend, despite all you say, your architecture is neither Greek nor Roman, but really and truly, French Architecture in the reign of the Most Christian and Most Glorious King Charles the Ninth, who no more resembles Pericles or Augustus than your palaces do those of Athens or Ancient Rome. You mentioned, I believe that you were completing a small mansion near the Bastille—with which you were satisfied. Can it be seen?"



VIEW OF A RENAISSANCE MANSION (PARIS).—FIG. 100.

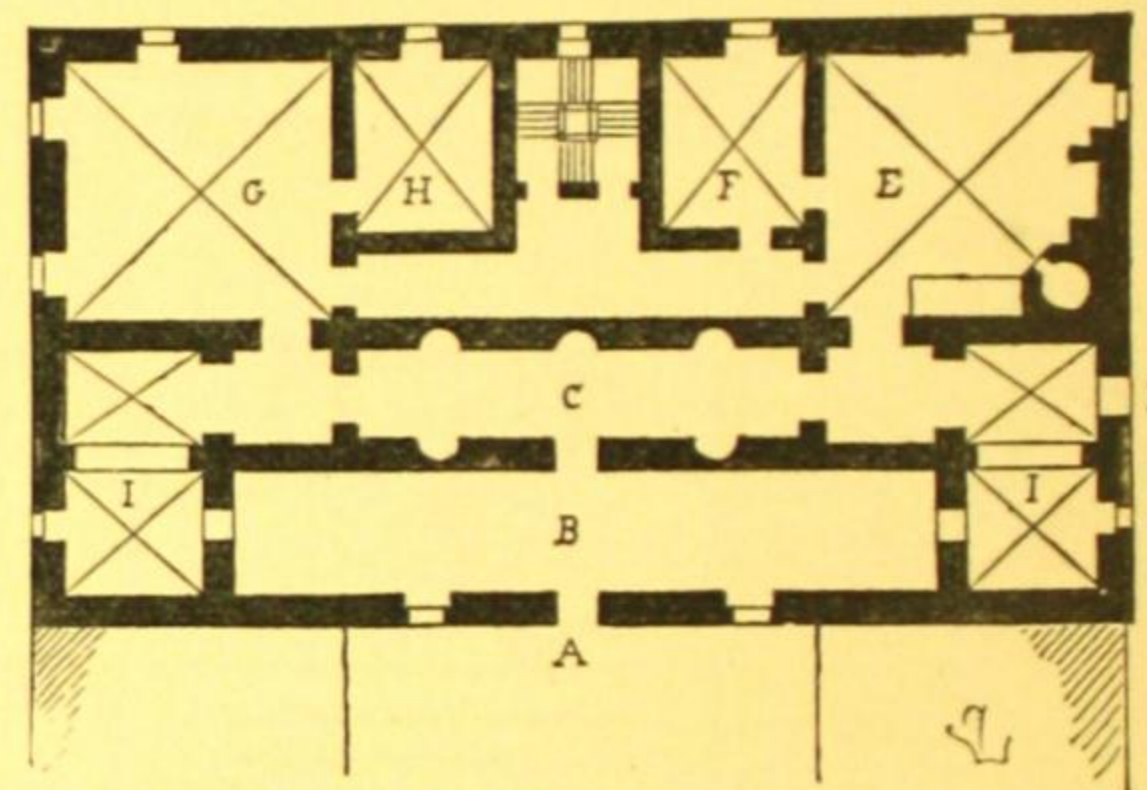
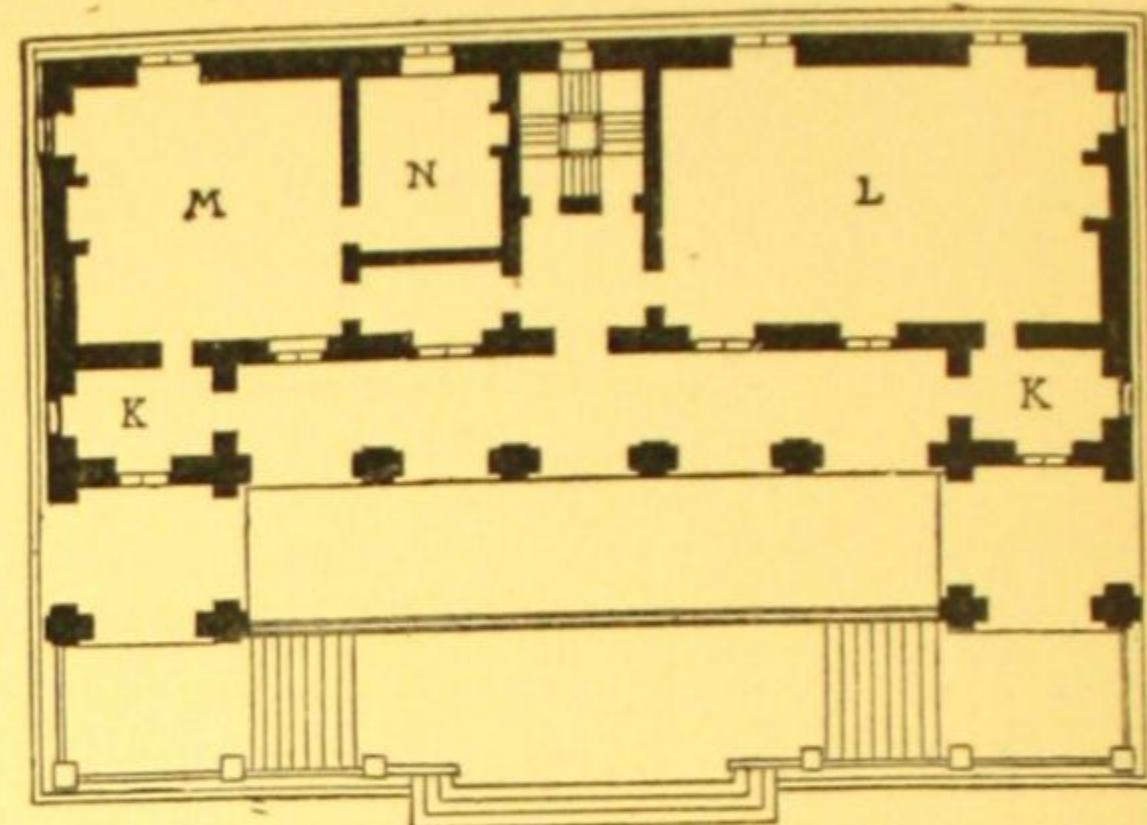
"Certainly, friend Epergos, you may see it. I have given a good deal of thought to it, and my noble client, wishing to be spared the trouble, has allowed the architect the fullest liberty to appoint the master-masons and workmen at his discretion. Accordingly you will see that the work has been well carried out."

"Let us go and see it then!"

Epergos and Philibert the architect set off towards the Bastille, and passing through the Rue St. Antoine, they entered a court enclosed by a railing fixed on a low wall. The mansion, set back about sixty feet from the railing, stood by itself, and was surrounded by gardens which extended behind for a distance of one hundred and fifty or sixty feet. Philibert had reason to be satisfied with his work, for the aspect of this mansion on entering the court was elegant and pleasing (fig. 100). The ground-floor, raised about twelve feet above the level of the gardens, was preceded by an approach of steps divided into two flights laterally, with a few steps in front. The two flights

landed beneath two pavilions adjoining a portico, set back so as to leave a terrace between these two pavilions. Above this portico rose the first story, ornamented with fine Caryatides at the angles, and on the piers. The lateral façades, as also that of the back of the house, were extremely simple. The whole was well built with fine dressed stone and covered with slated roofs, with large dormer windows of stone in the middle of the two principal sides, and other smaller ones covered with lead.

When Epergos had complimented his friend on this picturesque façade, they entered by the basement story on the level of the court. This story was vaulted (fig. 101), and was principally devoted to the offices and kitchens; the door A, however, made between the two flights of steps, was for the use of the family, who could go and enjoy the cool air in summer in the gallery B,



PLAN OF A RENAISSANCE MANSION (PARIS).—FIG. 101.

and in that which Philibert called the grotto C—a dark retreat ornamented with niches. The domestics entered by the side door D, to get to the kitchen E, and the offices F, G, H. At I were cellars. The central staircase ascended to the living rooms, and also descended to the cellars. The elevated ground-floor contained, besides the porticoes, serving as vestibules, two ante-rooms K, a great hall L, and a large room M, with wardrobe N.

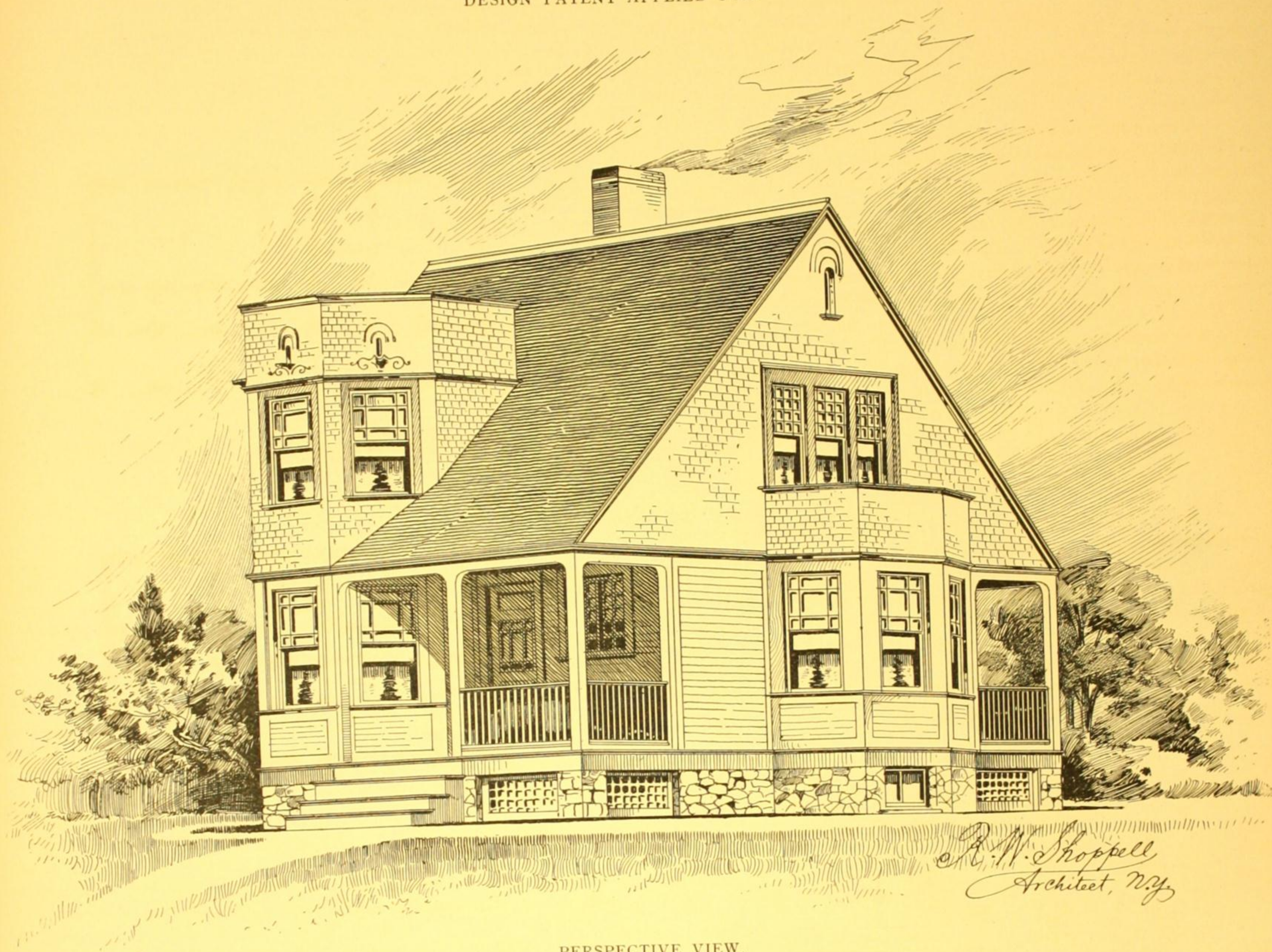
The first floor was distributed in nearly the same manner, excepting that the portico furnished a charming gallery, and the two pavilions pleasant cabinets. In the roof were bedrooms for the servants. On either side of the entrance-court was a stable and outbuildings.

"It is wonderful," said Epergos to Philibert, when they had inspected the interior of the mansion; and were walking in the little garden which was being planted, "how every nation preserves its customs age after age. The Florentines, Romans, Milanese and Venetians affect to adopt the formulas of classic dwellings, yet each of these peoples invariably adheres to the same internal arrangements as have been in use for centuries. All their efforts to revert to classic art tend to nothing more than the adoption of certain orders—certain architectural details borrowed from those classic times, and with which they overlay the façades as with a borrowed dress. You do exactly the same here, my excellent friend; your charming mansion is a French mansion, planned like those erected one or two hundred years ago. Only instead of pointed arches, you have put semi-circular arcades in your porticoes; instead of Gothic buttresses which strengthen the piers, you have put Roman Doric columns with Caryatides above. In place of pyramidal roofs on your pavilions, you have erected square cupolettes, surmounted by lanterns. It is a dress in the fashion of the day, but the body has changed neither in form nor in structure. Mind I am not finding fault; I am simply making an observation. If you go to Venice you will see that the palaces which are being built there at the present day are, in point of plan, construction, and interior arrangement, just like those erected there in former times. The architects merely do what you are doing here; they substitute for the Gothic casing a casing borrowed from the decorative forms of Classical Antiquity. It is the same in Florence, in Rome, and throughout Italy. There, as well as here, you all of you try to speak Latin; but the ideas and wants which you express in a Latinity more or less pure, are not at all the ideas and wants expressed by the ancients."

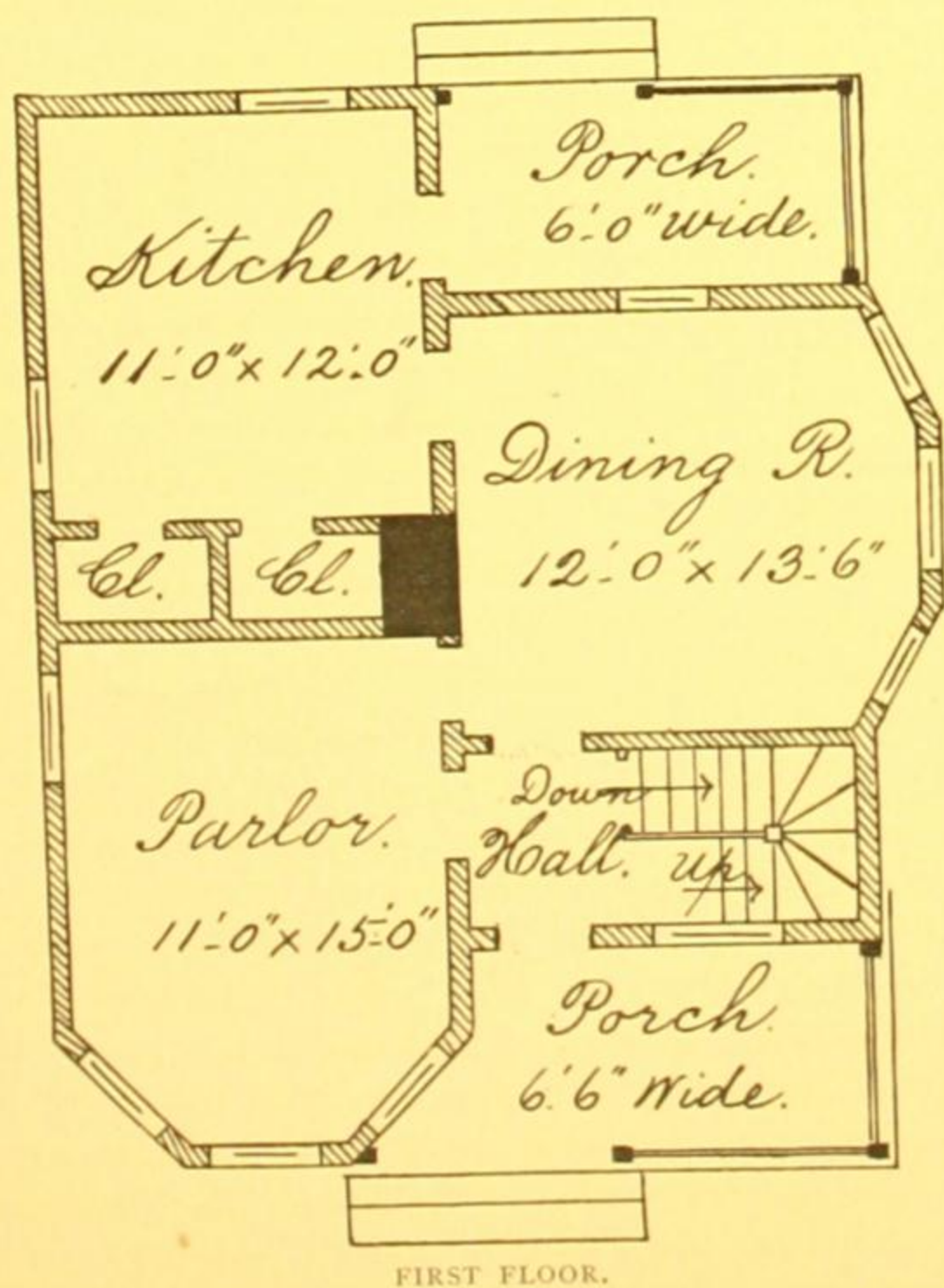
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

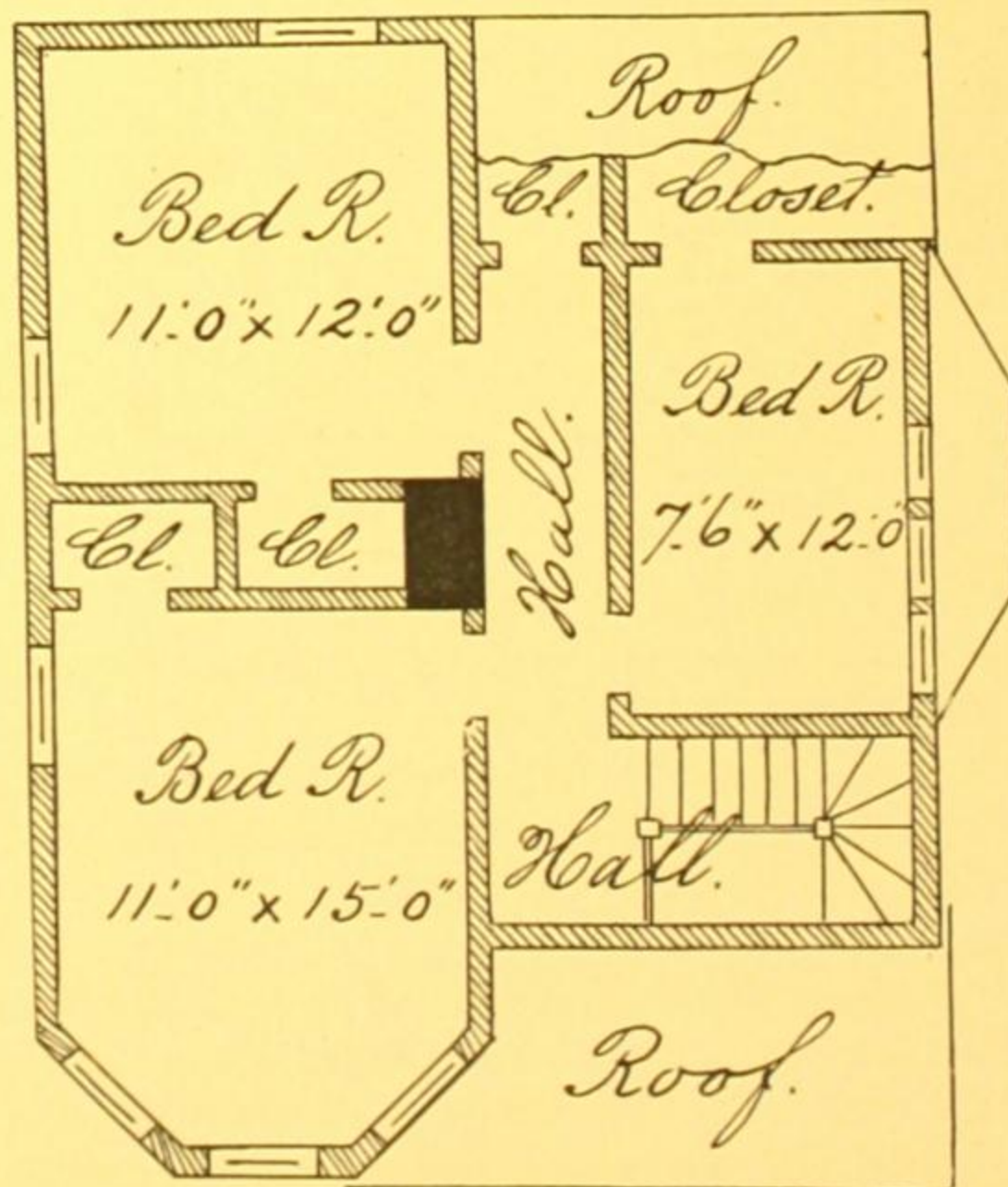
DESIGN No. 609



PERSPECTIVE VIEW.



FIRST FLOOR.



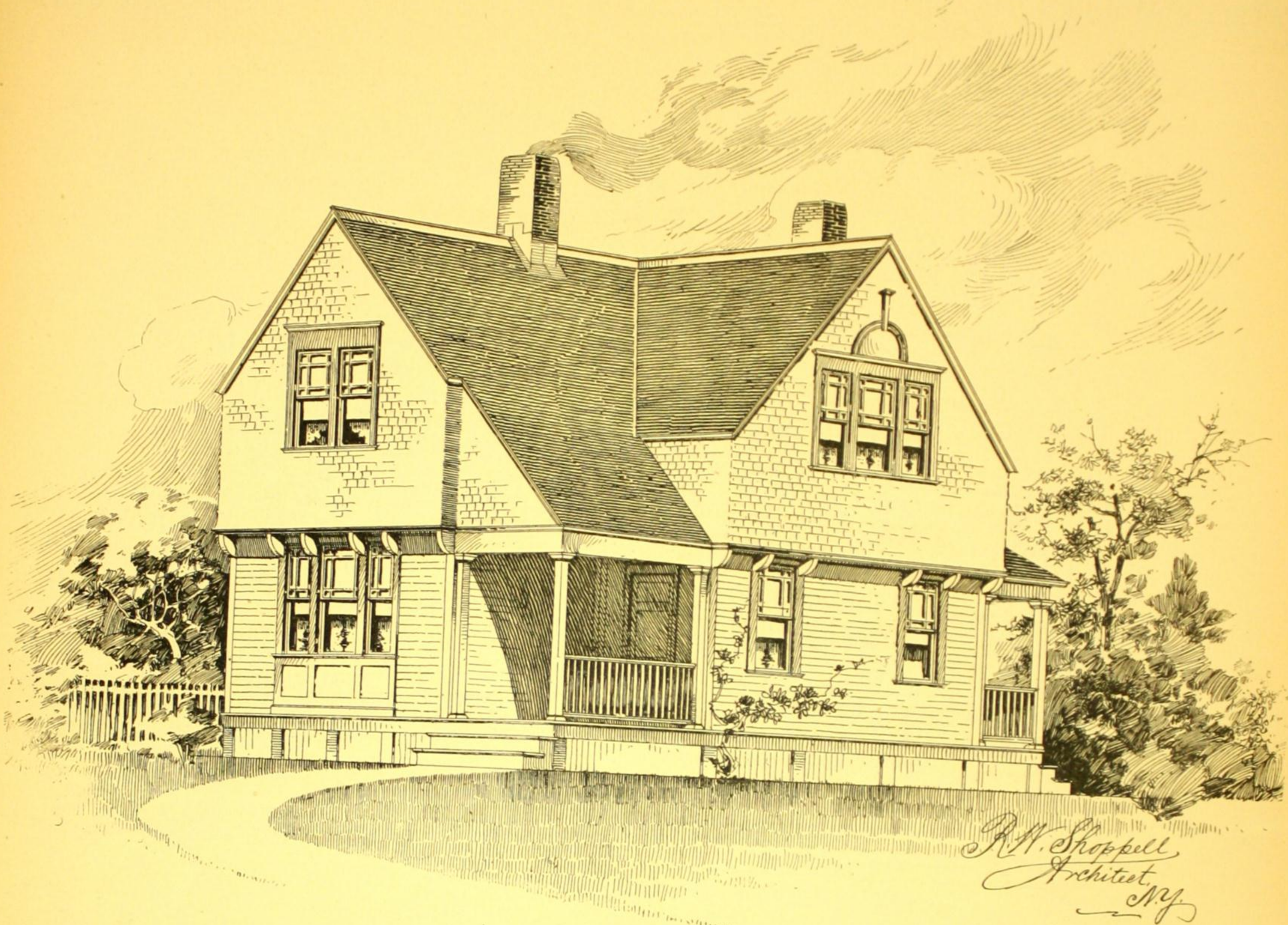
SECOND FLOOR.

The above design belongs to the "\$1500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

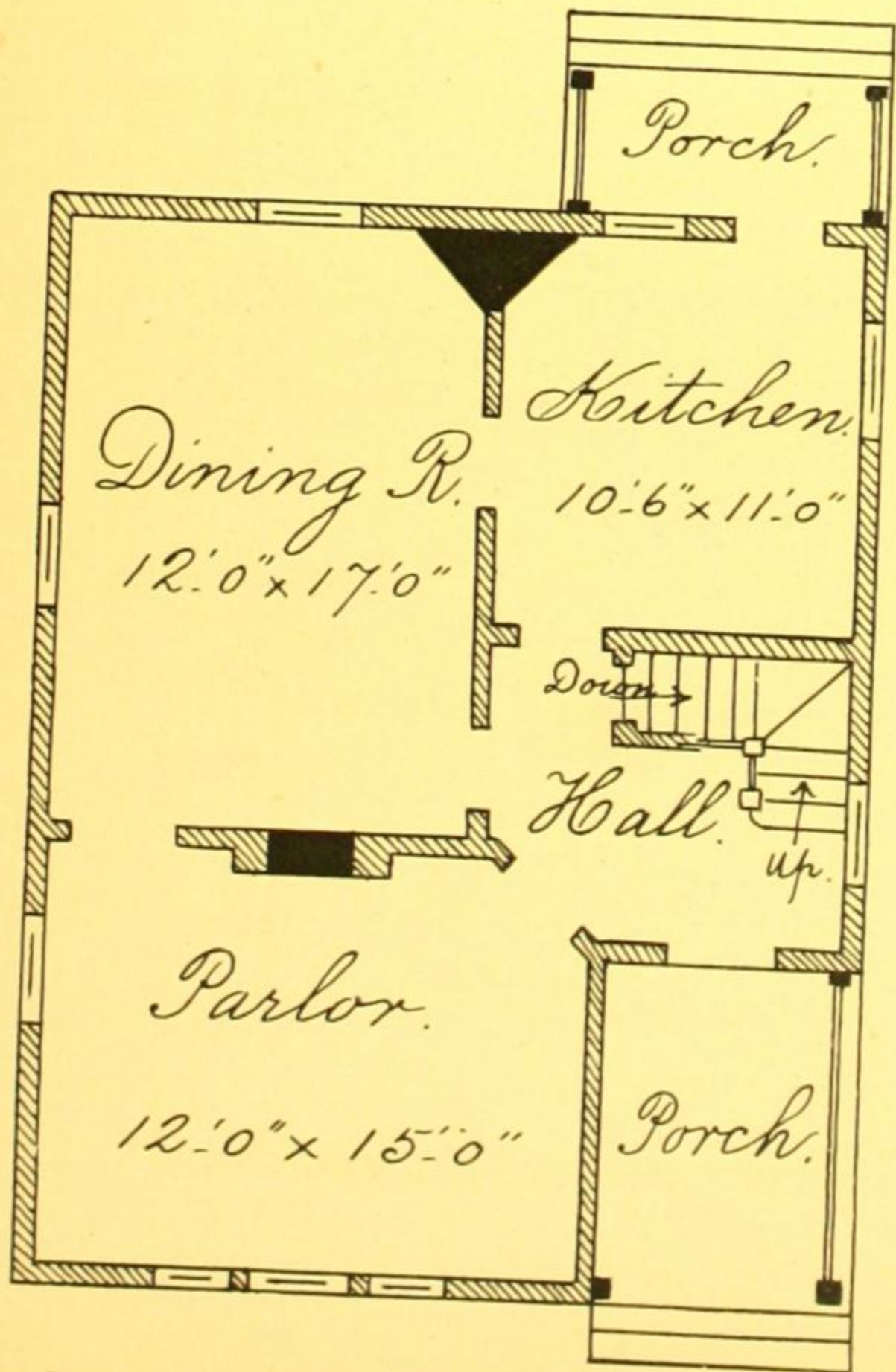
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

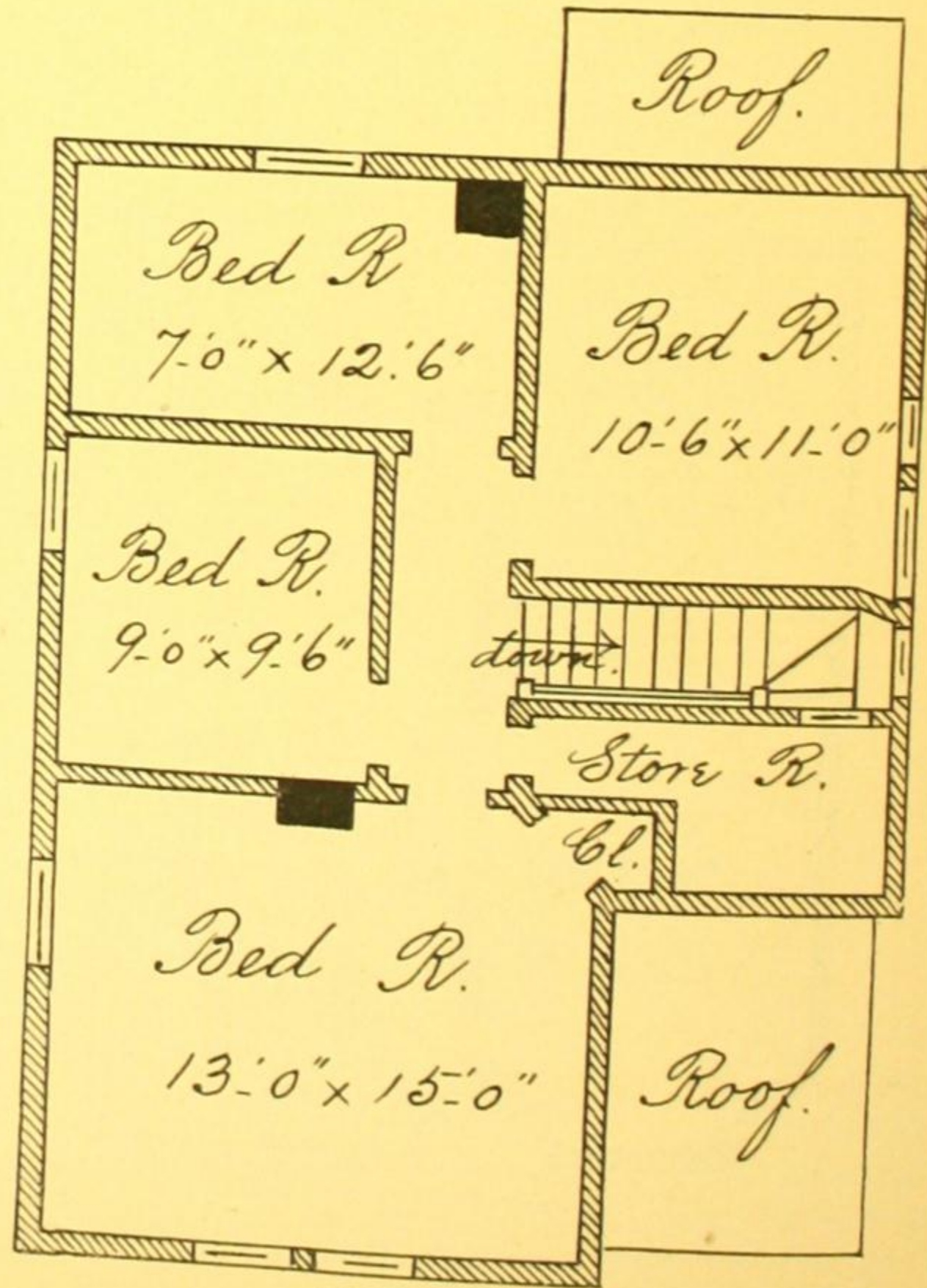
DESIGN No. 610



PERSPECTIVE VIEW.



FIRST FLOOR.



SECOND FLOOR.

The above design belongs to the "\$1500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

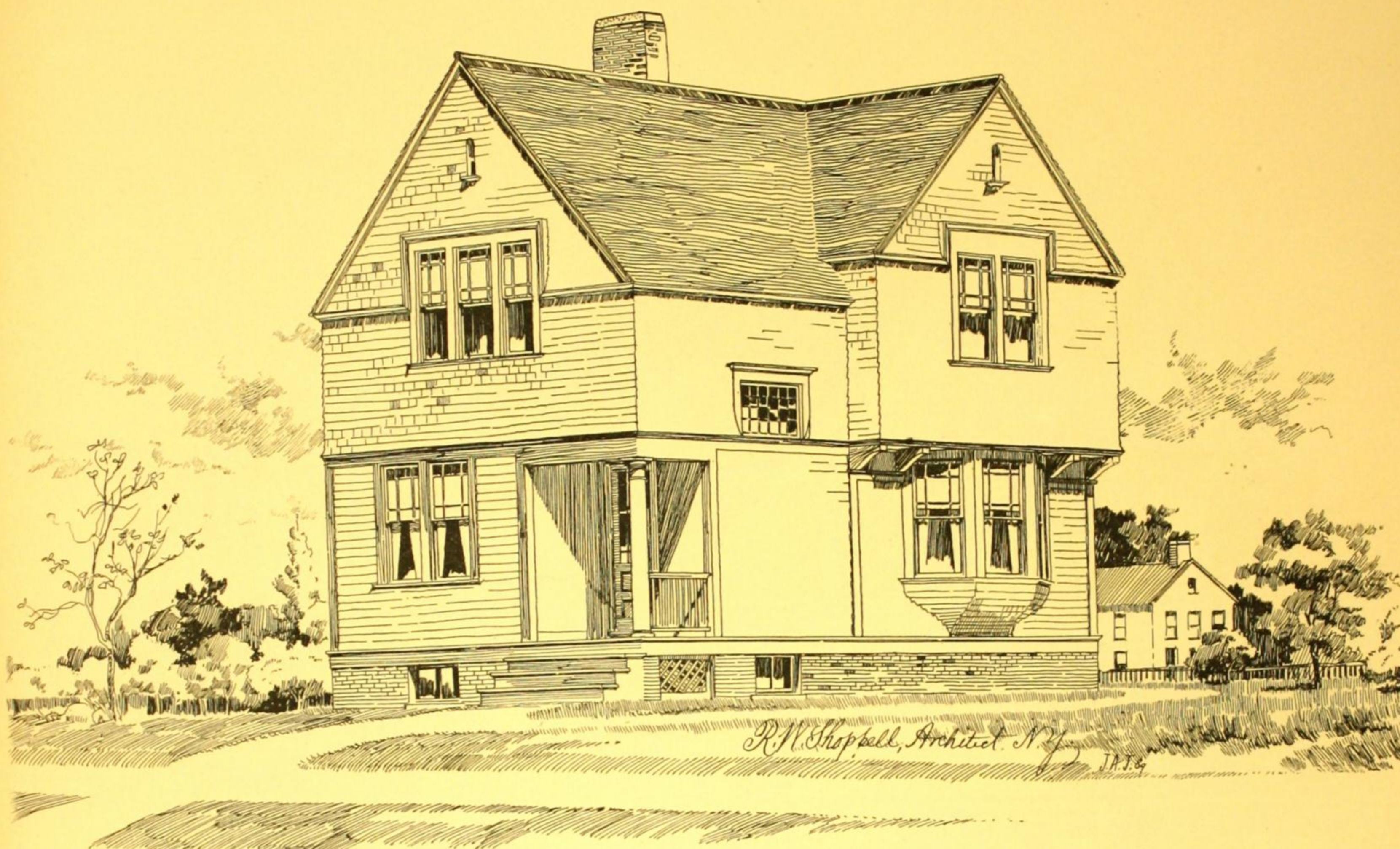
See Description, Cost, etc. of this Design on "Descriptive Price List."

SEE PAGES 22 AND 23.

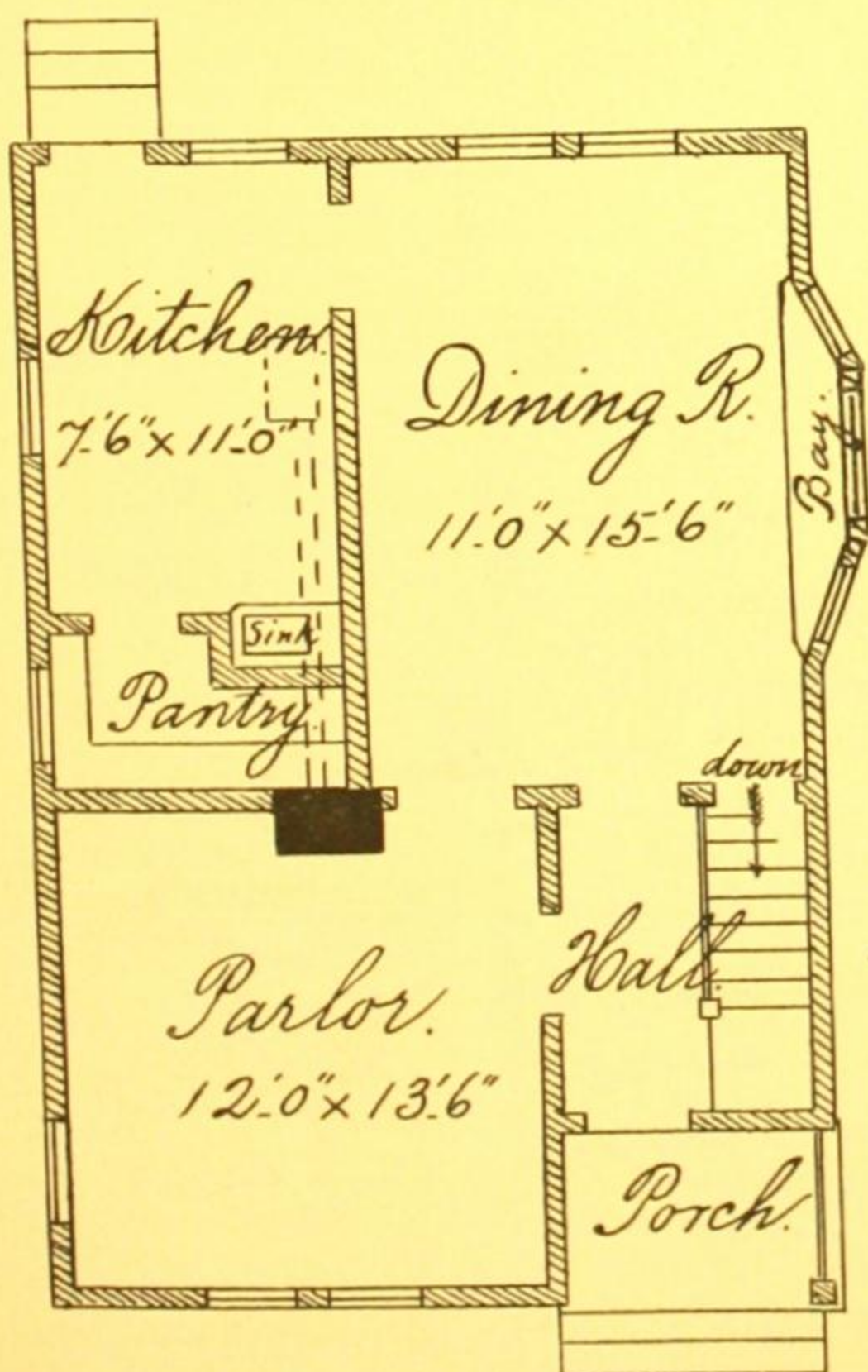
SHOPPELL'S MODERN HOUSES

DESIGN No. 611

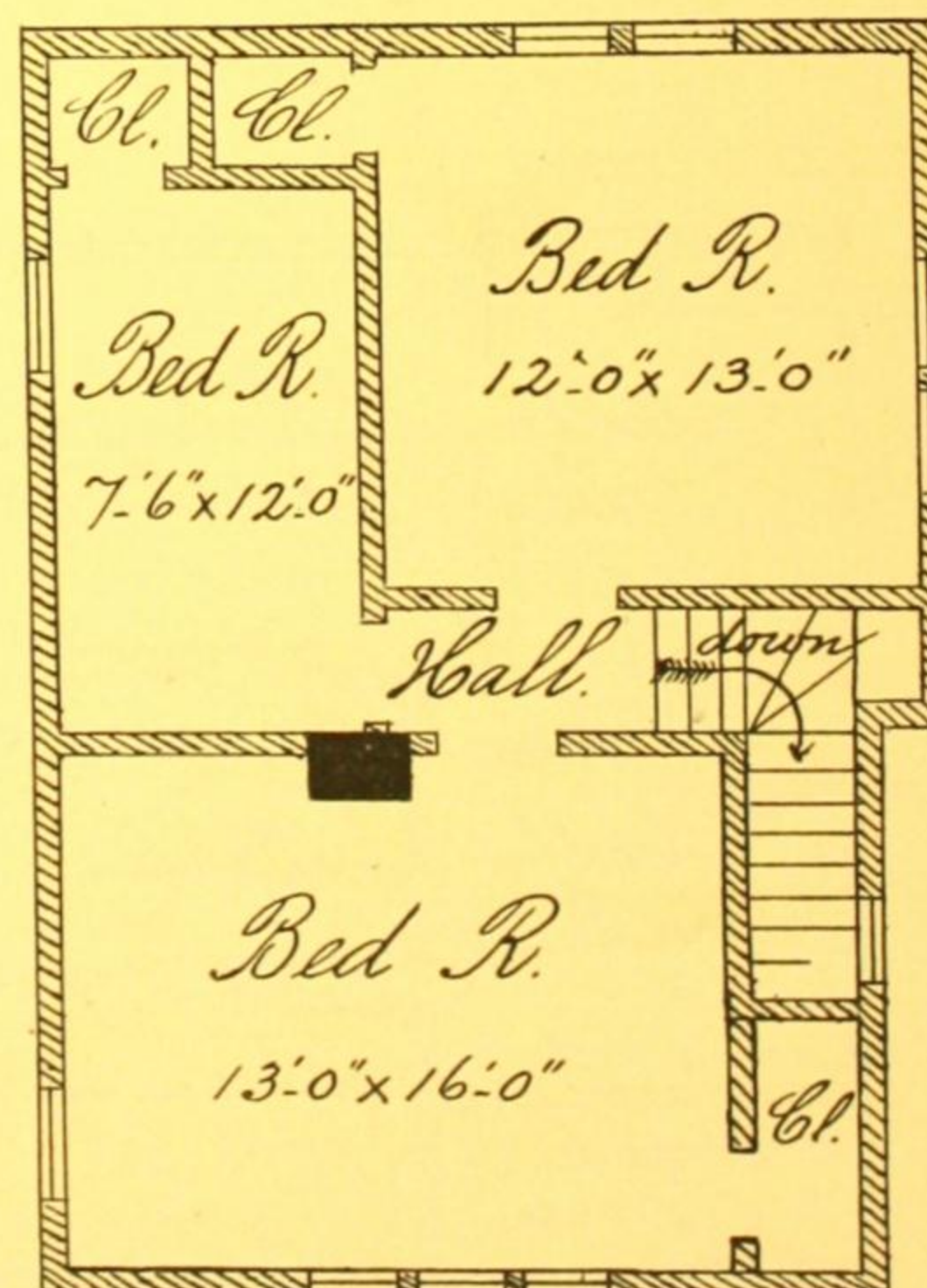
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



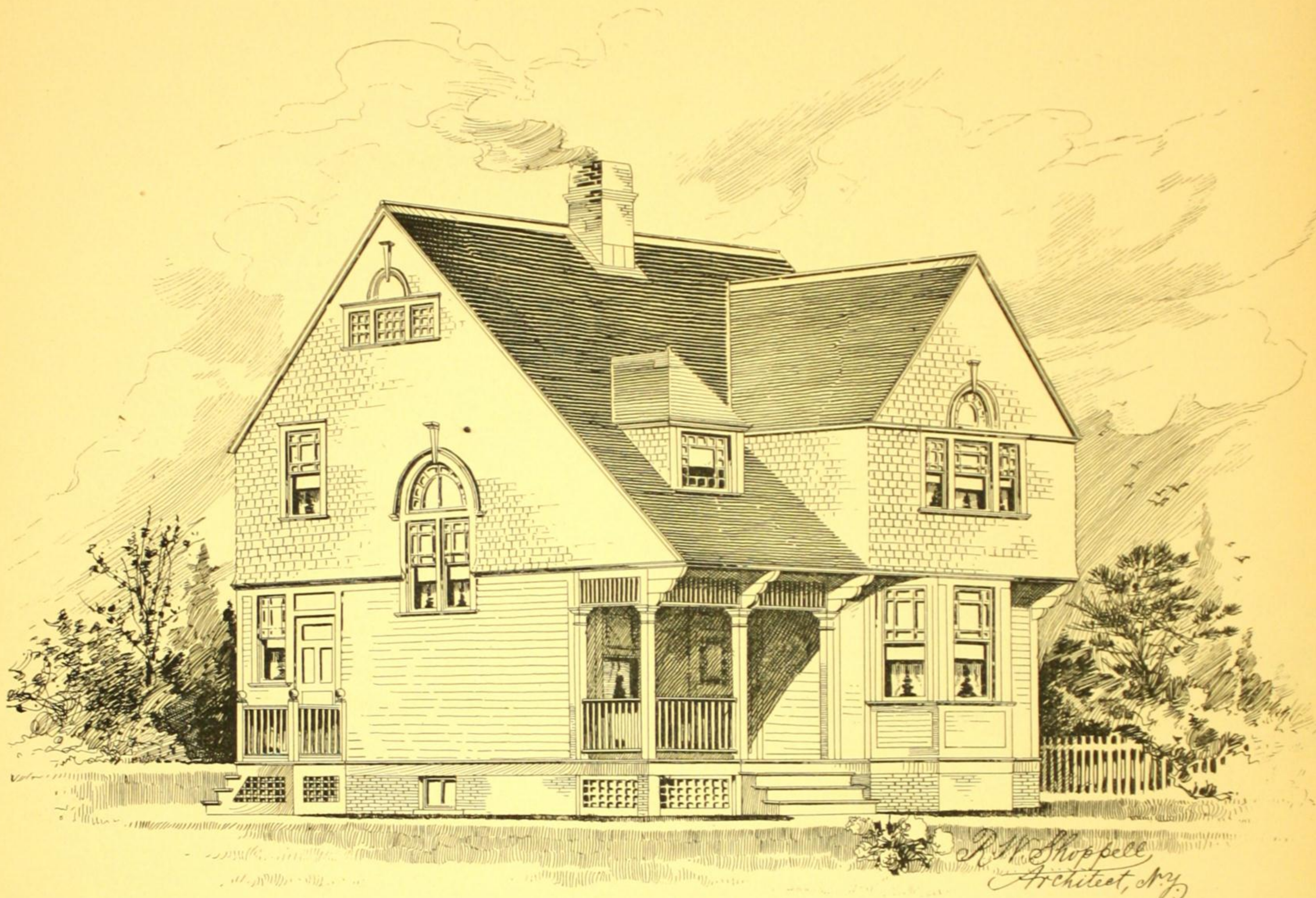
SECOND FLOOR.

The above design belongs to the "\$1500 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

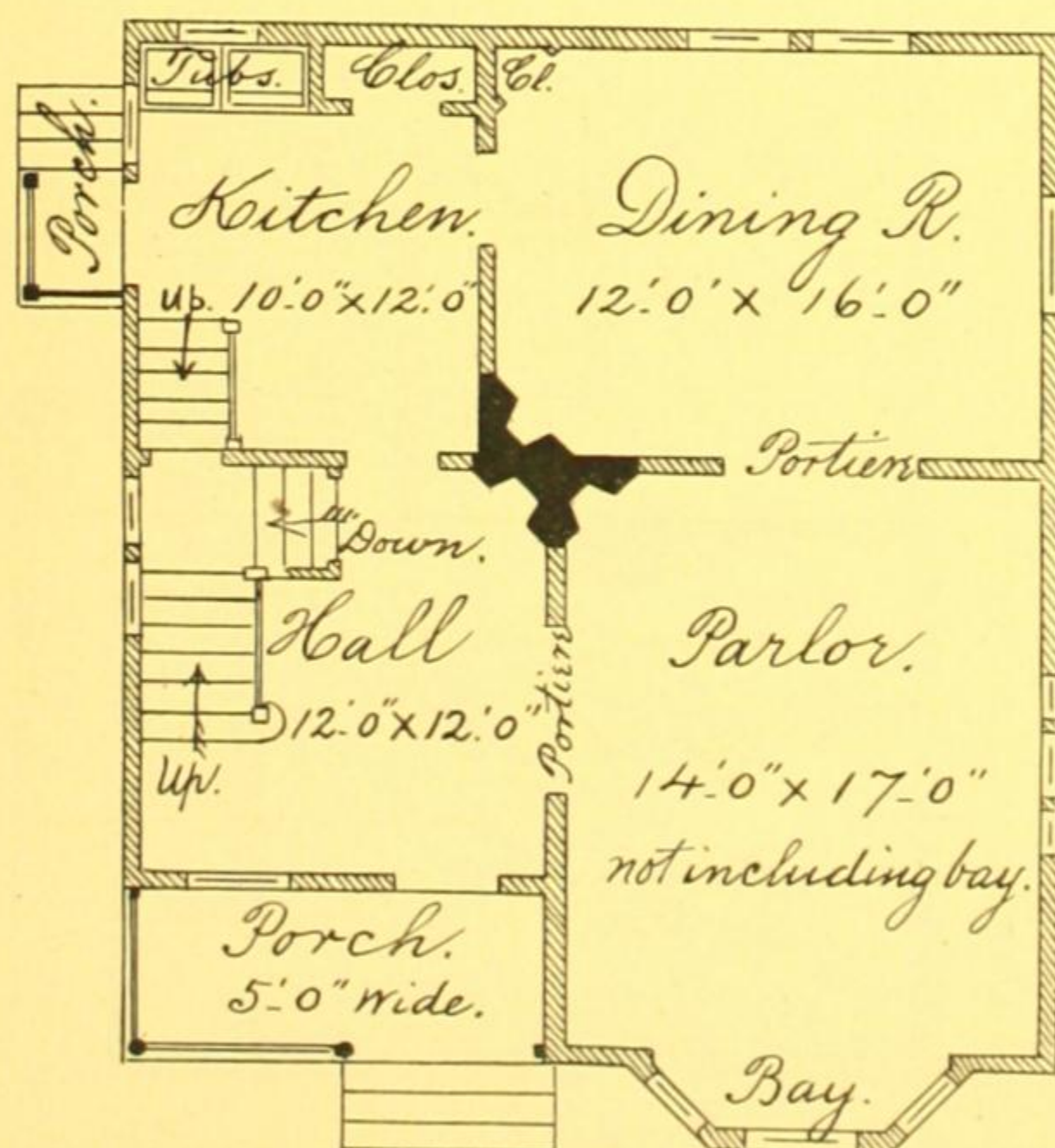
SHOPPELL'S MODERN HOUSES

DESIGN NO. 612

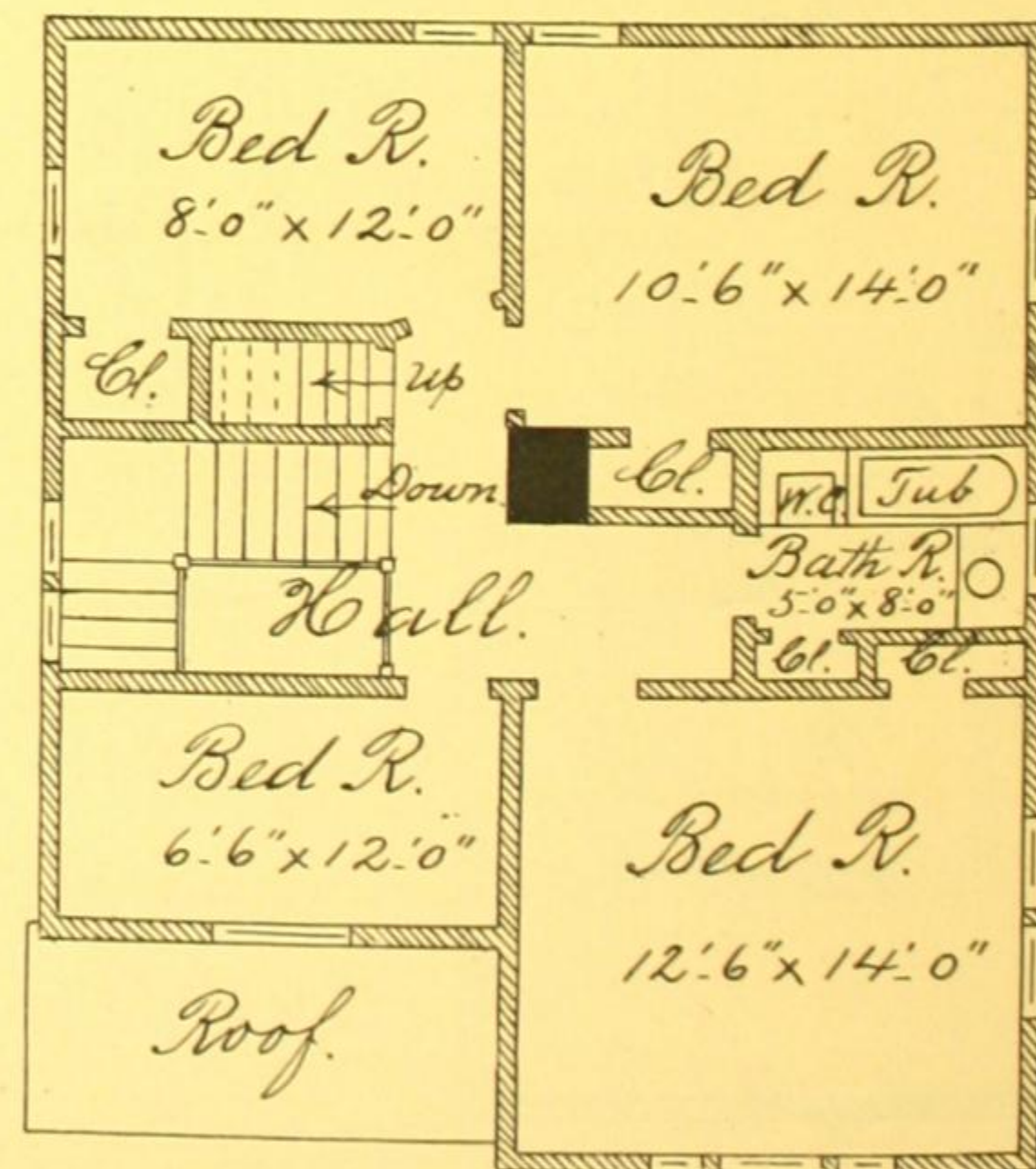
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



SECOND FLOOR.

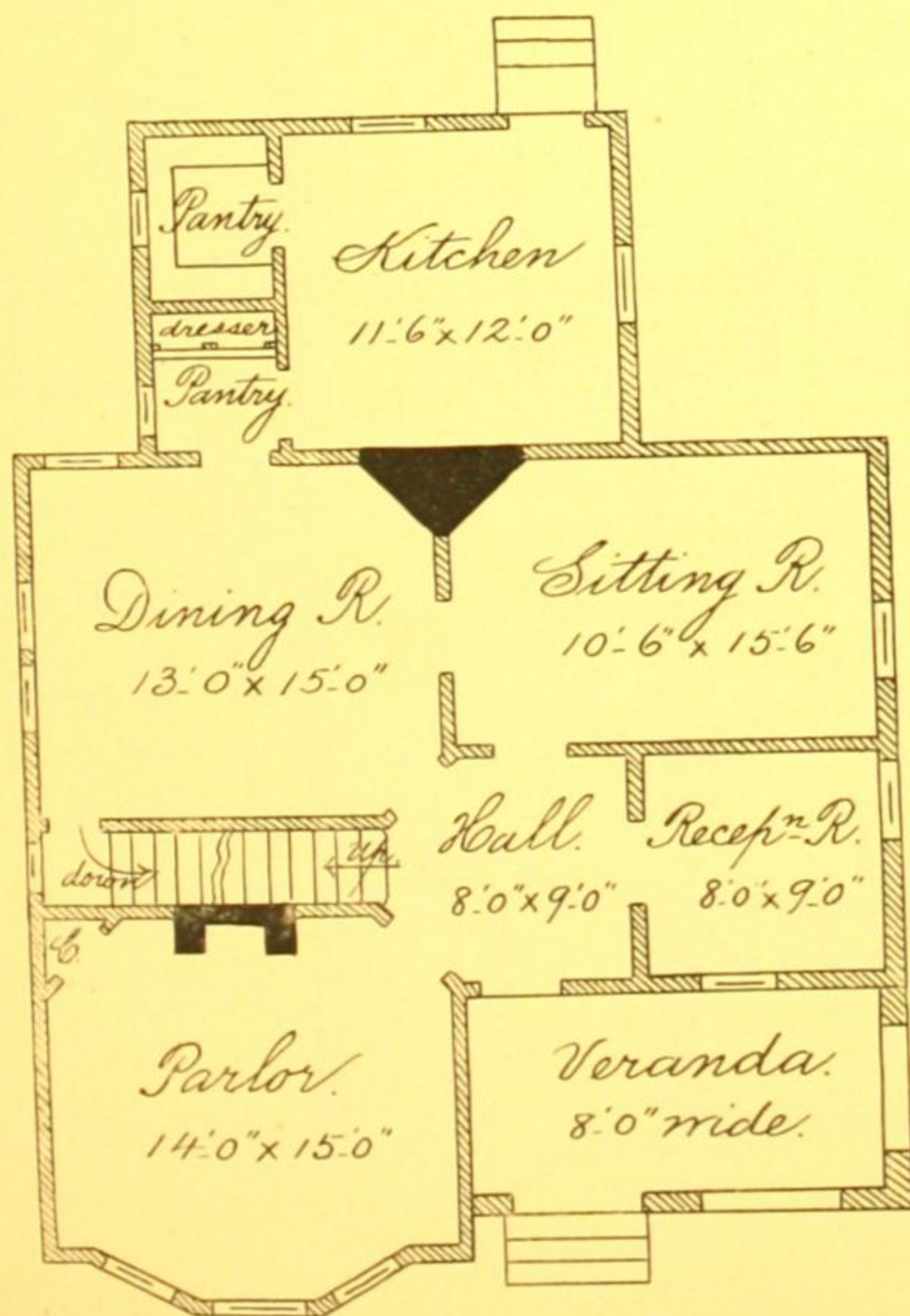
The above design belongs to the "\$2000 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

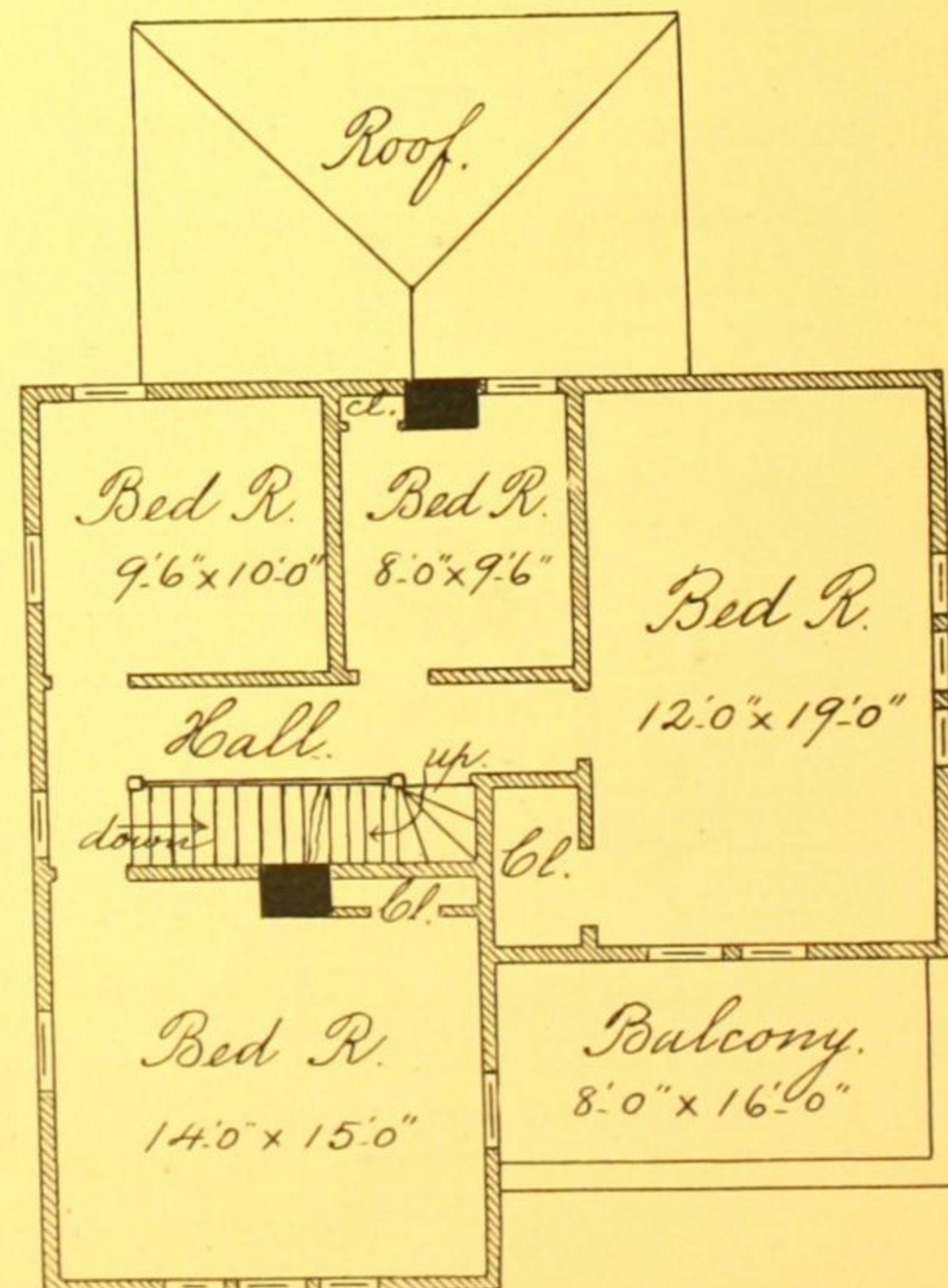
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



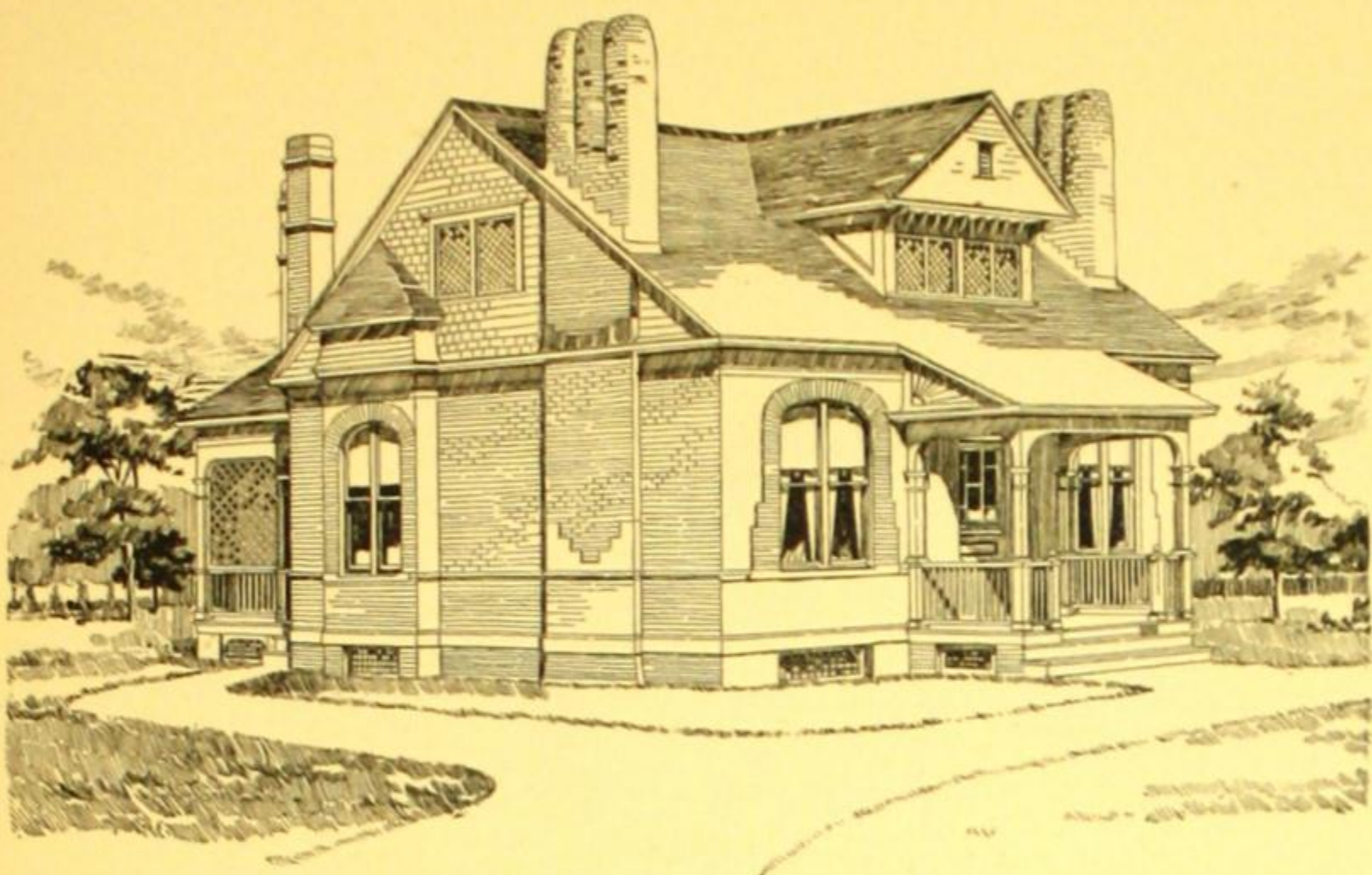
SECOND FLOOR.

The above design belongs to the "\$2000 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

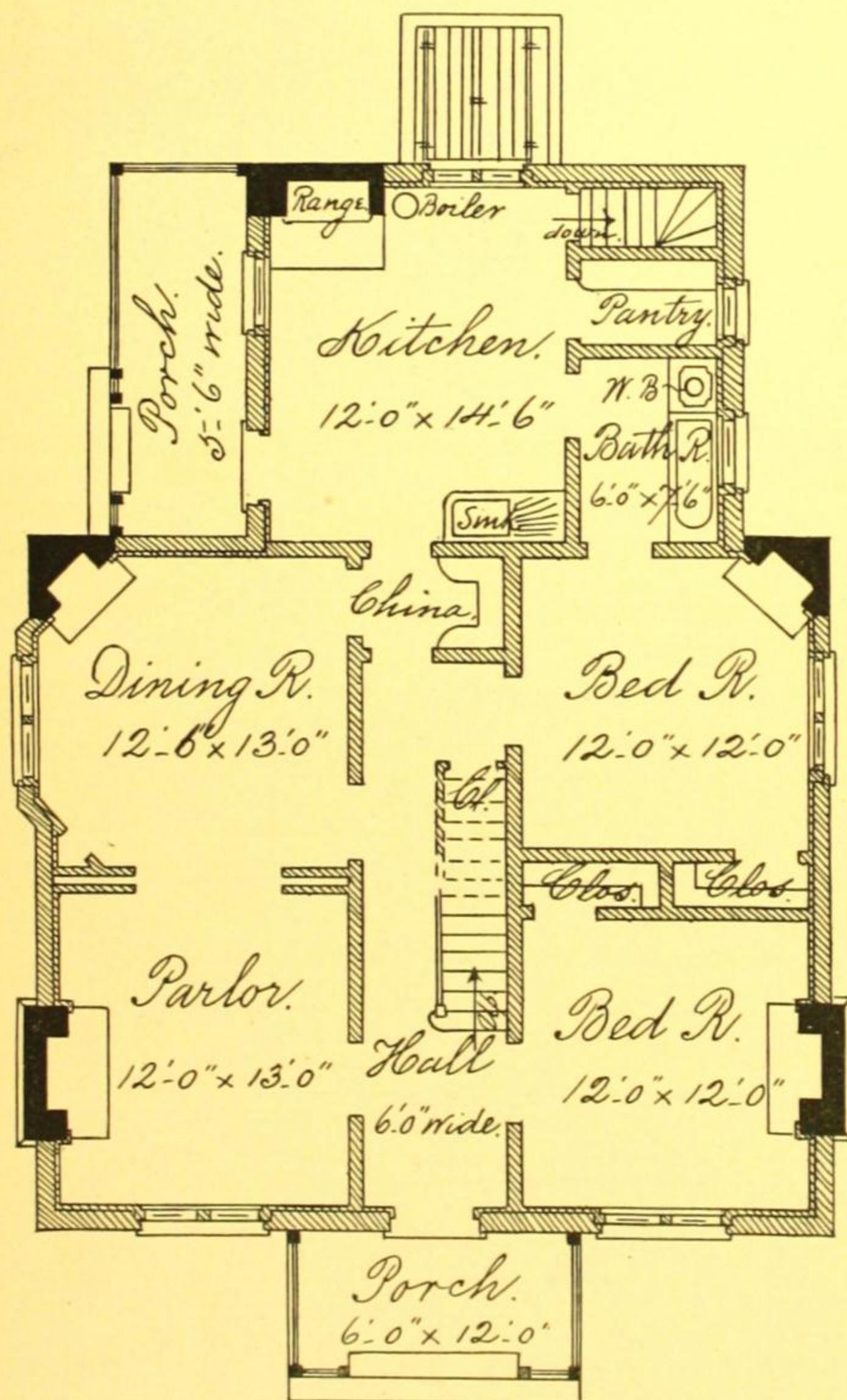
COTTAGE DESIGN

No. 614

DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW DESIGN NO. 614.

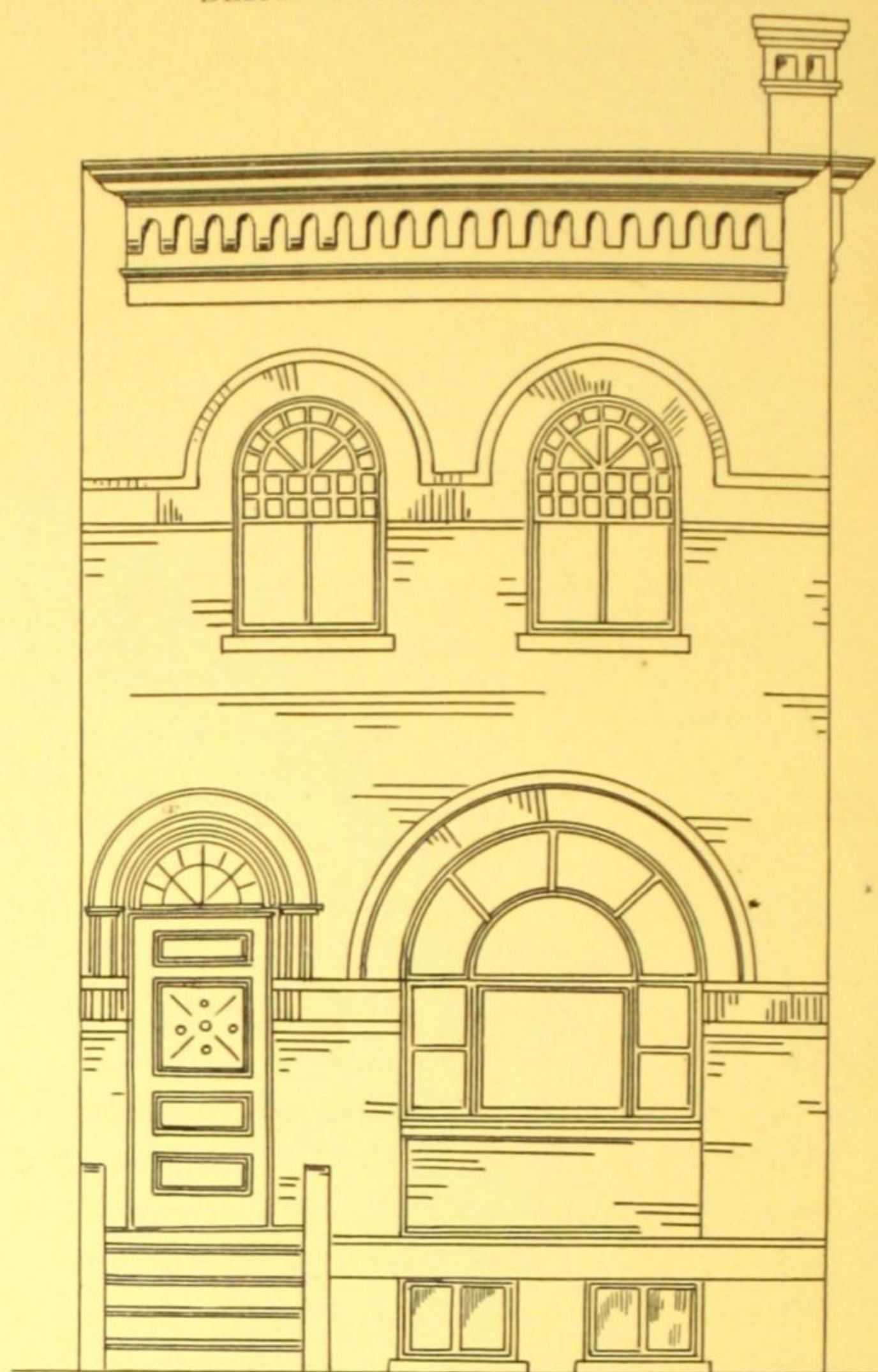


FLOOR PLAN DESIGN NO. 614.

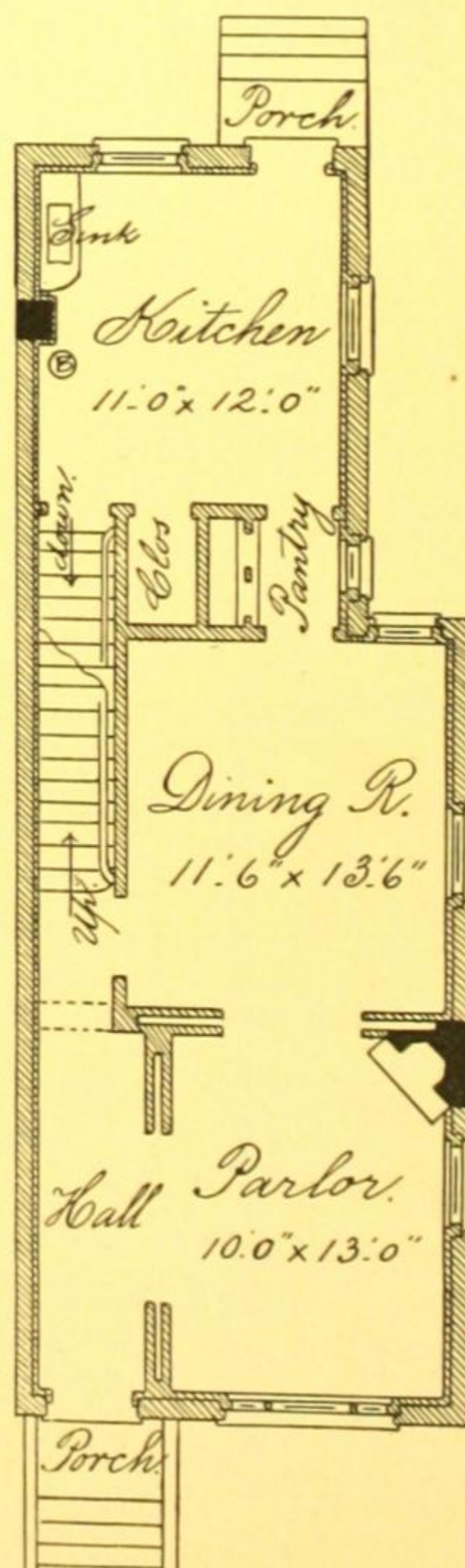
CITY HOUSE

DESIGN NO. 615

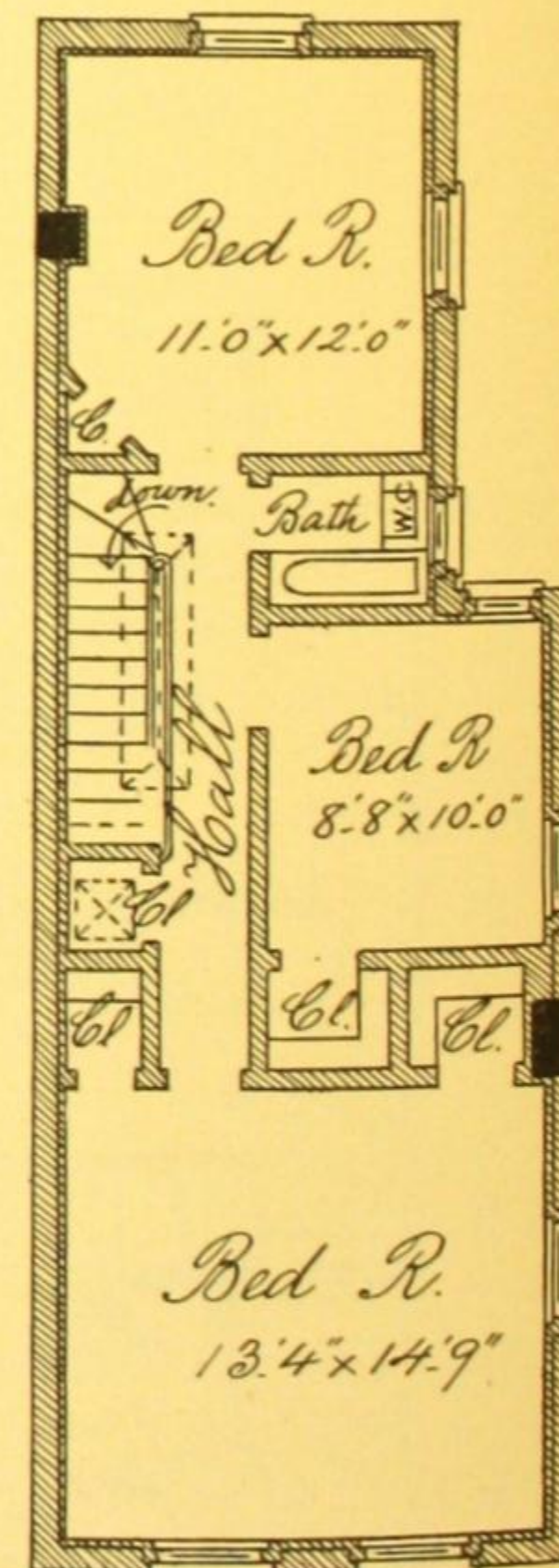
DESIGN PATENT APPLIED FOR.



FRONT ELEVATION DESIGN NO. 615.



FIRST FLOOR.



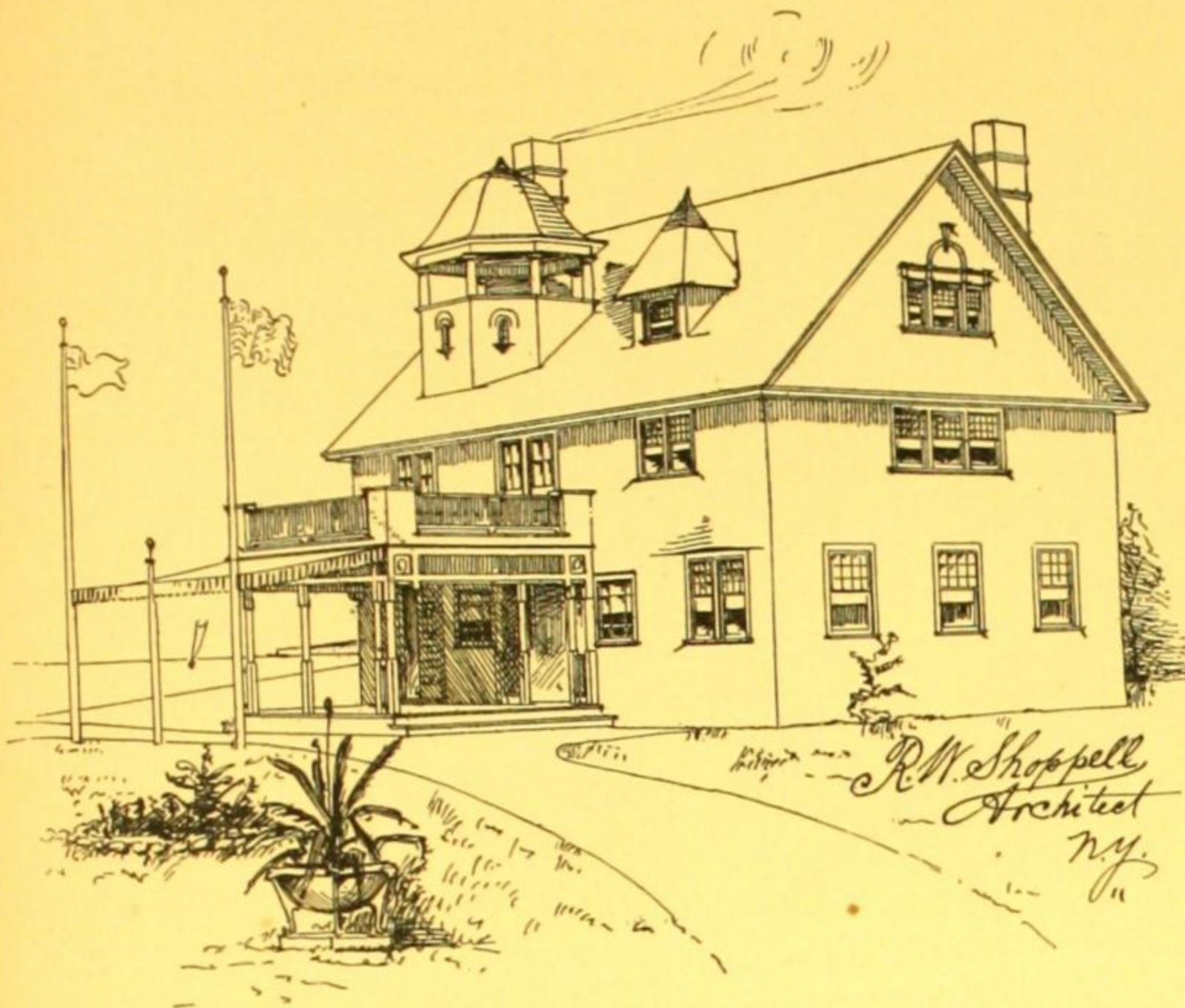
SECOND FLOOR.

The above designs belong to the "\$2500 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

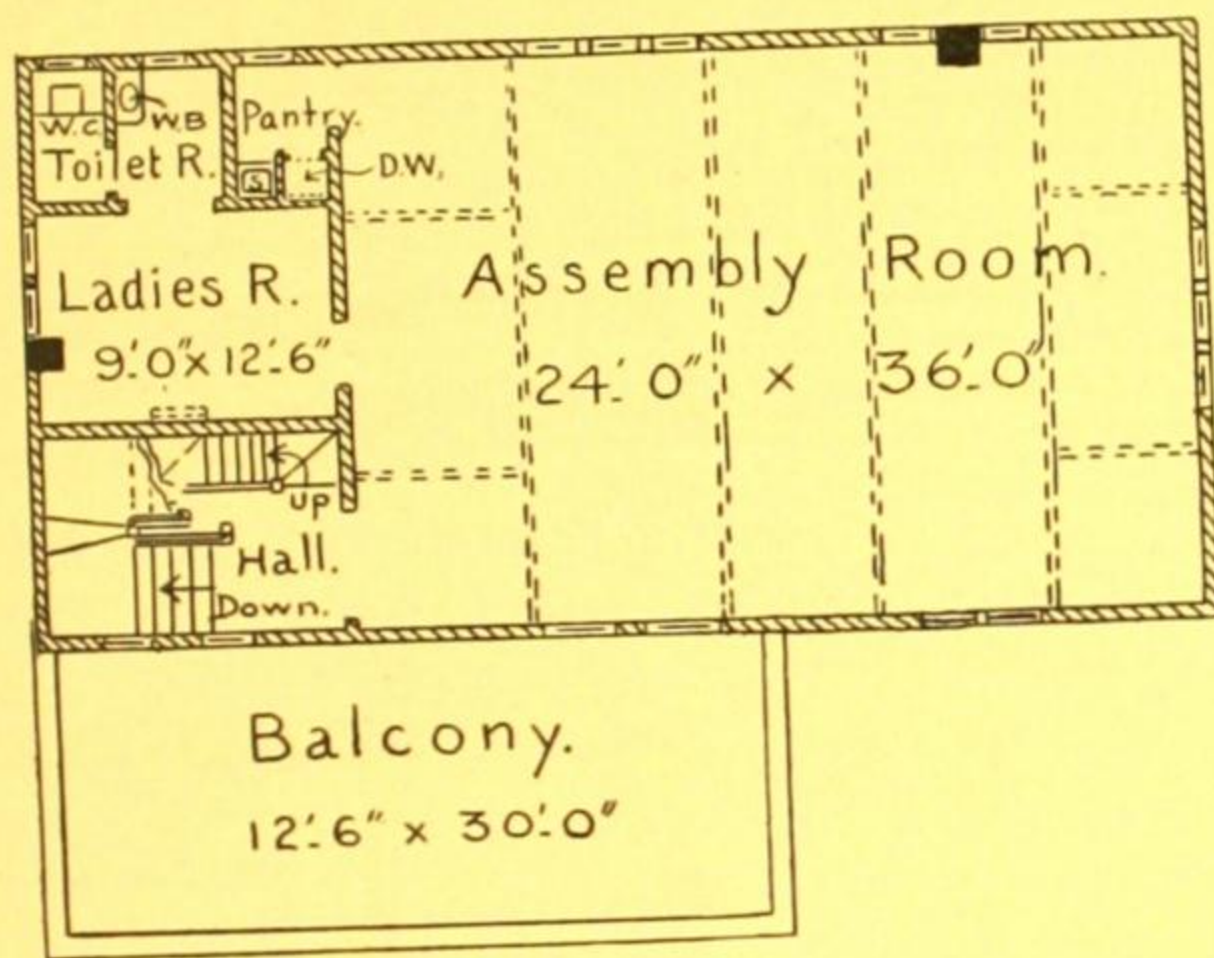
CASINO DESIGN

No. 616

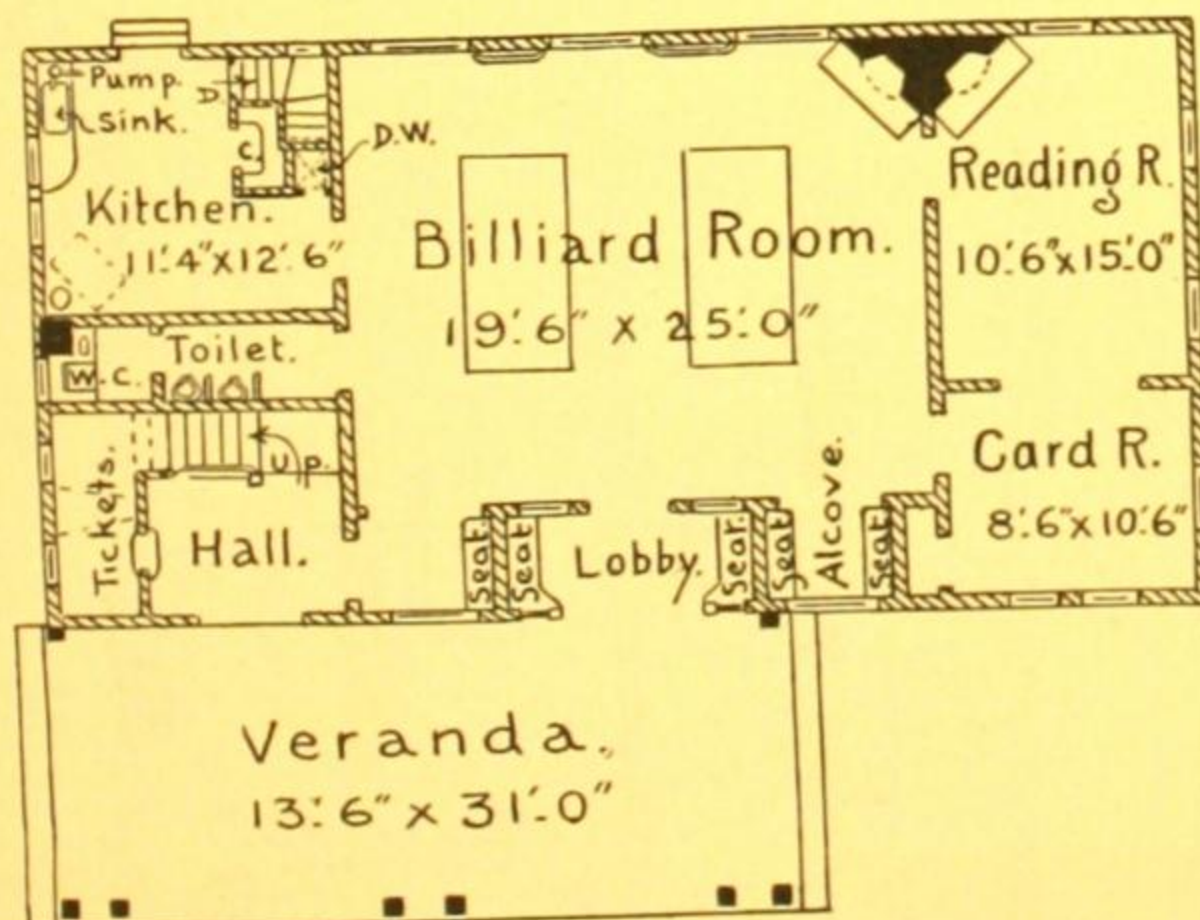
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



SECOND FLOOR.



Porte Cochere.

FIRST FLOOR.

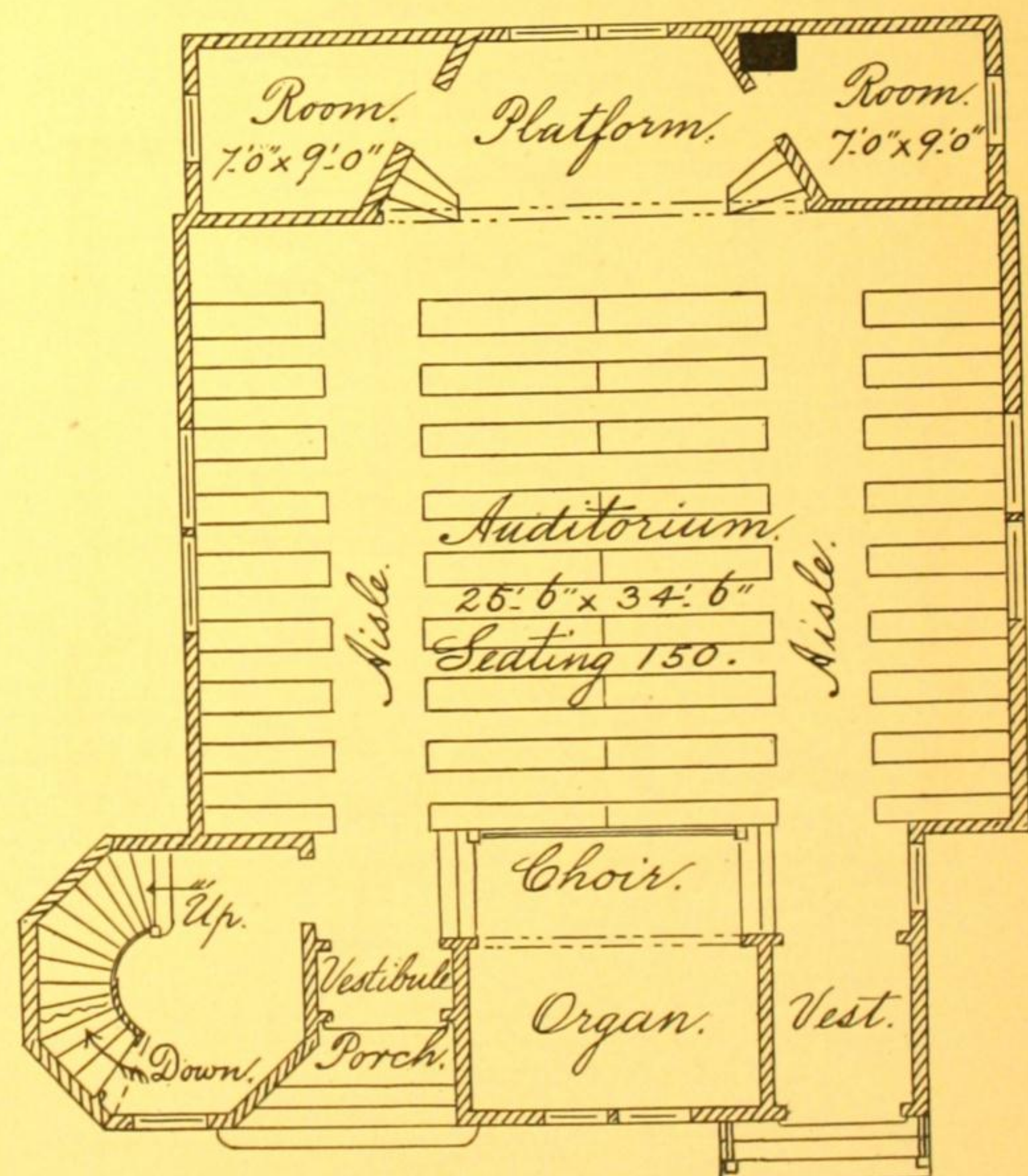
CHAPEL DESIGN

No. 617

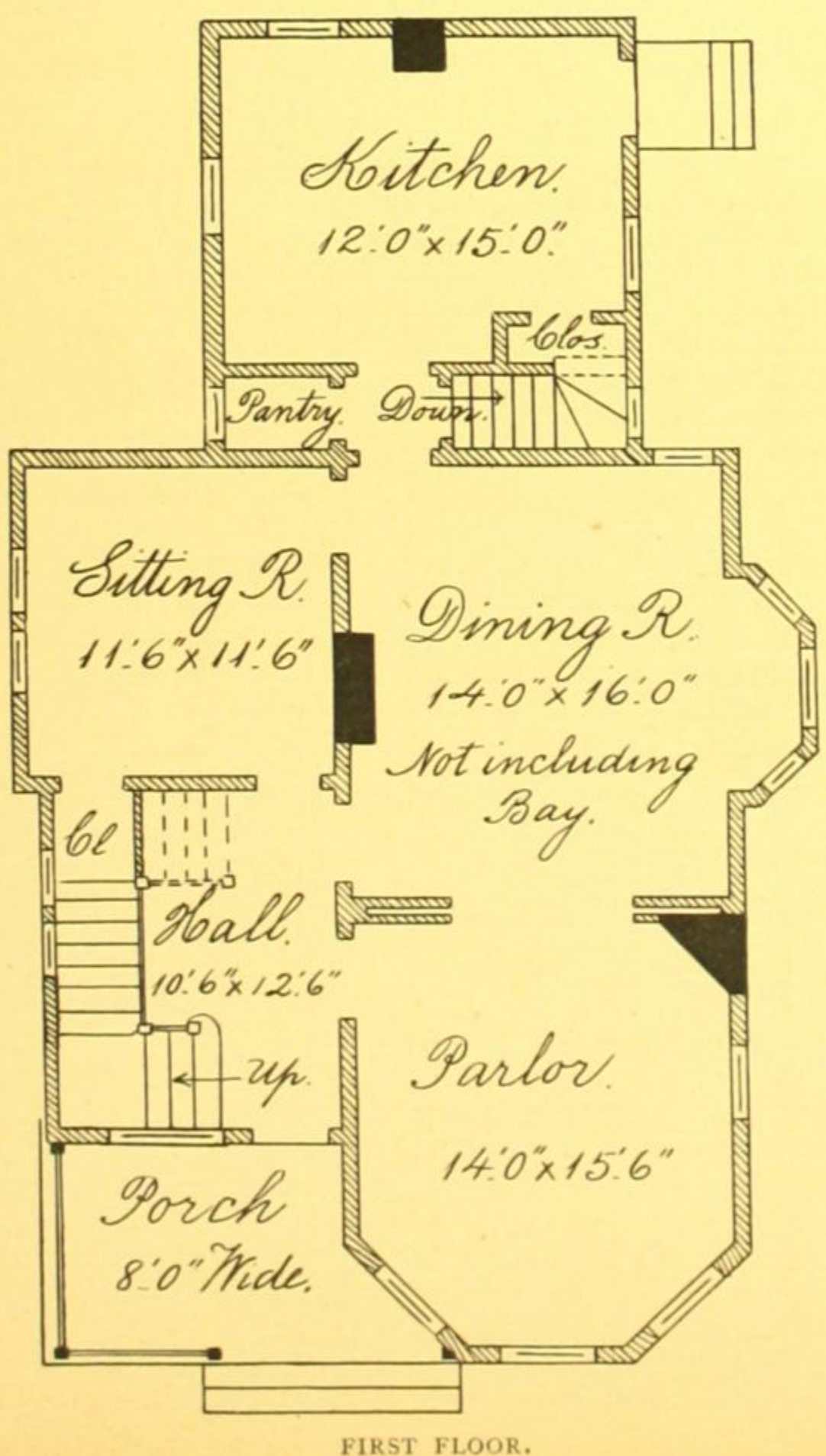
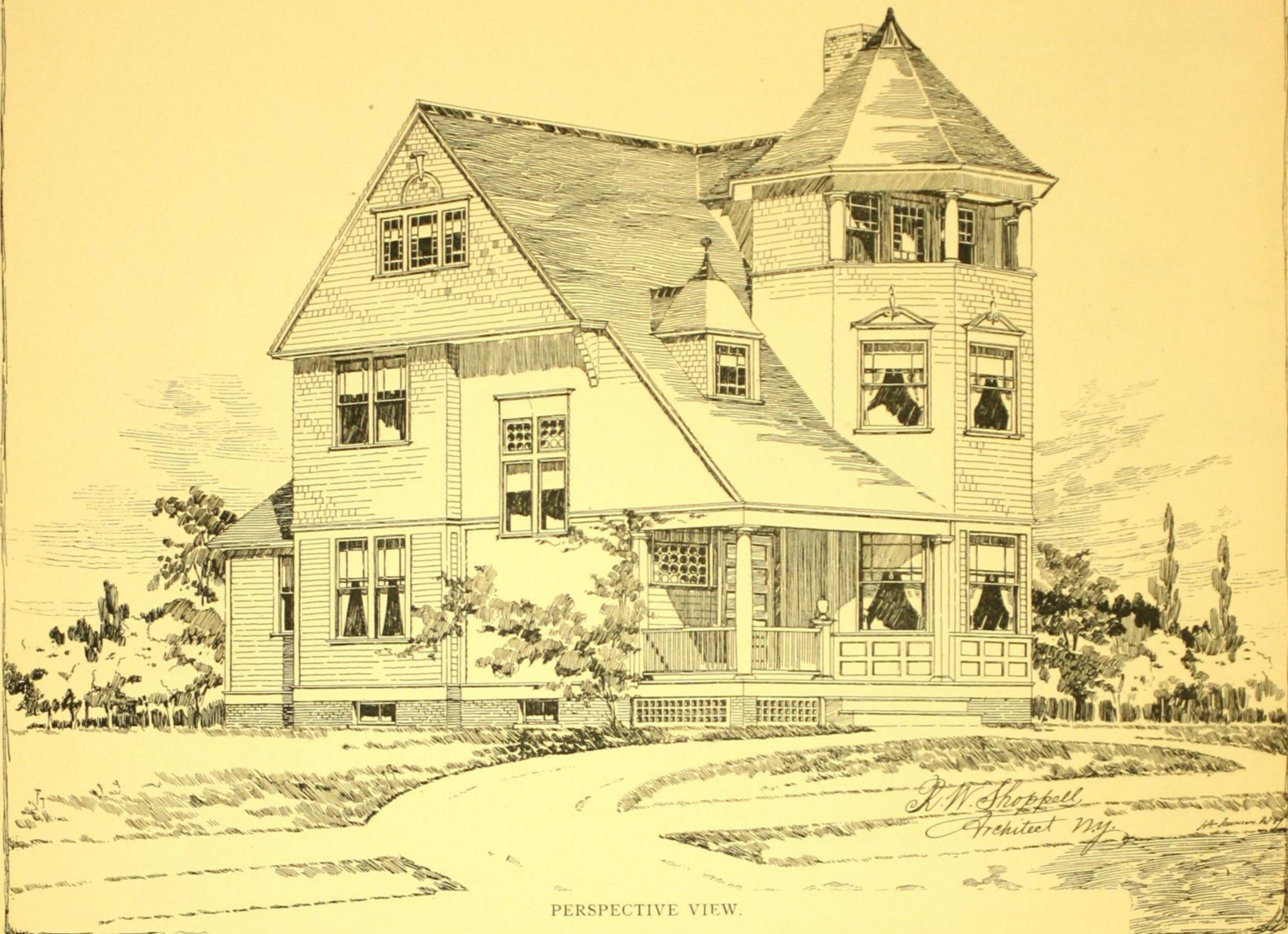
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.

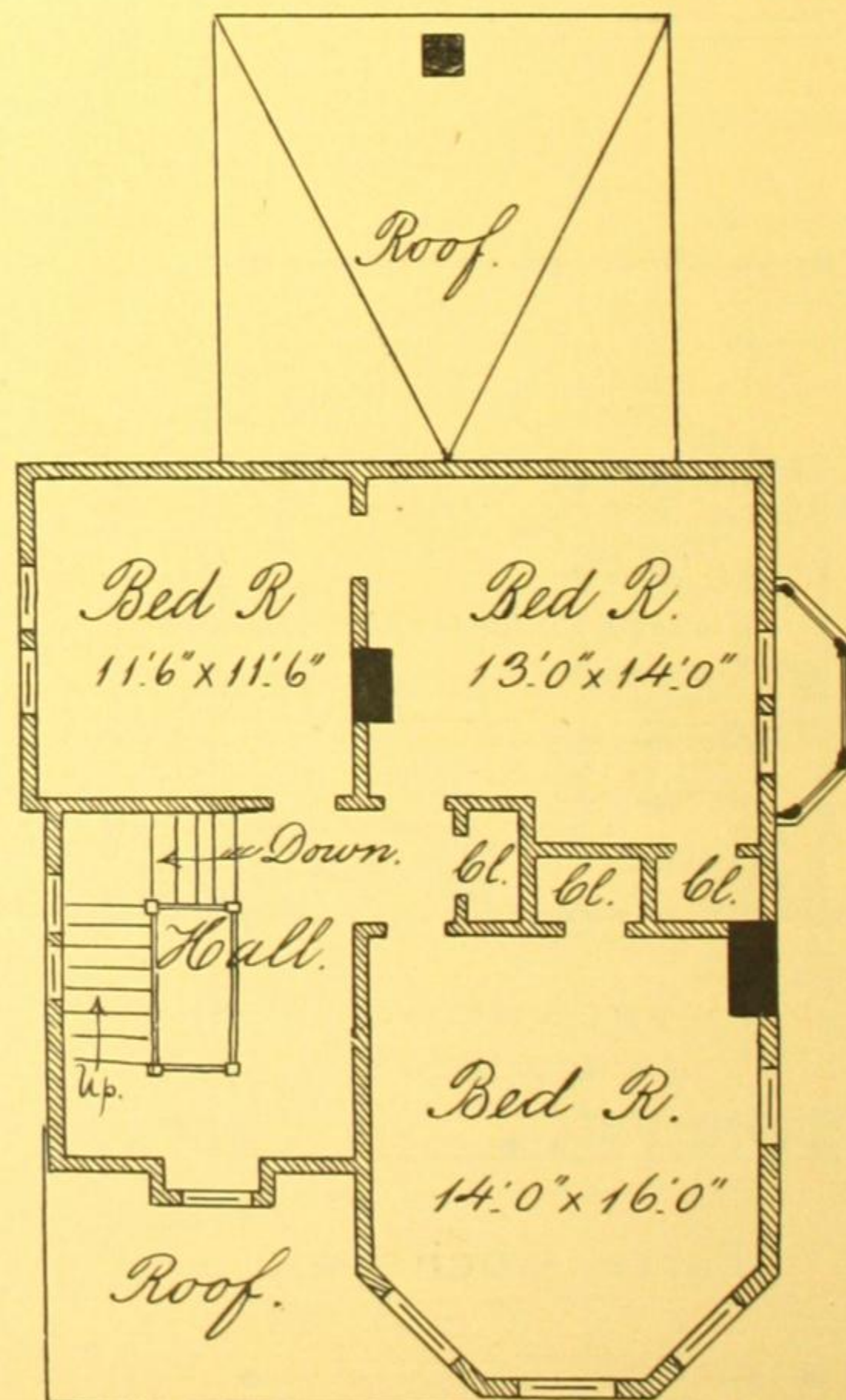


FLOOR PLAN.



FIRST FLOOR.

The above design belongs to the "\$2500 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

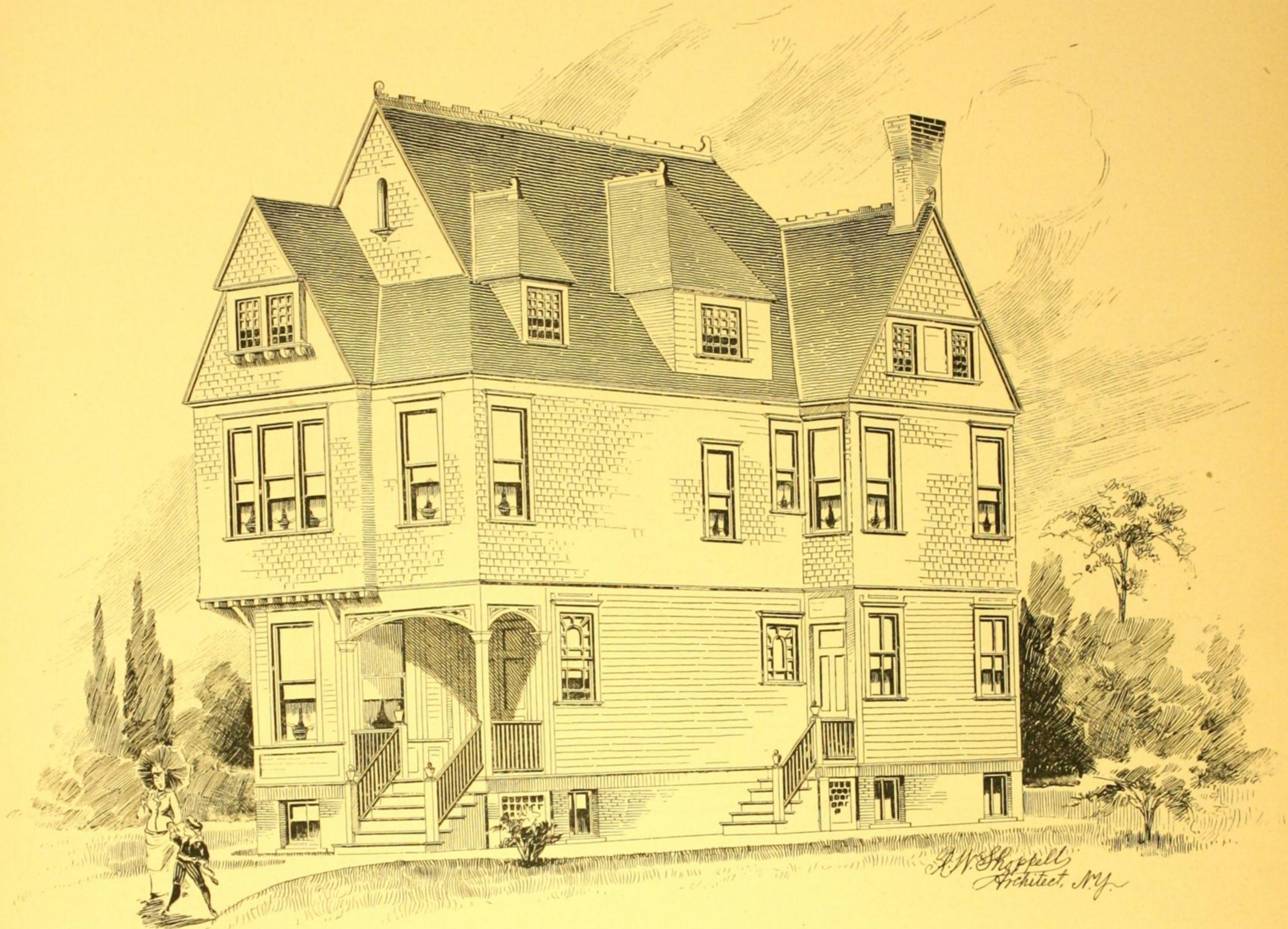


SECOND FLOOR.

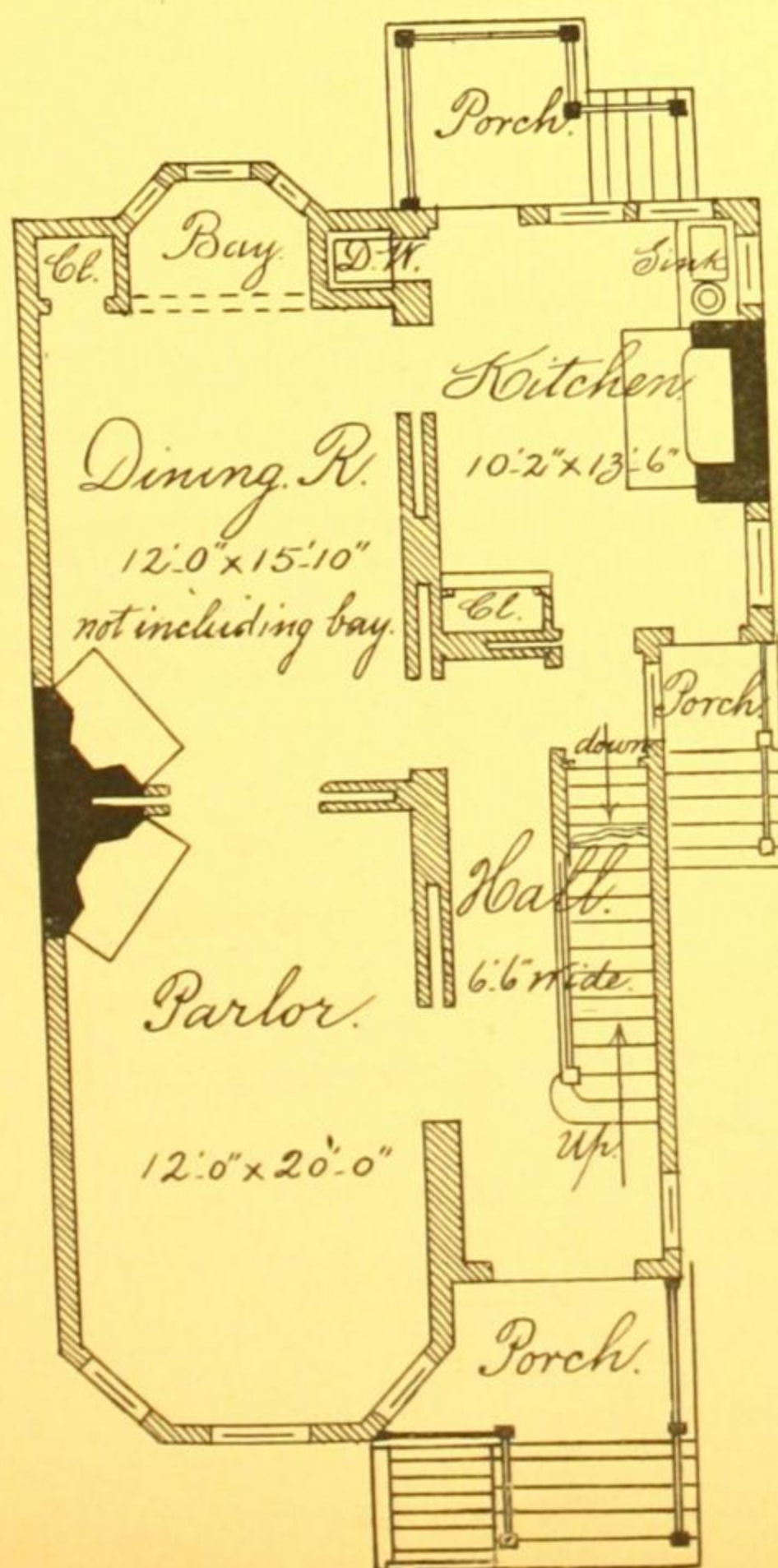
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

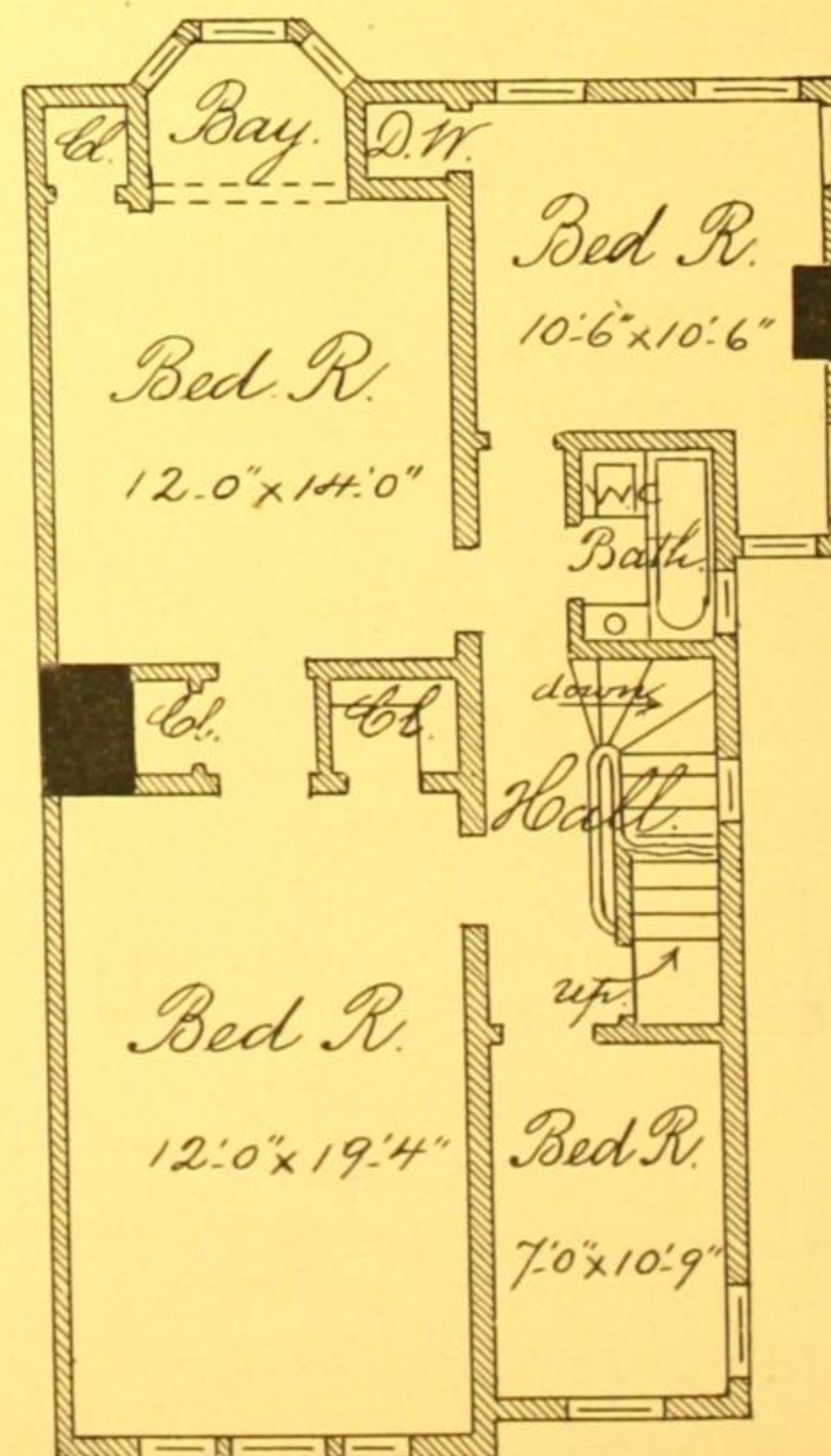
DESIGN No. 619



PERSPECTIVE VIEW.



FIRST FLOOR.



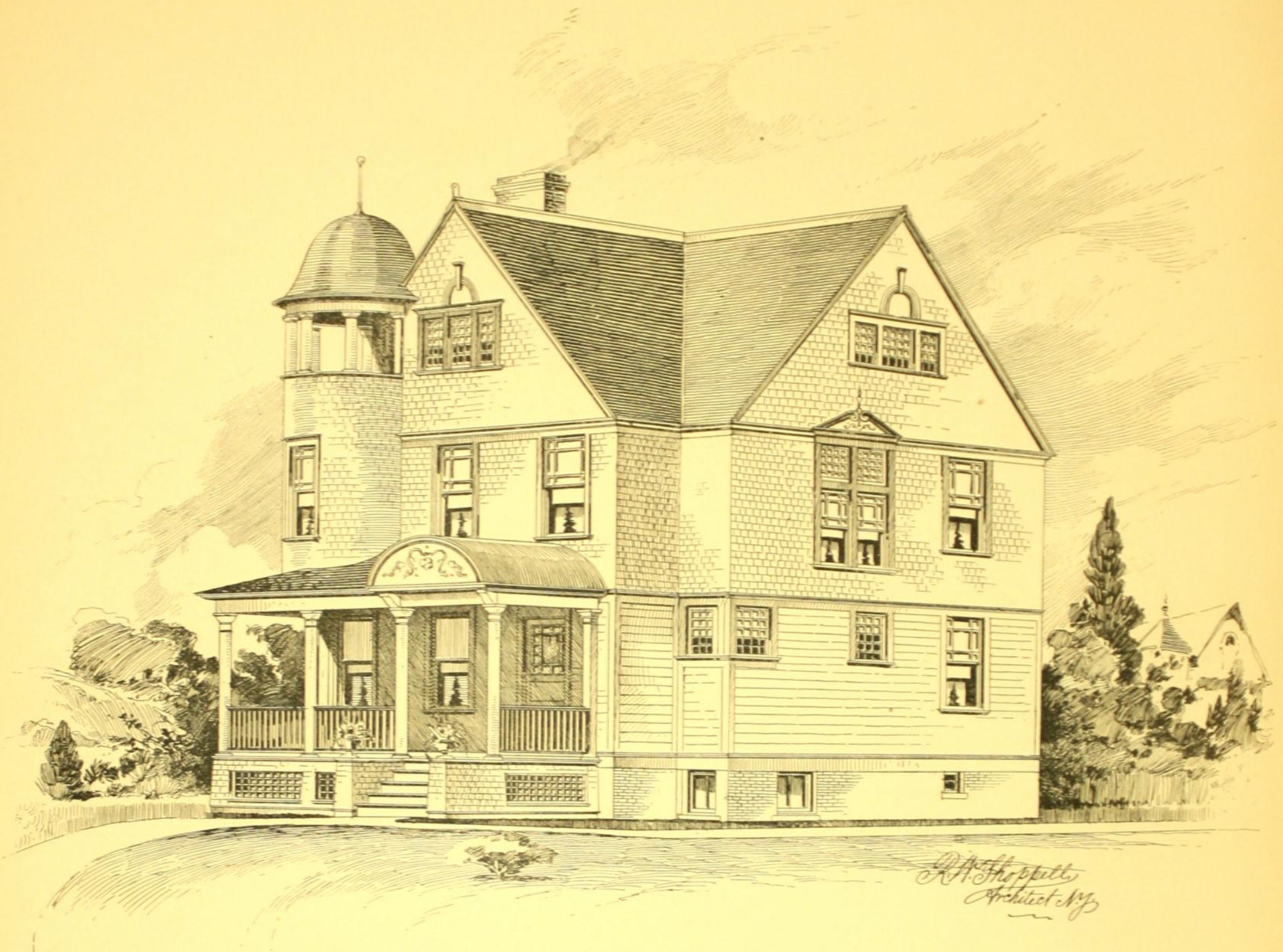
SECOND FLOOR.

The above design belongs to the "\$2500 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

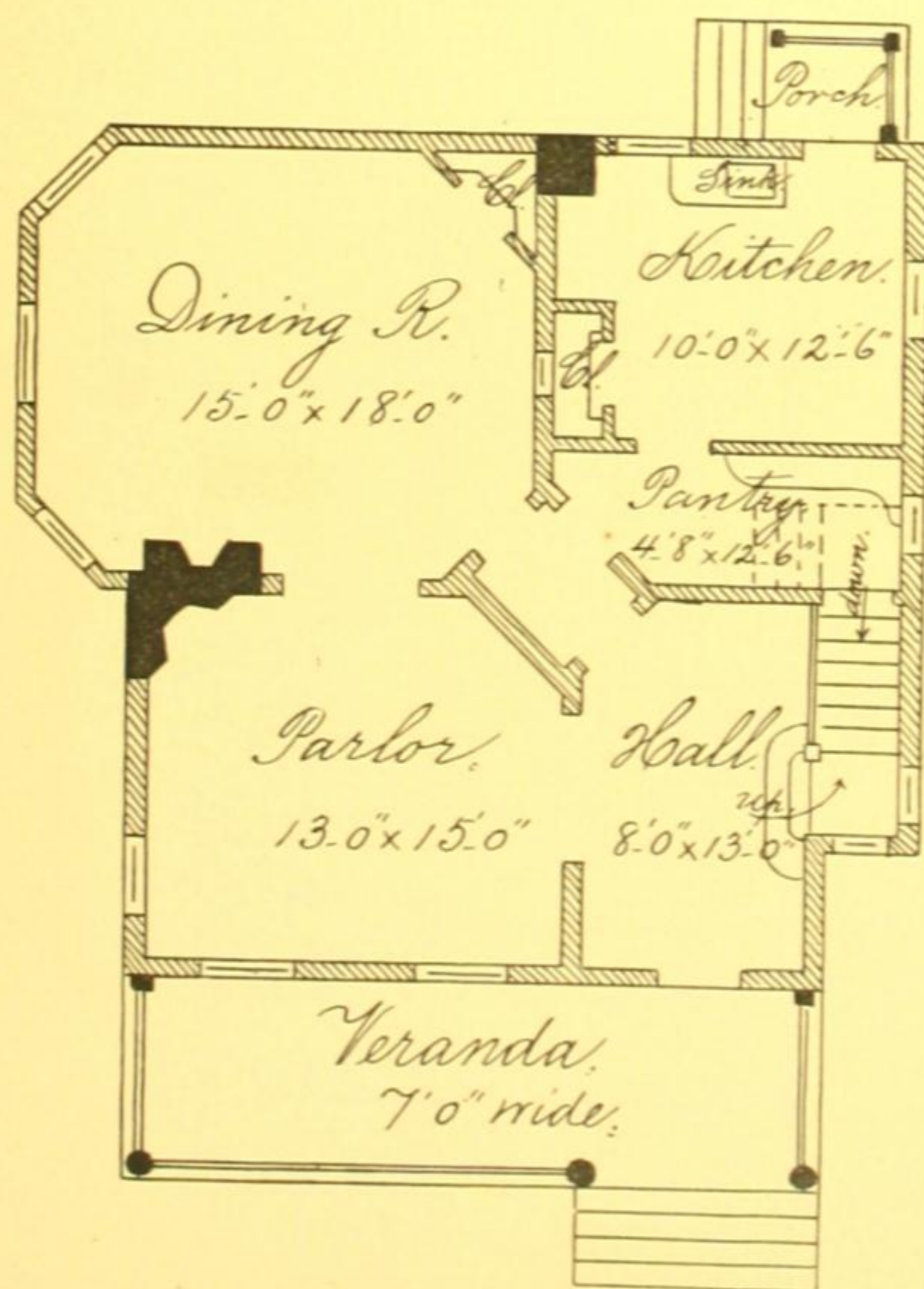
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

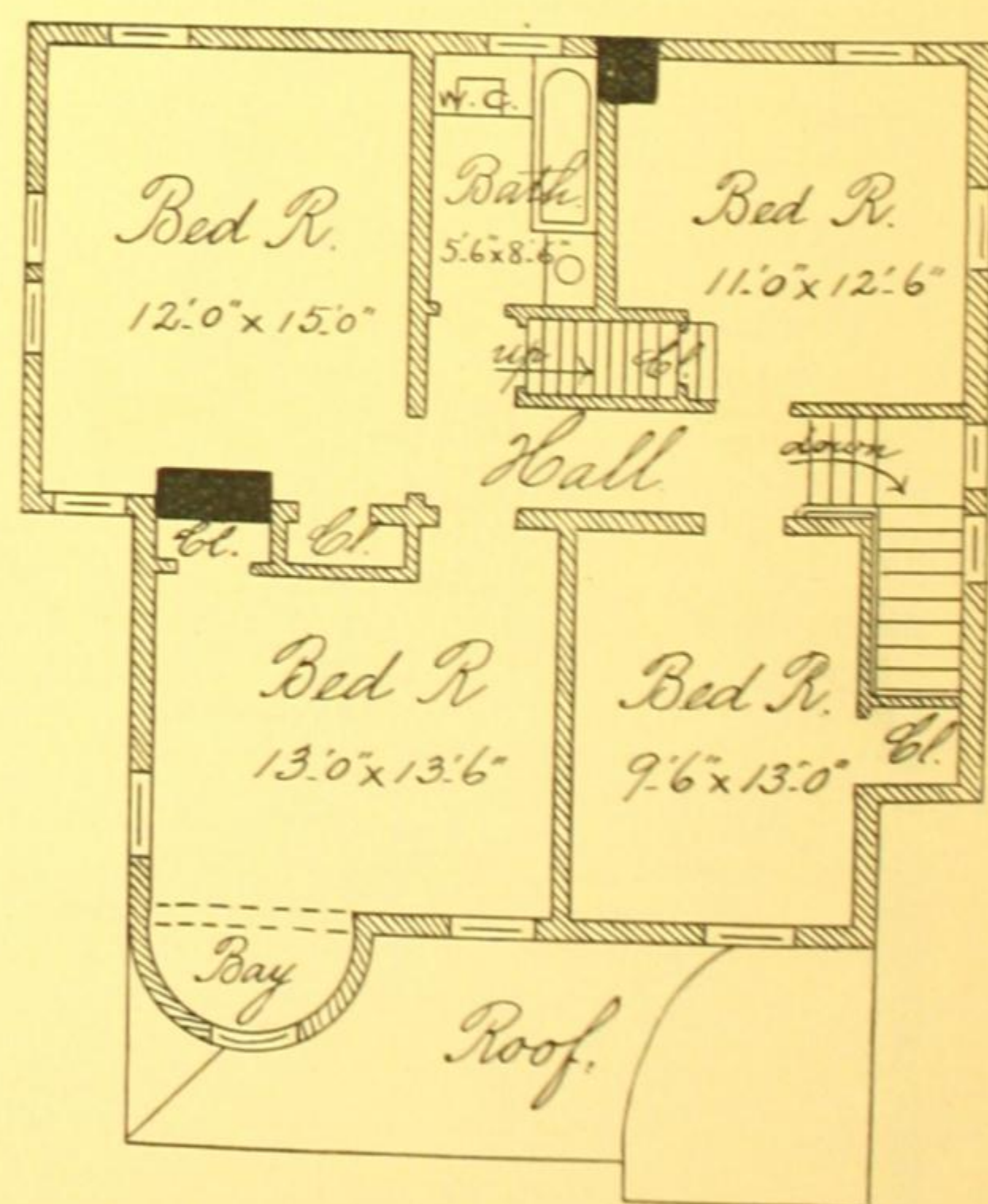
DESIGN No. 620



PERSPECTIVE VIEW.



FIRST FLOOR.

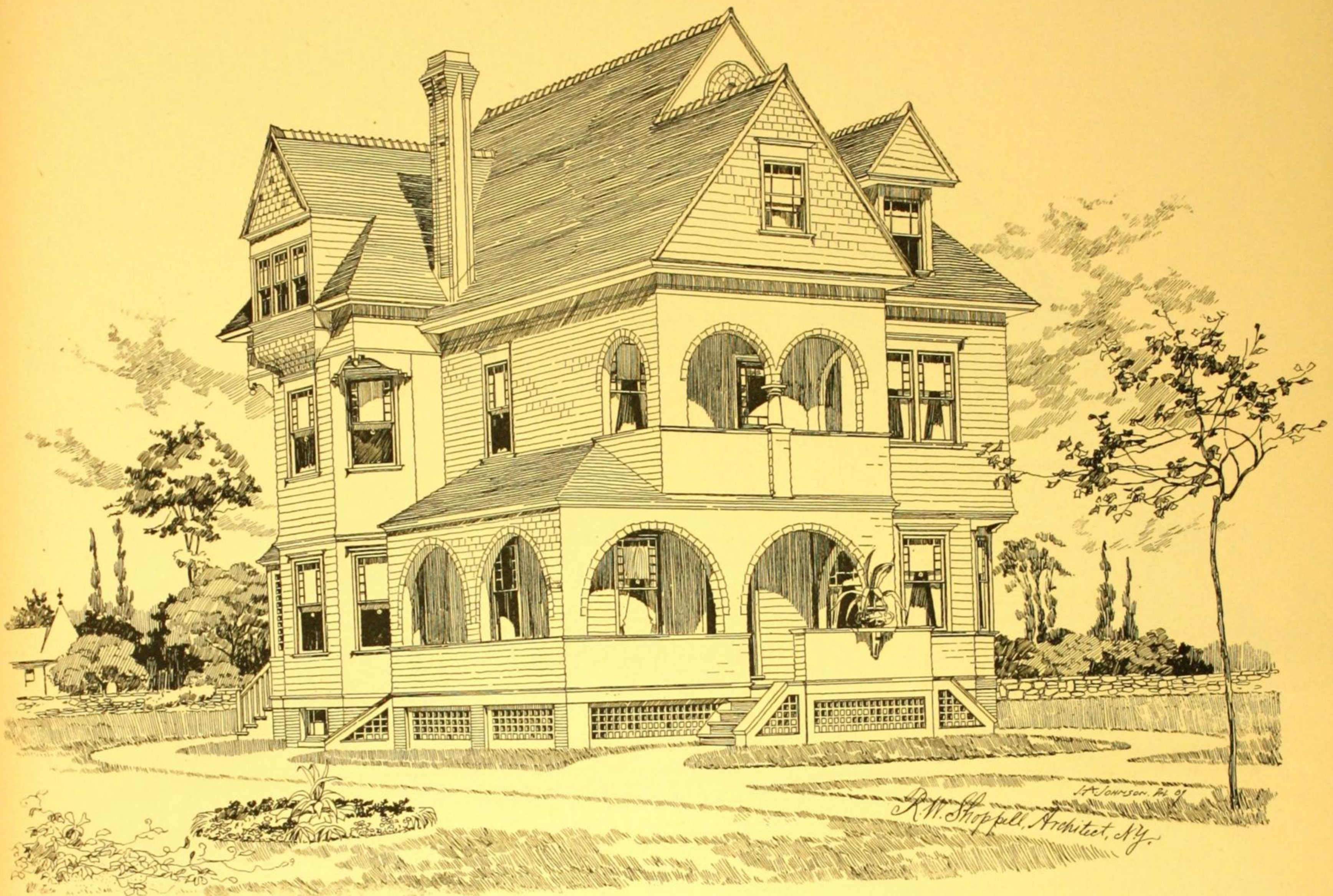


SECOND FLOOR.

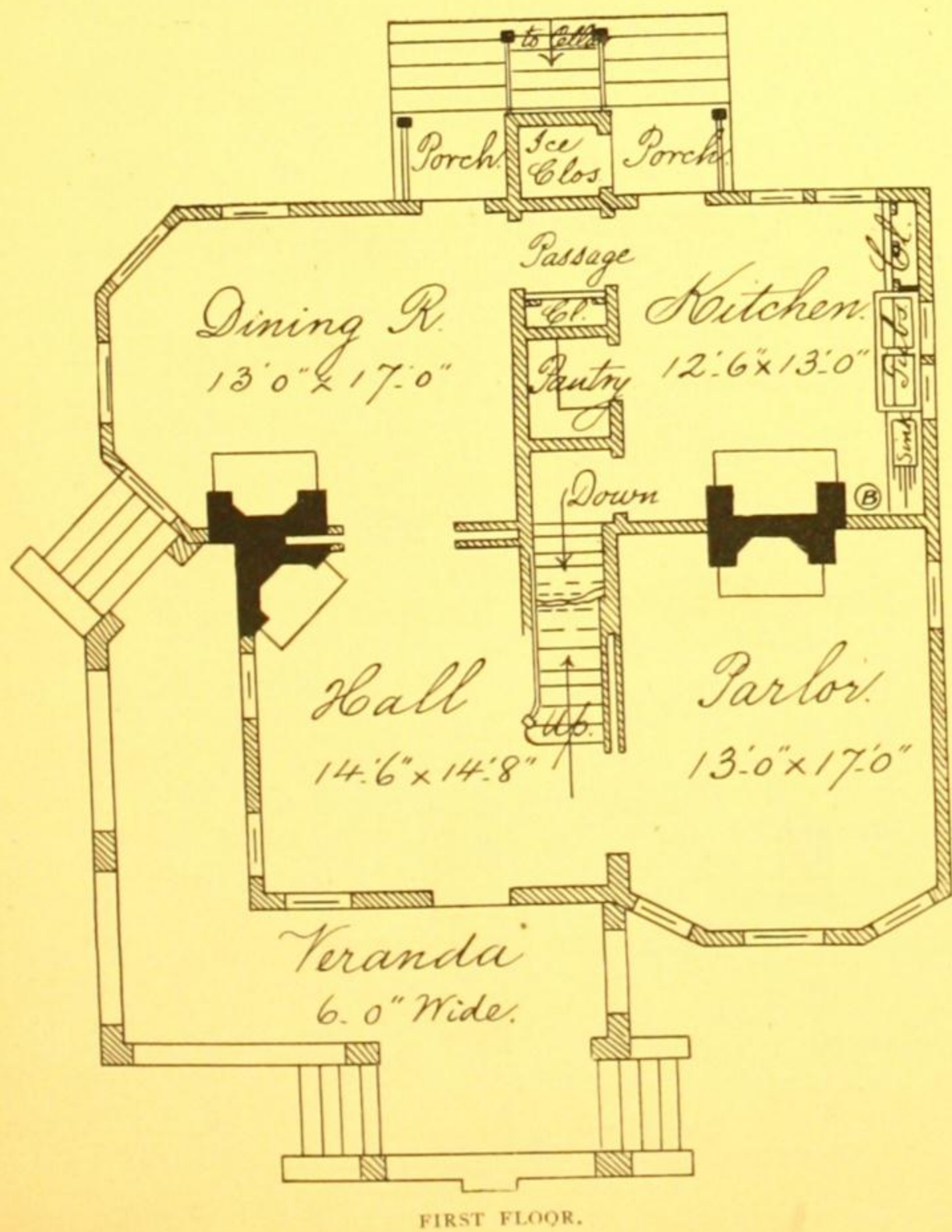
The above design belongs to the "\$3000 Class." See page 23 for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

SHOPPELL'S MODERN HOUSES

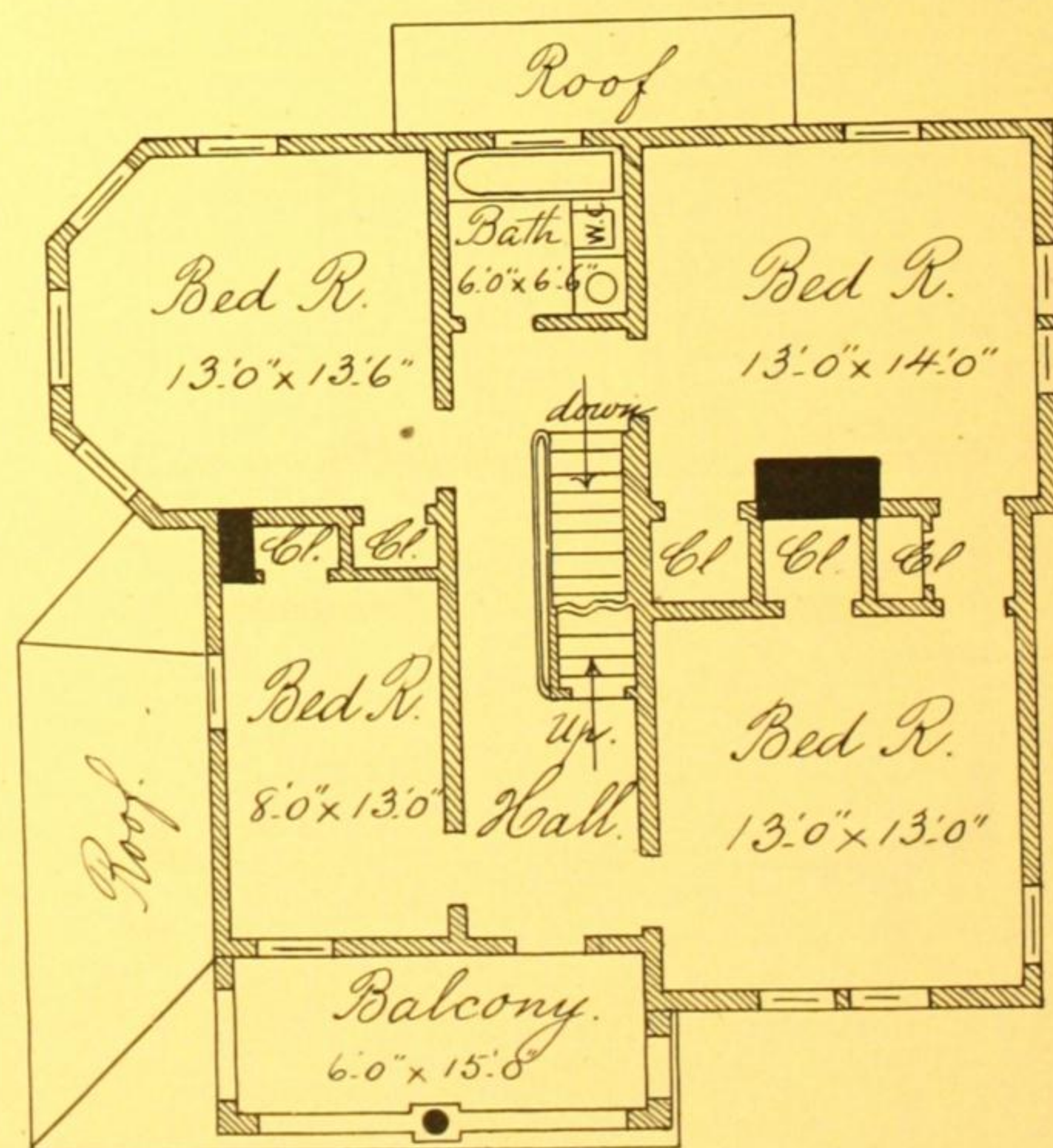
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



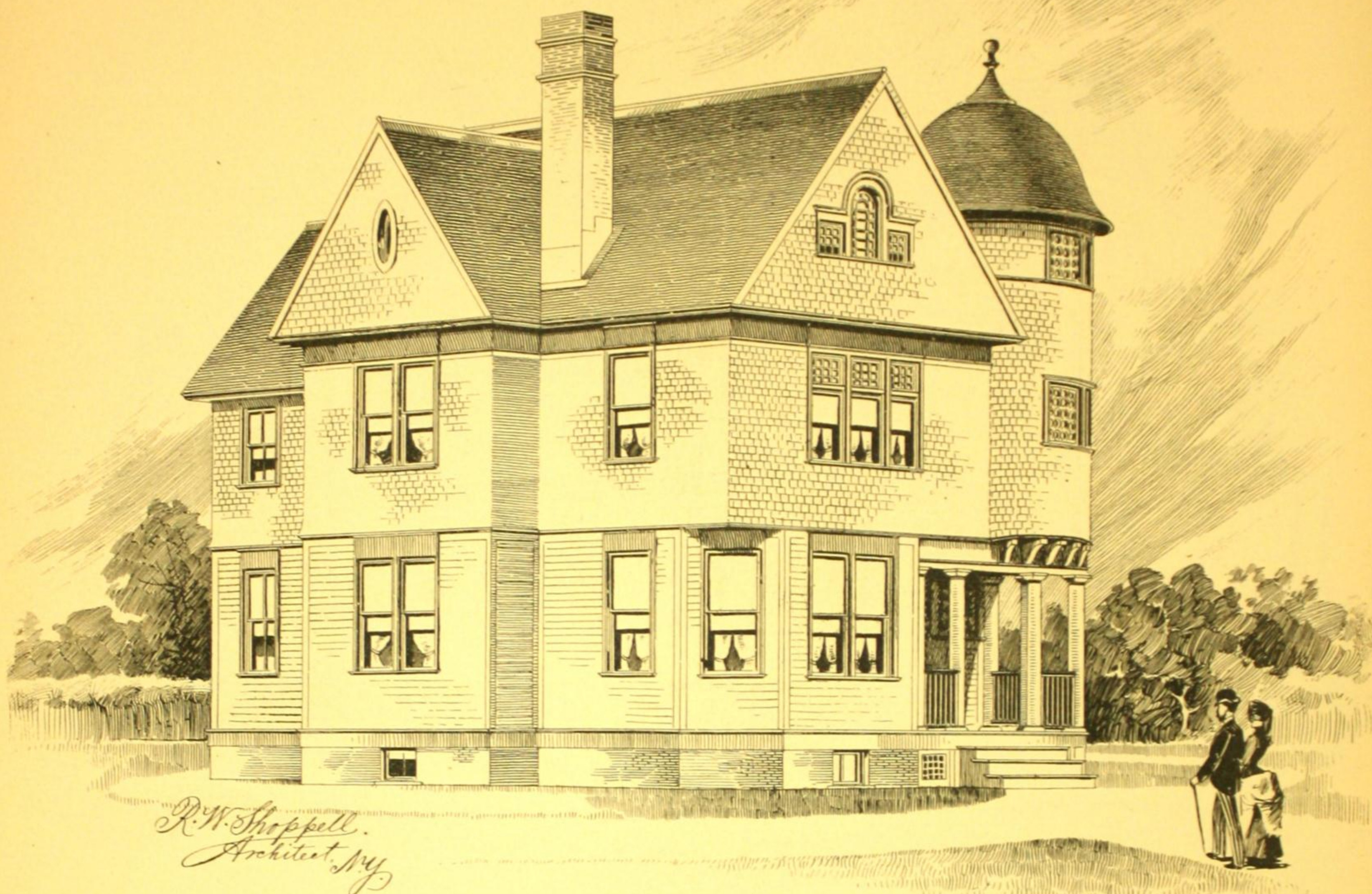
SECOND FLOOR.

The above design belongs to the "\$3500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

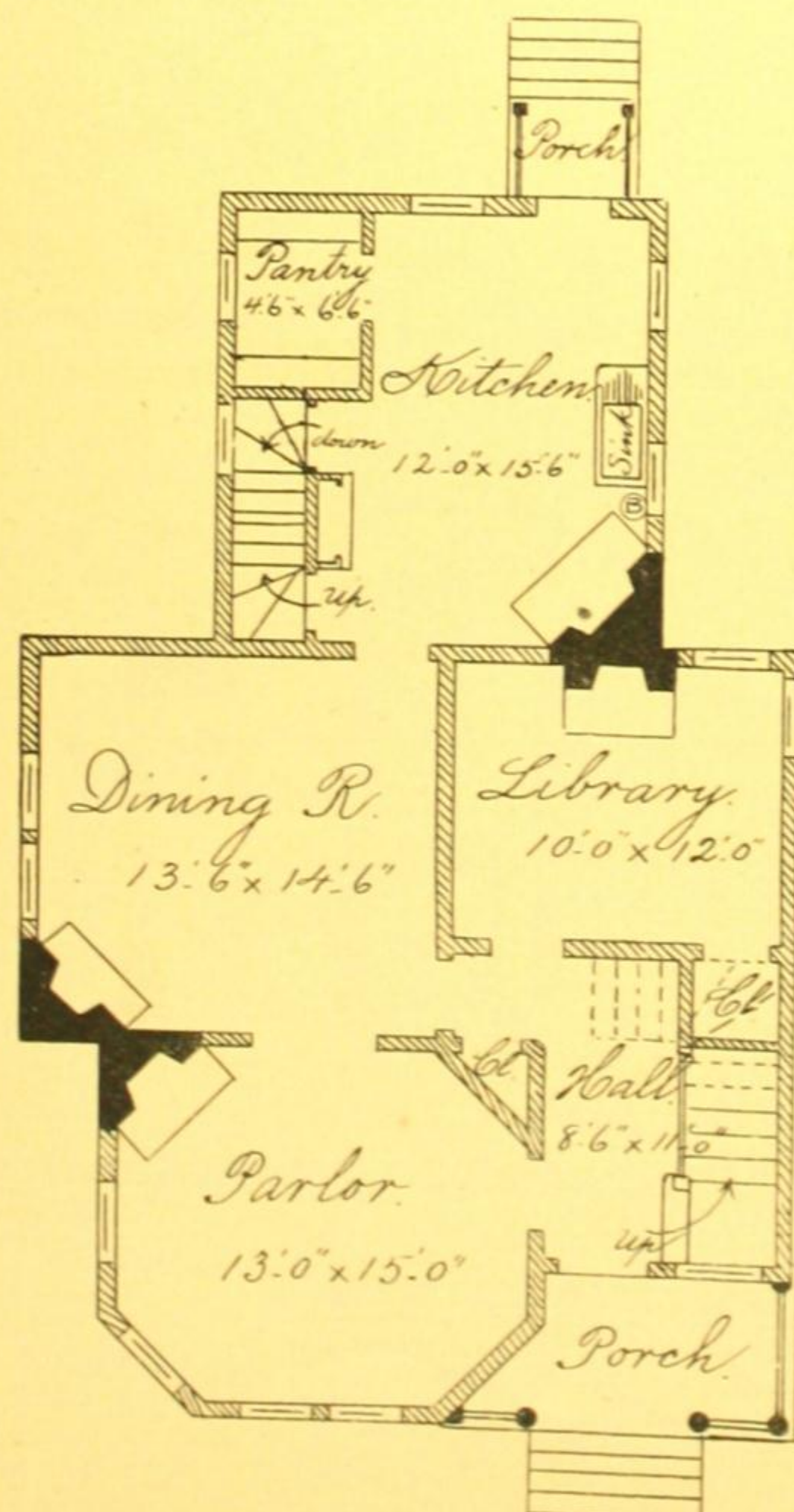
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

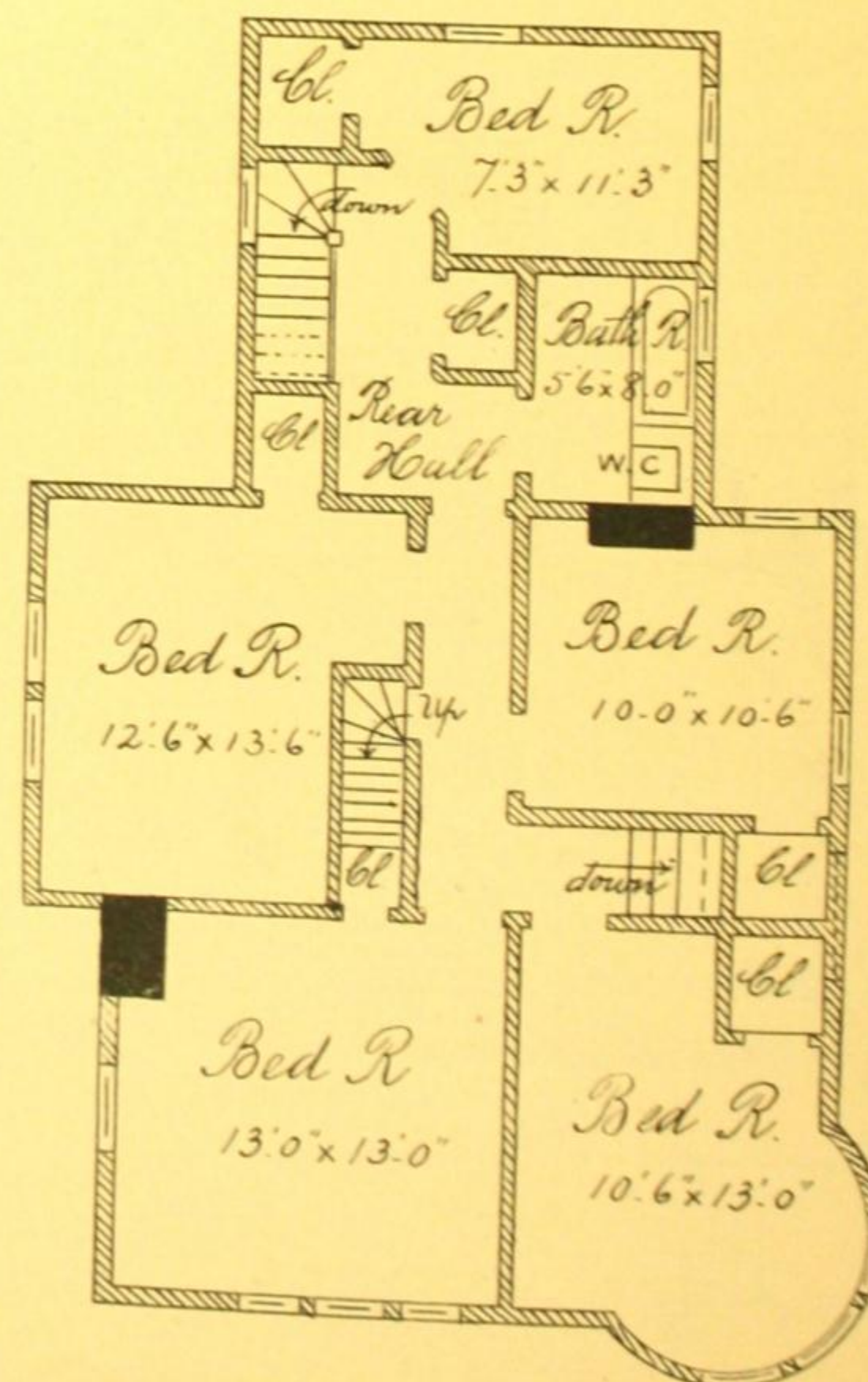
DESIGN No. 622



PERSPECTIVE VIEW.



FIRST FLOOR.

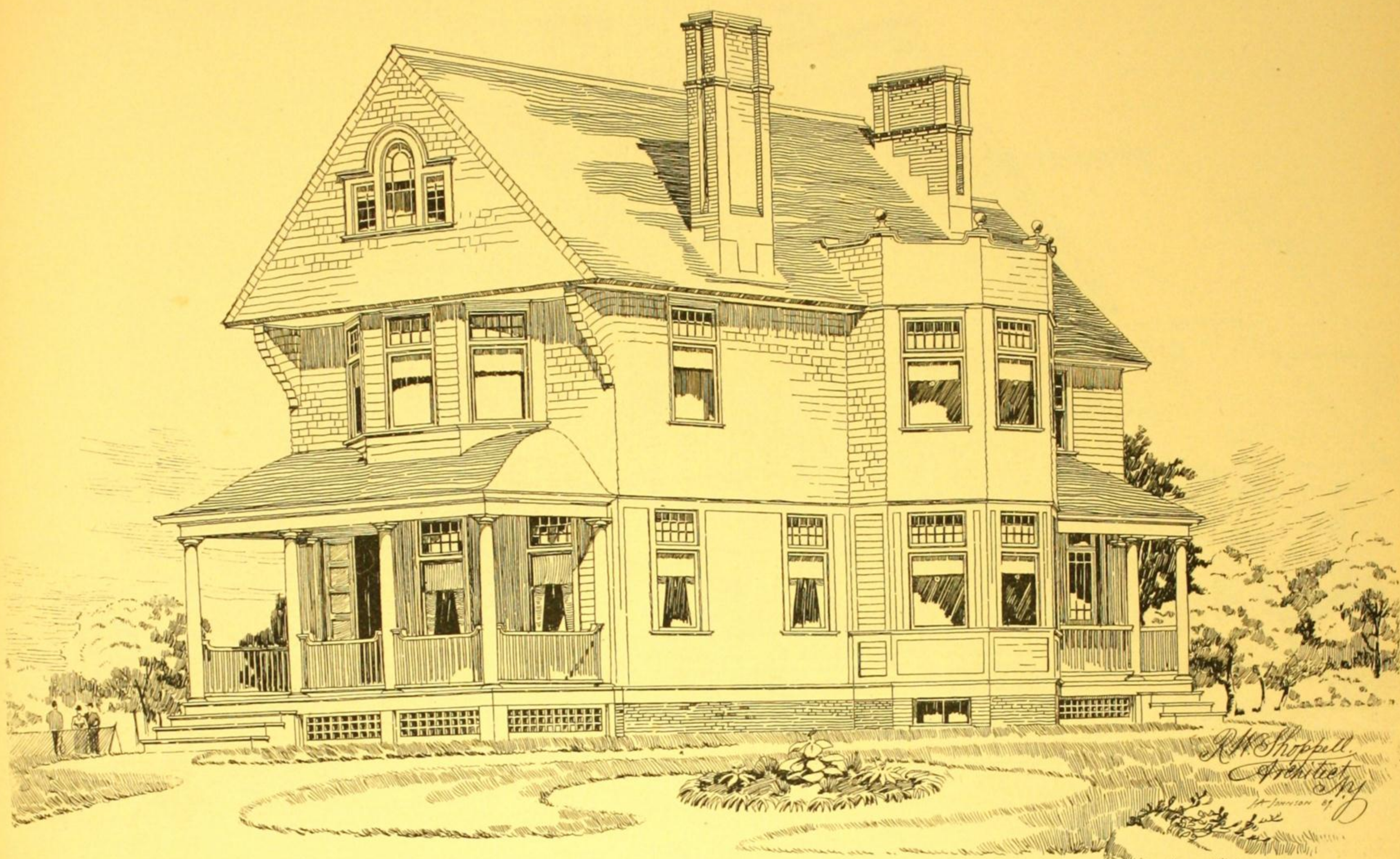


SECOND FLOOR.

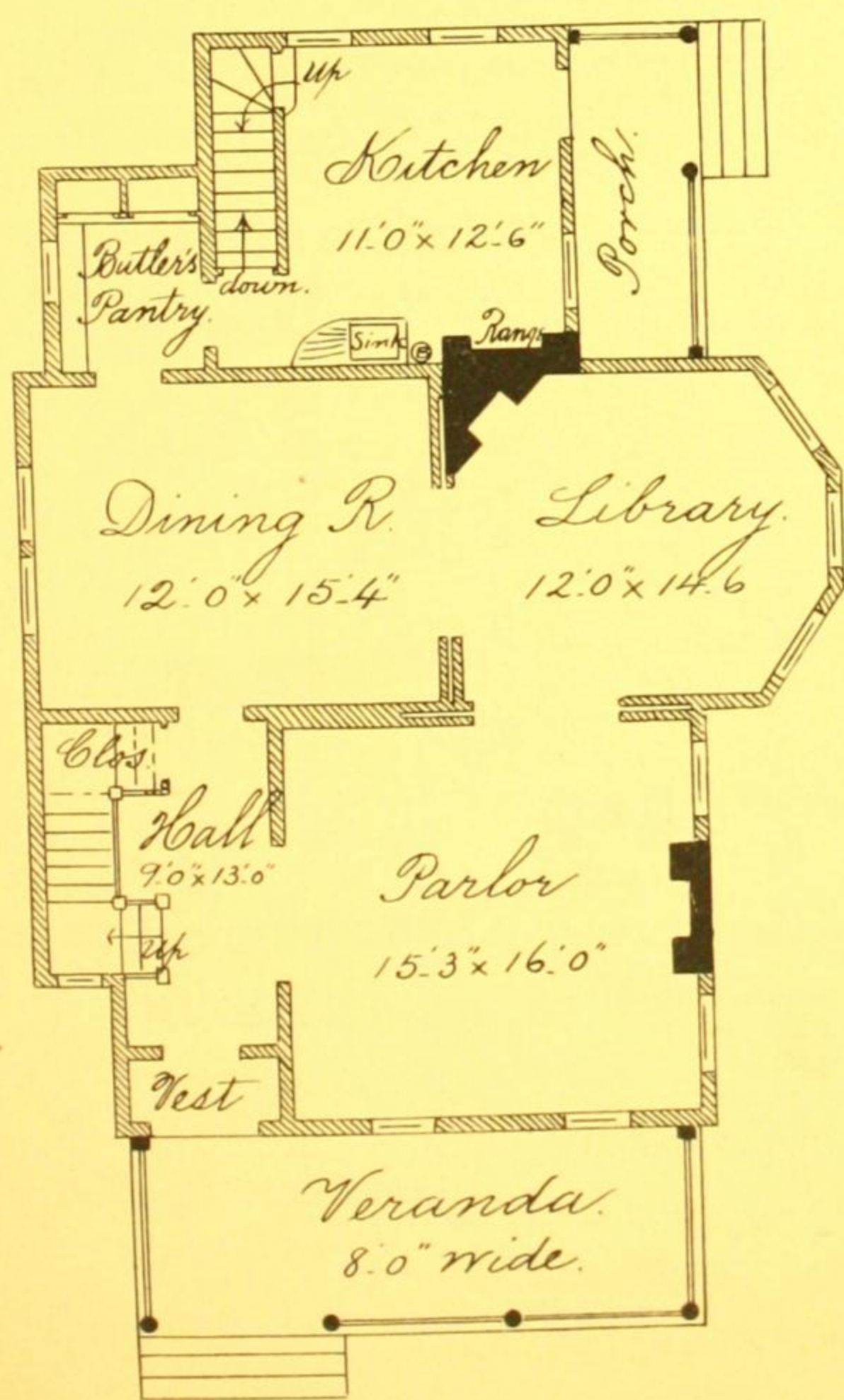
The above design belongs to the "\$3500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

SHOPPELL'S MODERN HOUSES

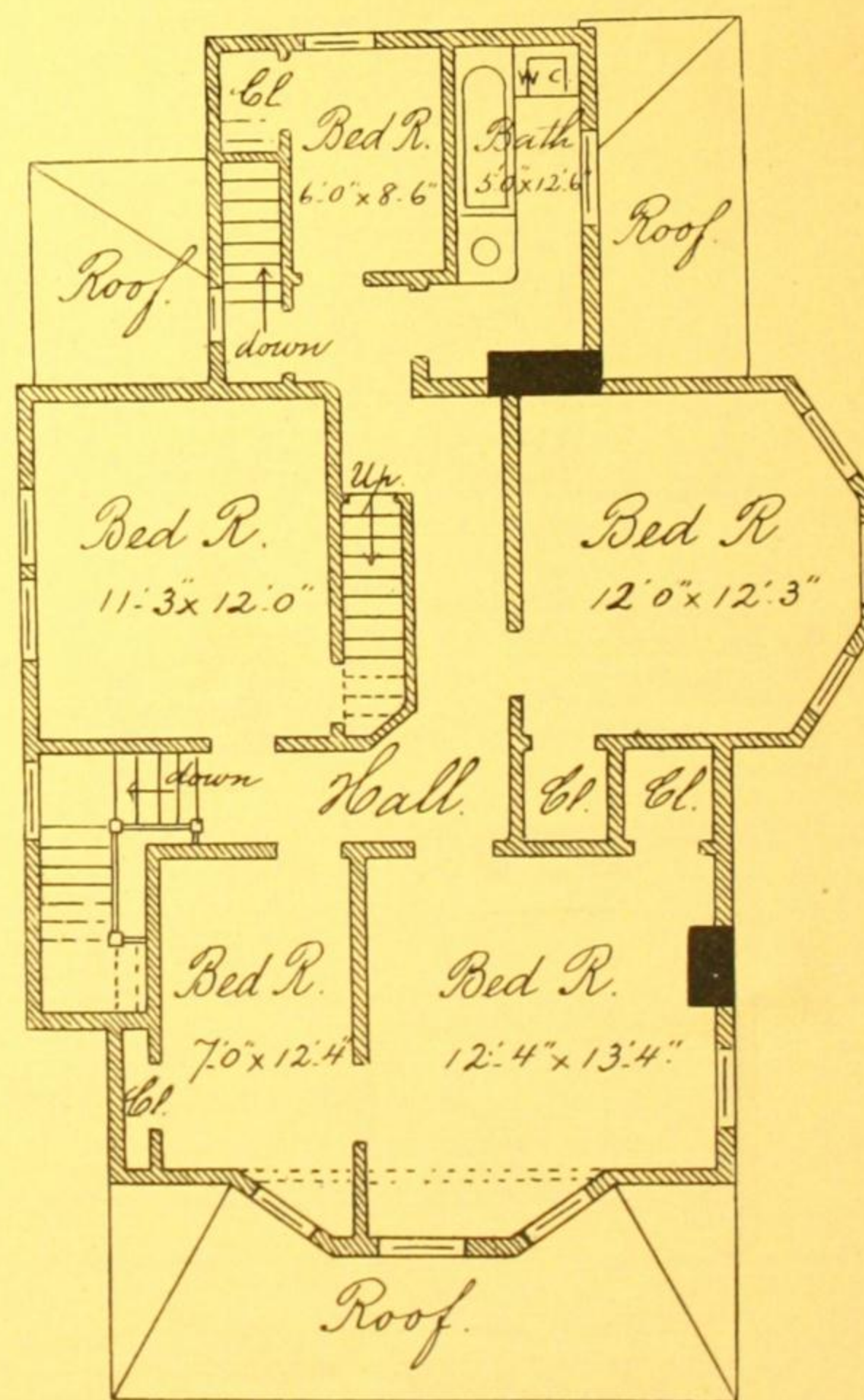
DESIGN PATENT APPLIED FOR.



PERSPECTIVE VIEW.



FIRST FLOOR.



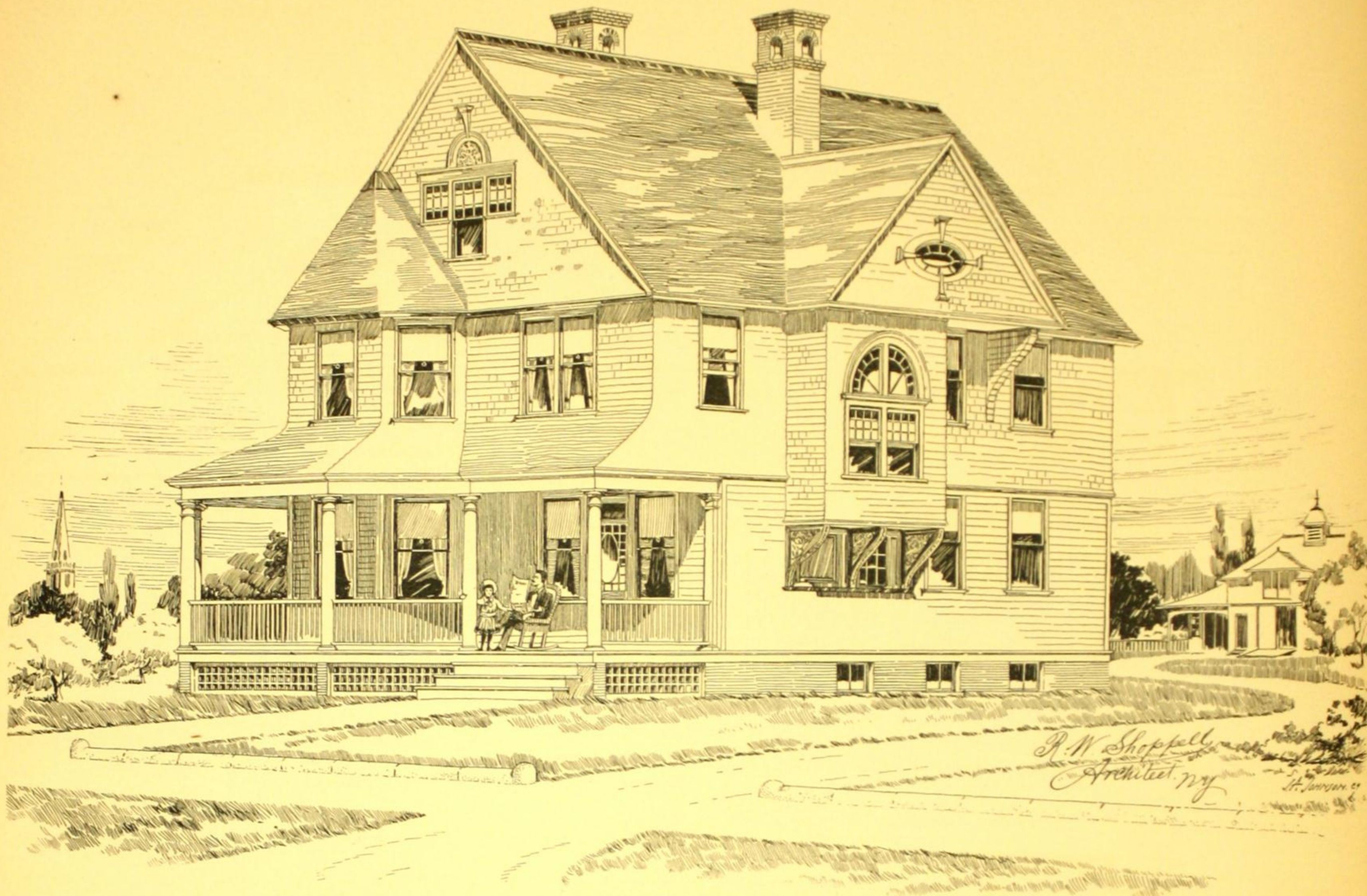
SECOND FLOOR.

The above design belongs to the "\$3500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.

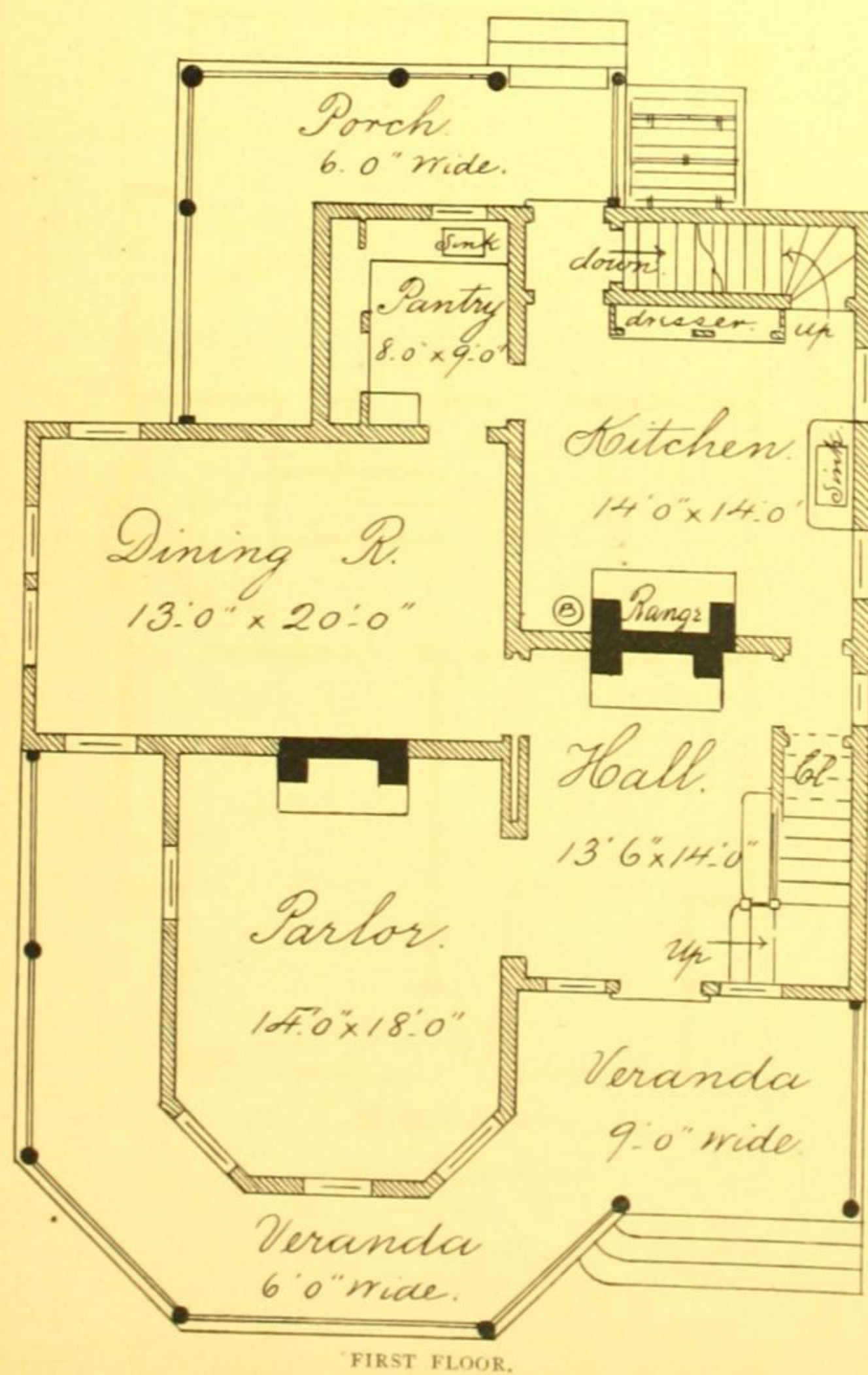
SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

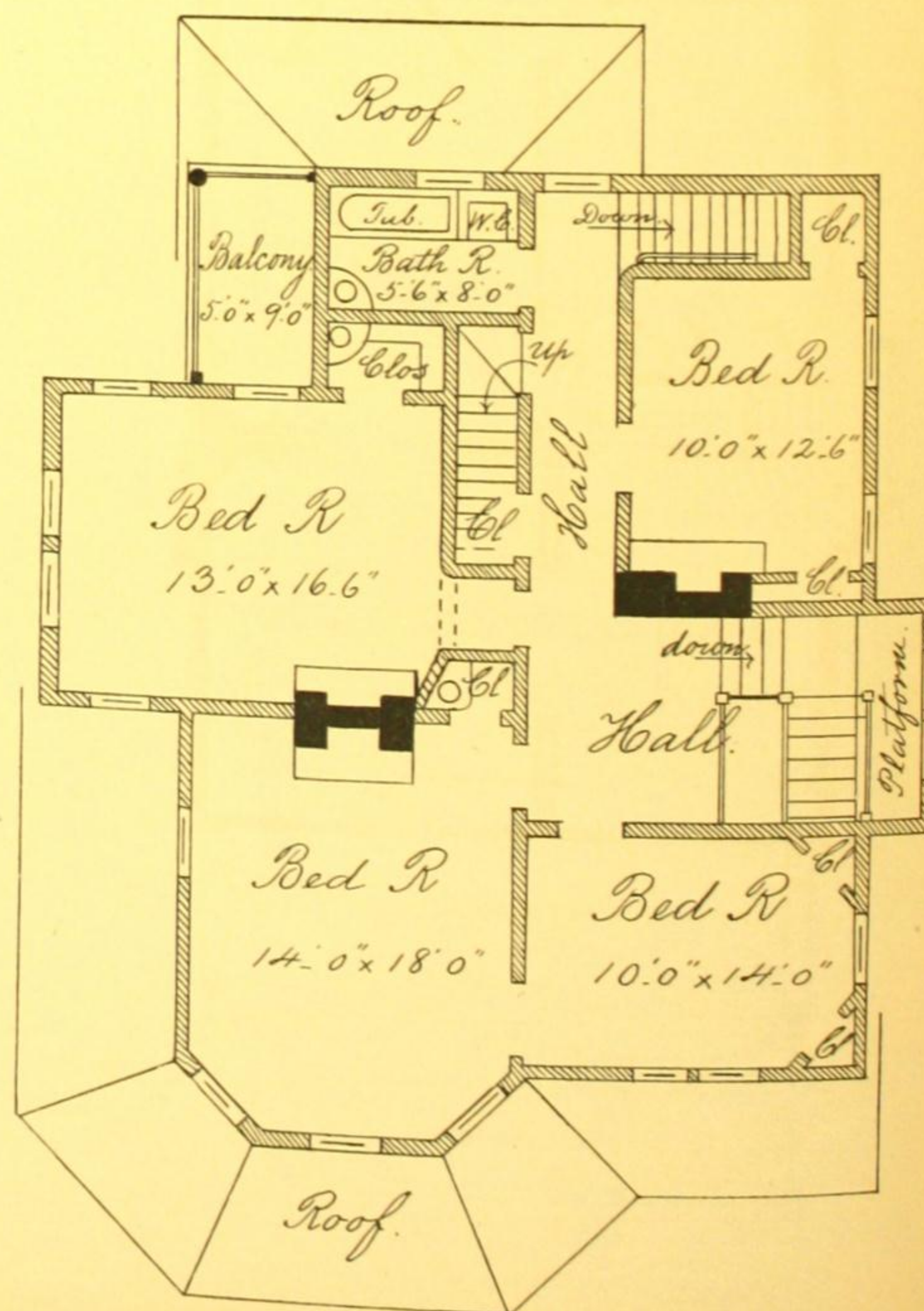
DESIGN No. 624



PERSPECTIVE VIEW.



FIRST FLOOR.



SECOND FLOOR.

The above design belongs to the "\$4000 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

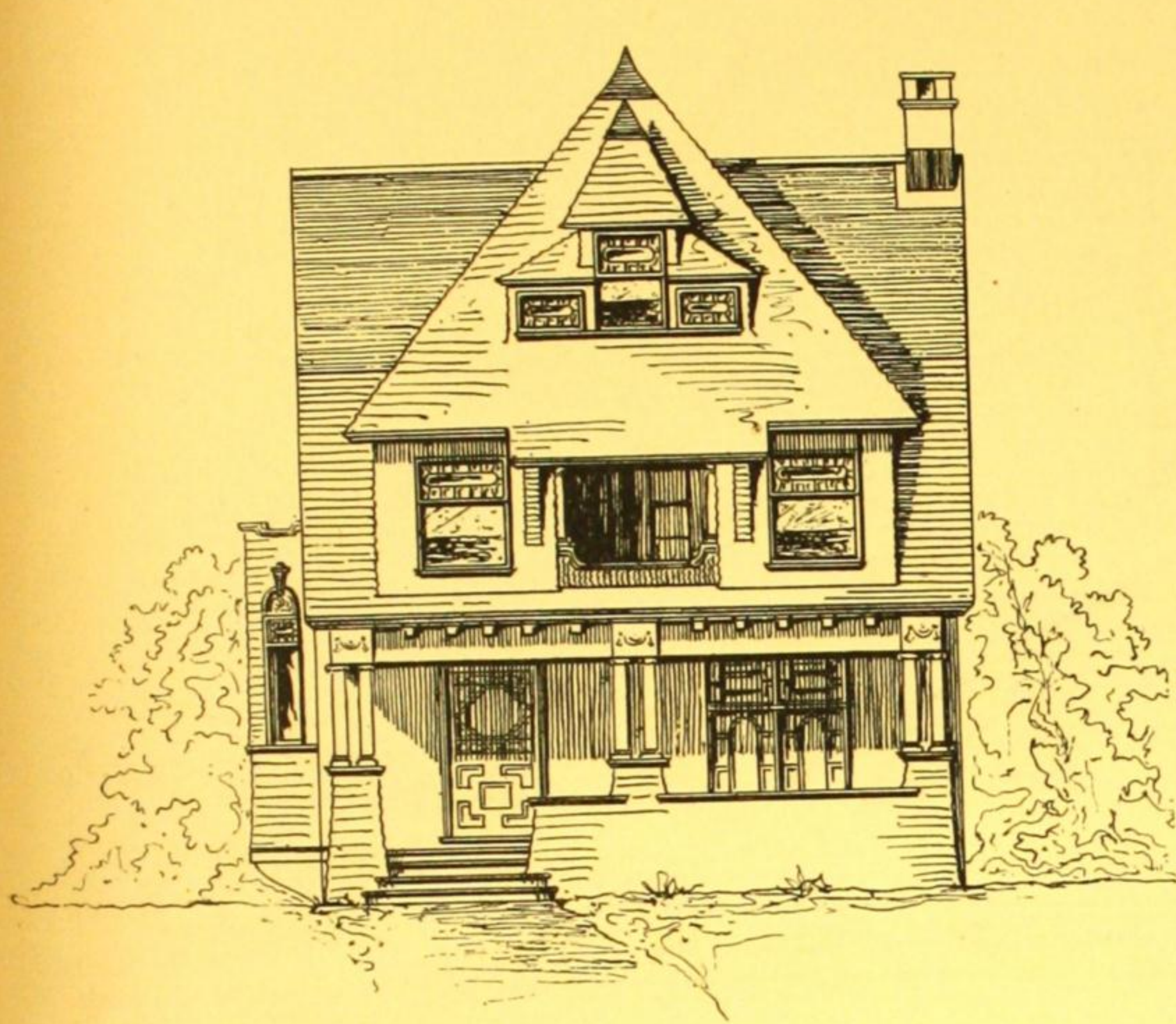
See Description, Cost, etc. of this Design on "Descriptive Price List."

SEE PAGES 22 AND 23.

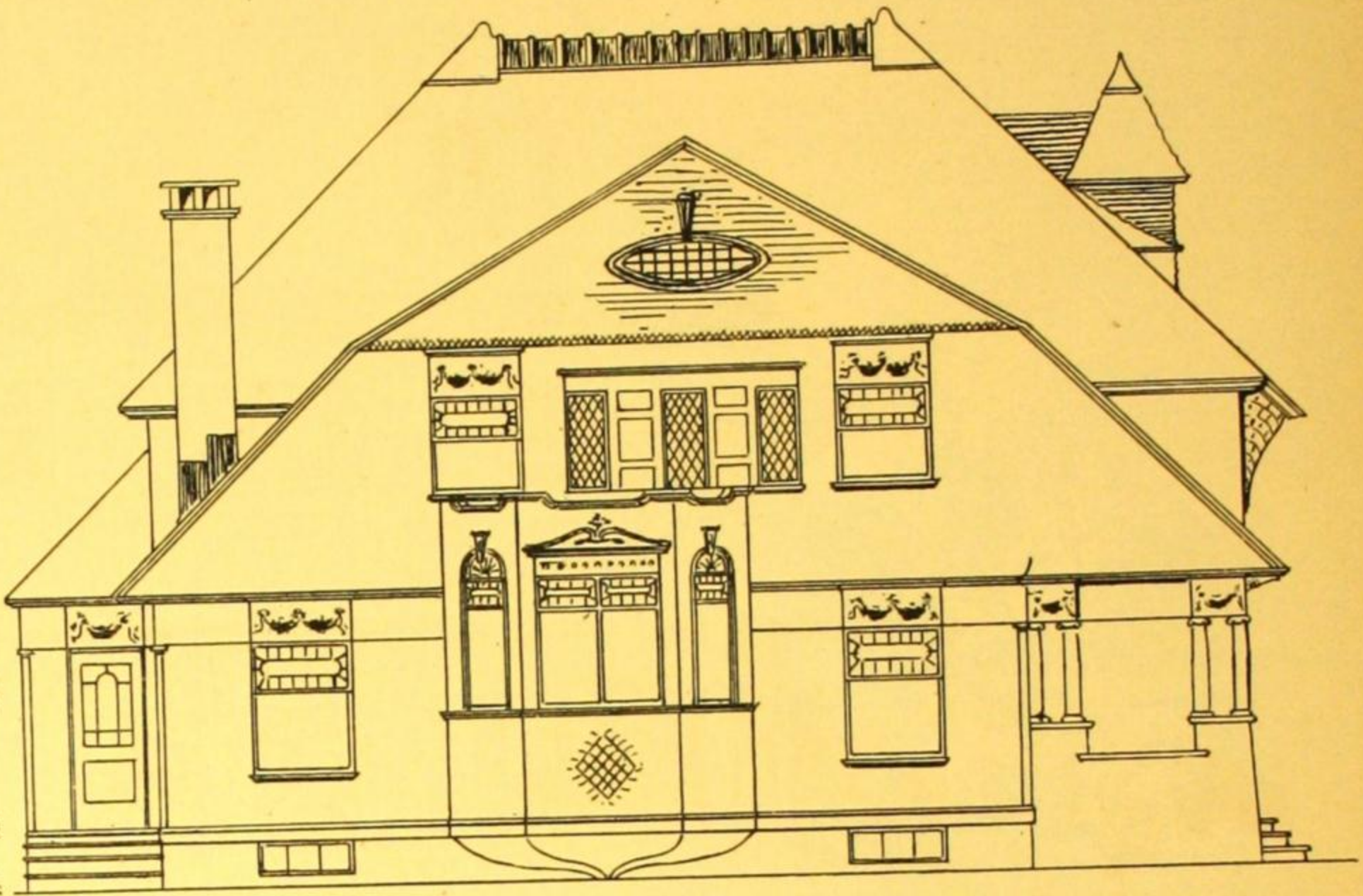
SHOPPELL'S MODERN HOUSES

DESIGN No. 625

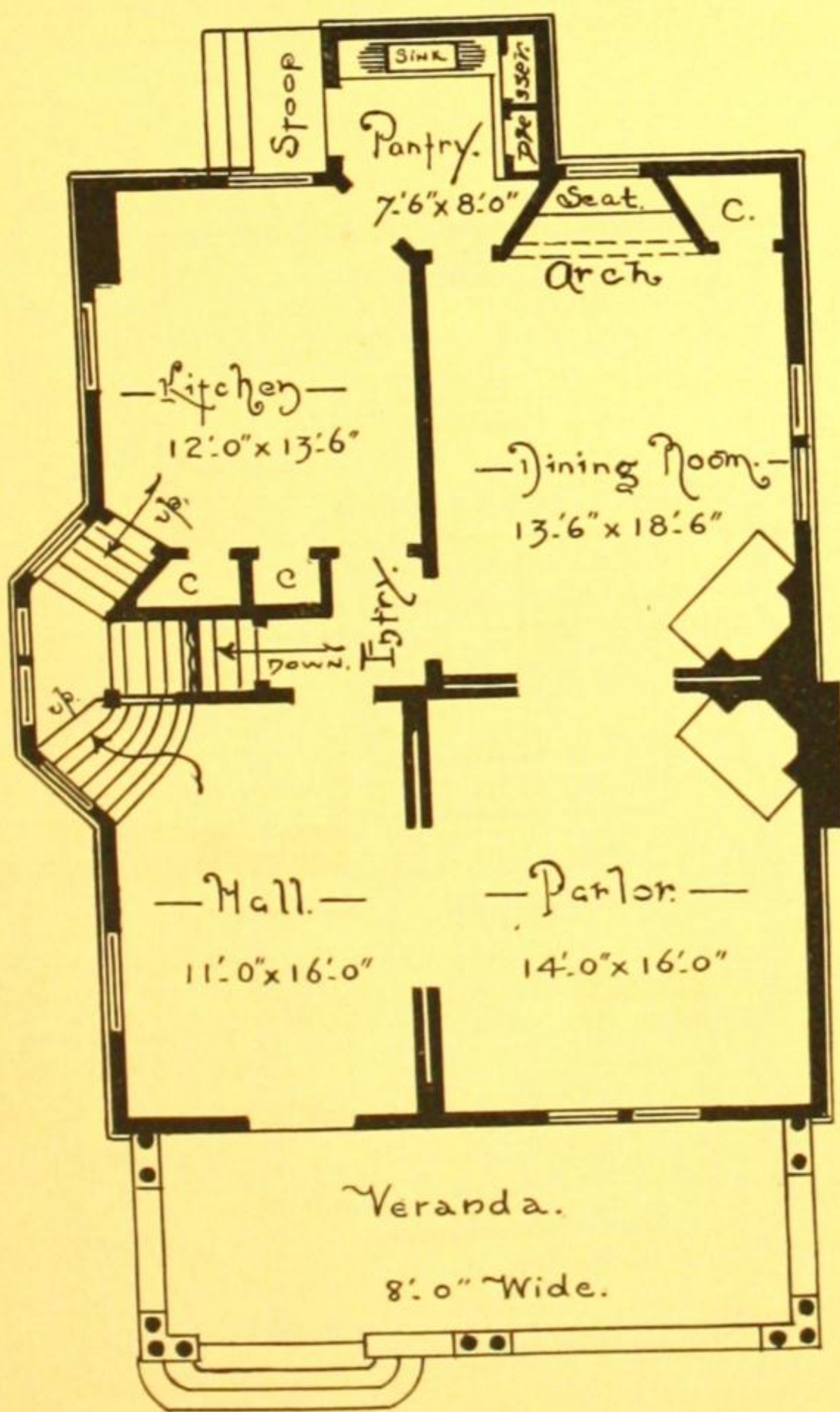
DESIGN PATENT APPLIED FOR.



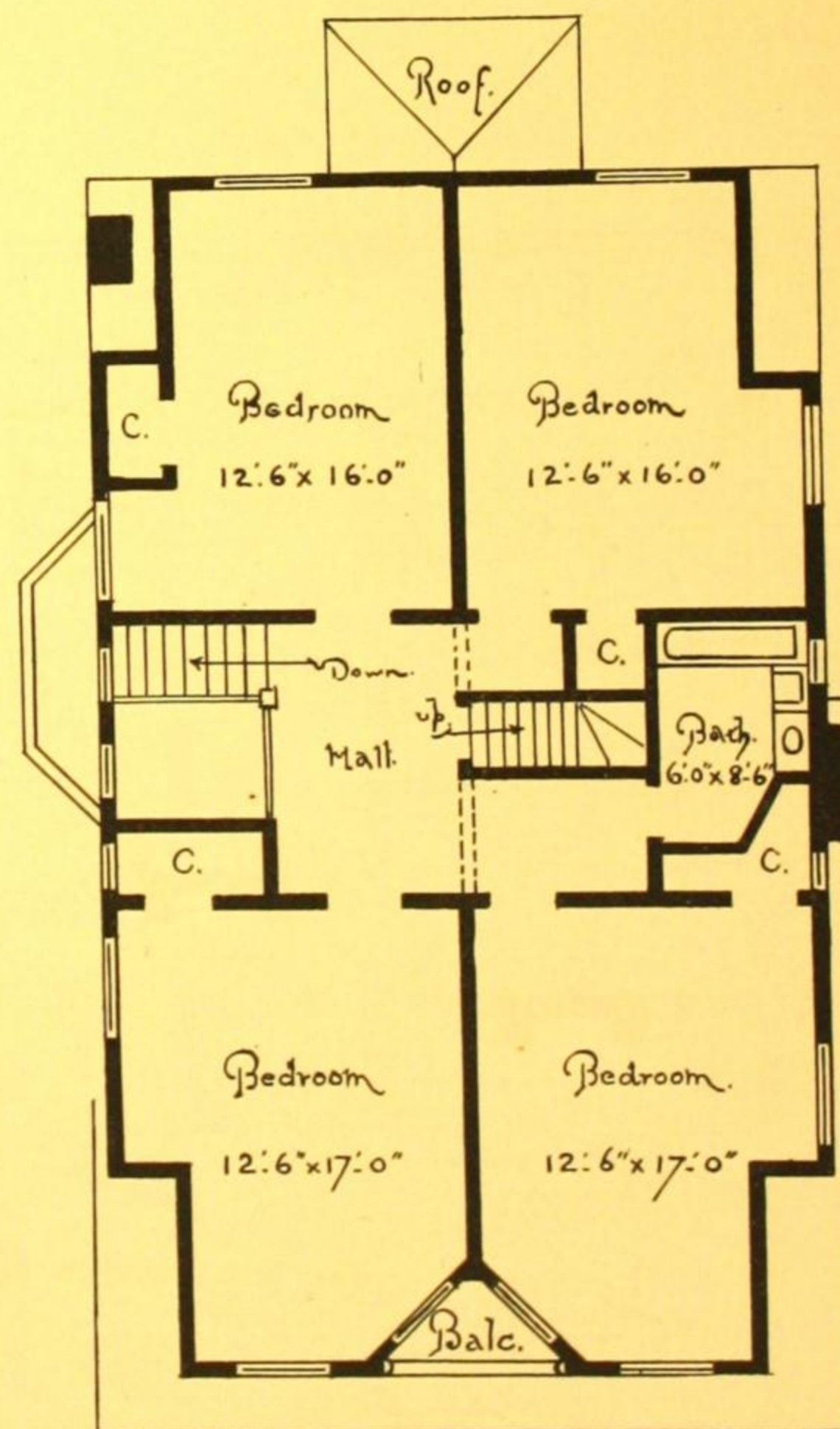
FRONT ELEVATION.



SIDE ELEVATION.

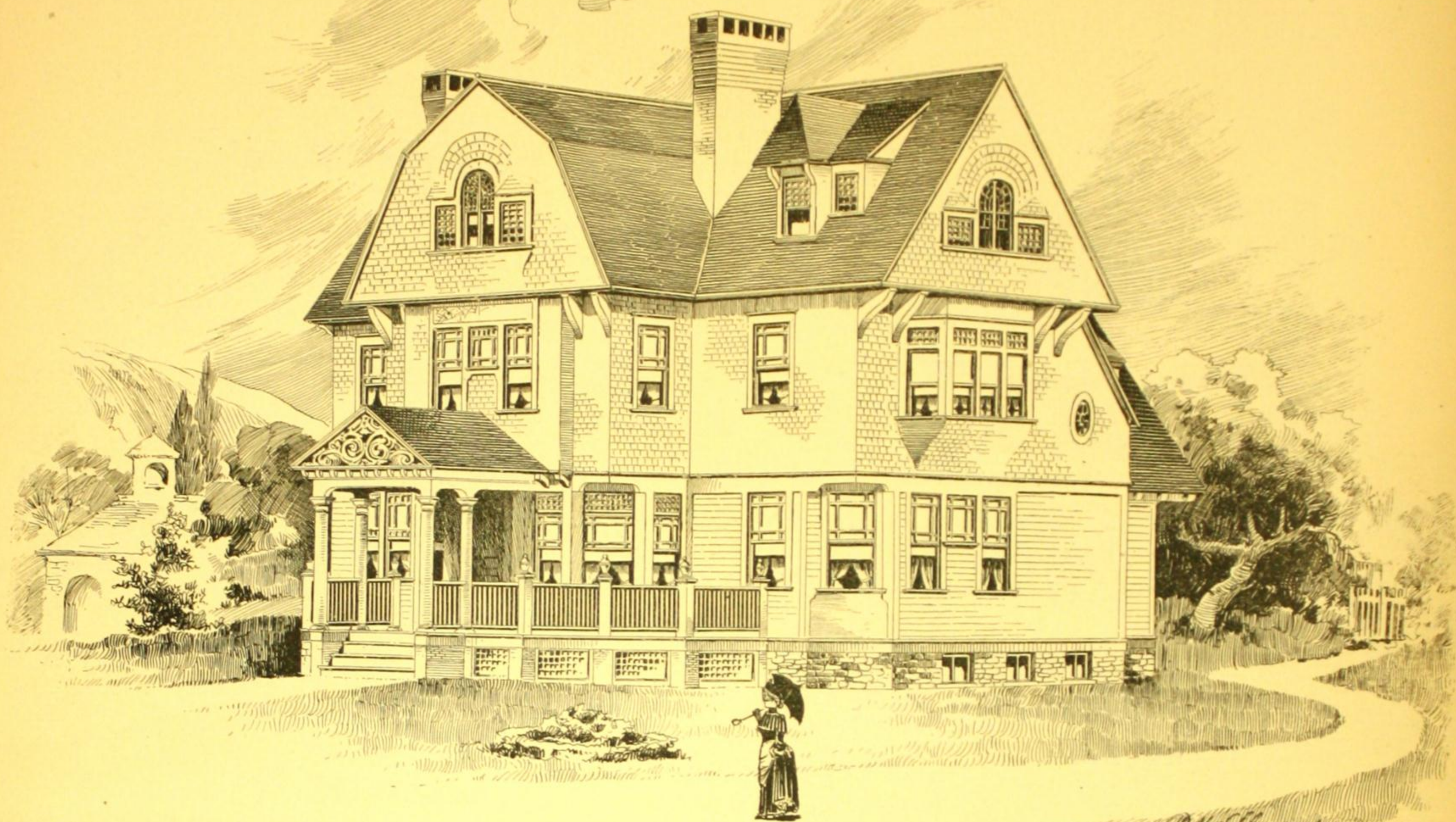


FIRST FLOOR.



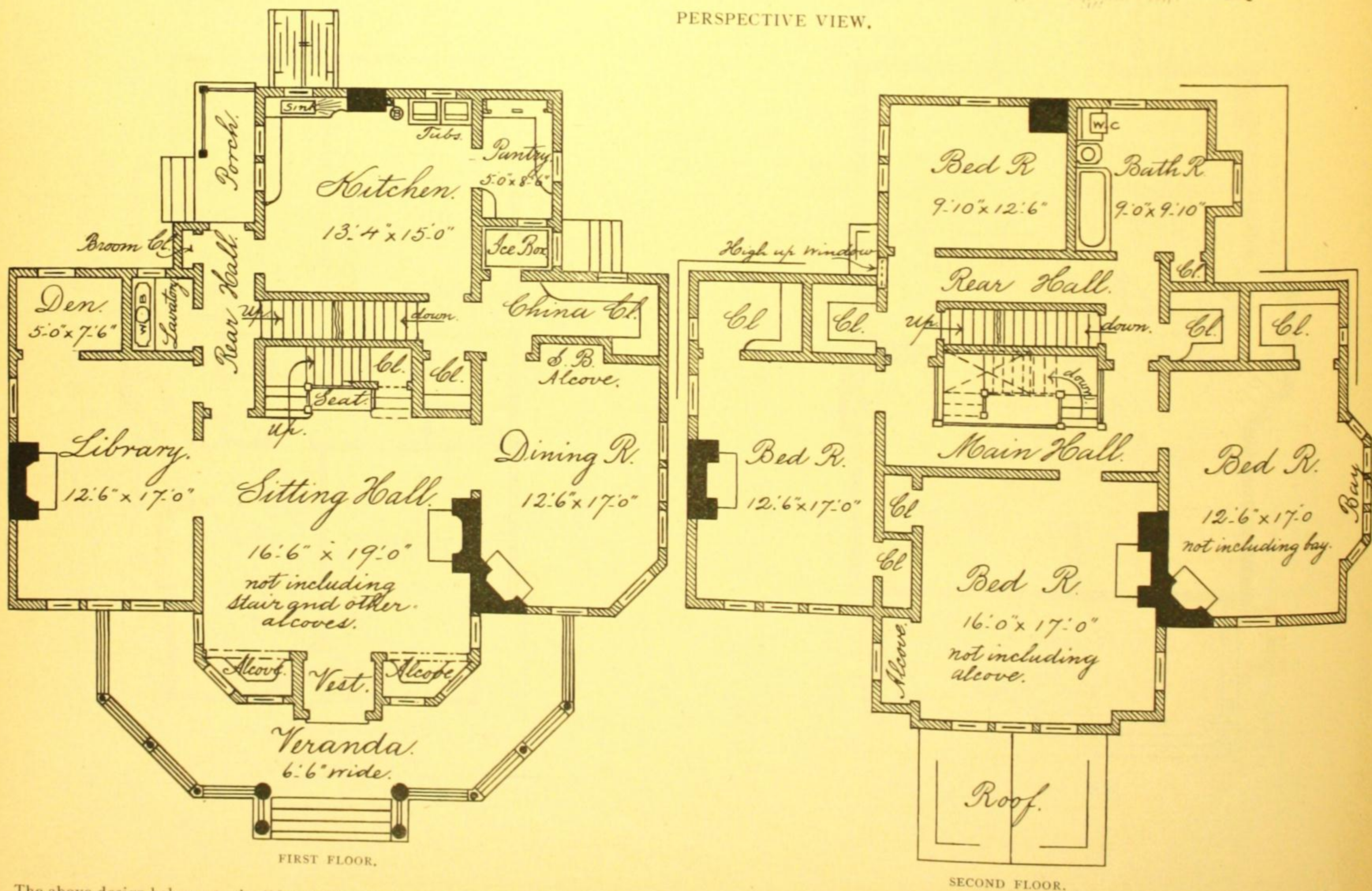
SECOND FLOOR.

The above design belongs to the "\$3500 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.



*R. H. Shoppell,
Architect, N.Y.*

PERSPECTIVE VIEW.



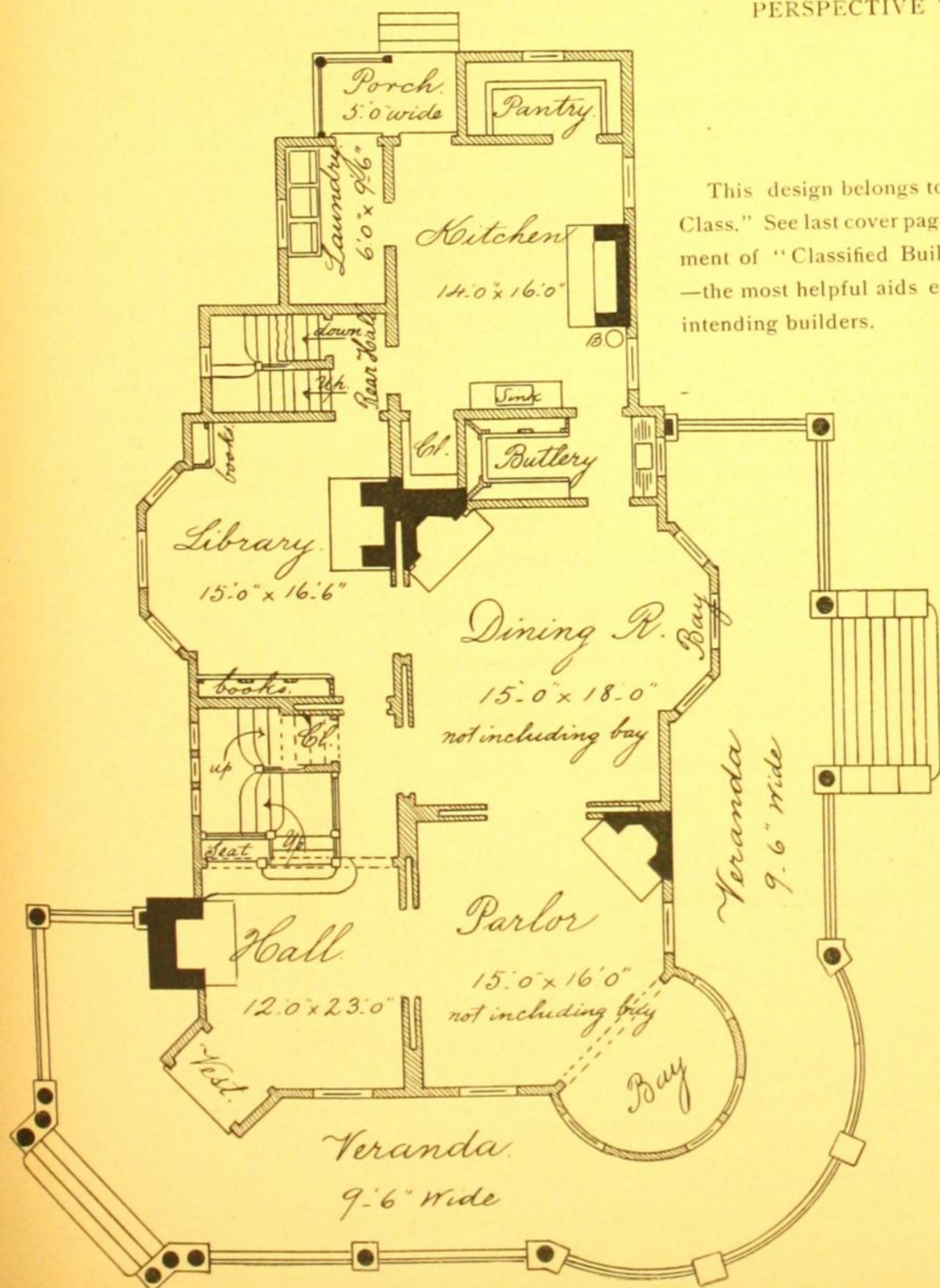
The above design belongs to the "\$5000 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids devised for intending builders.

SHOPPELL'S MODERN HOUSES

DESIGN PATENT APPLIED FOR.

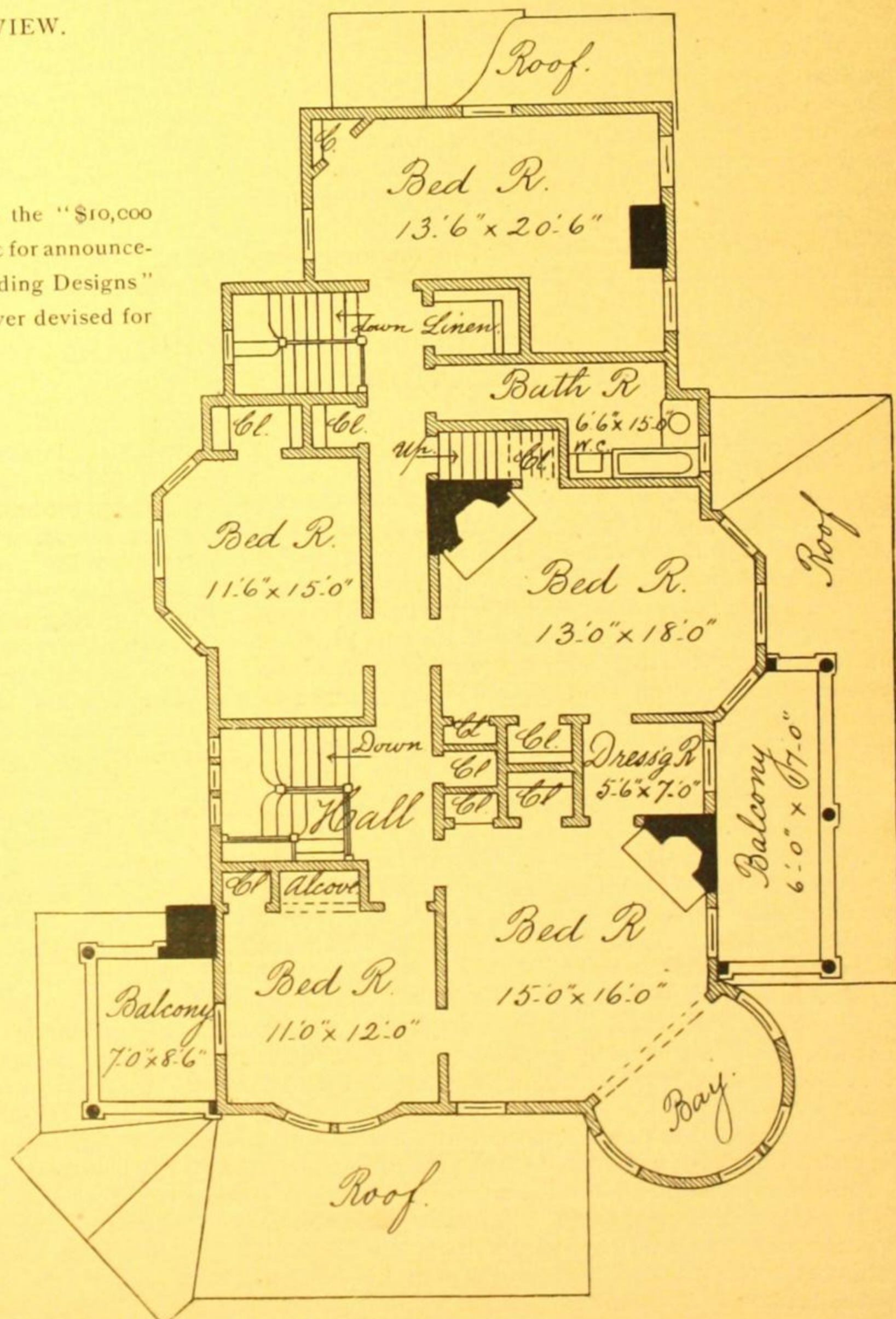


PERSPECTIVE VIEW.



FIRST FLOOR.

This design belongs to the "\$10,000 Class." See last cover page for announcement of "Classified Building Designs"—the most helpful aids ever devised for intending builders.



SECOND FLOOR.



AN ILLUSTRATED ARCHITECTURAL QUARTERLY

SHOPPELL'S MODERN HOUSES is published quarterly by the proprietors, the Co-operative Building Plan Association, Architects, at No. 63 Broadway, New York, a new issue appearing January 1, April 1, July 1 and October 1 of each year. It is edited by R. W. Shoppell, C. M. Dissosway and W. K. Benedict. Price 25c. a number. \$1 a year. Advertising rates, \$6 an inch.

REGISTERED AS SECOND CLASS MATTER.

A Complete and Economical System of Aids for the Building of a House.

SELECTING THE DESIGN.

It may be fairly claimed that the building designs published and prepared by this Association, and known as Shoppell's Modern Houses, are the best—best in arrangement, in appearance and in construction, and that they are perfectly reliable as to estimates. Architects' estimates are often ridiculed, and with good reason, for too often their estimates are mere guess work. Our estimates result from careful and laborious calculation of every item of material and every hour of labor required for each design. We exhibit our own confidence in them by guaranteeing their correctness, under penalty of charging nothing for our services if they are found to be incorrect.

If the intending builder finds a design in this book that "fills the bill," that answers his requirements fully, or that will answer them with slight alterations, his best course is to adopt it. If, however, he is undecided, he had better procure one or more of the Classified Portfolios, described on the last cover page of this book. From these he can surely make a choice, for they present about every possible style and arrangement that can be devised.

Do not insist on having a very odd or a peculiar house; the owner himself is likely to tire of it, and if ever he is desirous of selling it, he will find a purchaser with difficulty. The best house is one whose exterior and interior are generally approved by people of good taste. On the other hand the house should not be too plain, such as a carpenter would design, for then it will be commonplace. It is believed that our publications are the most reliable guides in avoiding the extremes referred to.

OUR DESIGNS PATENTED.

It often happens that when an owner has completed a handsome and convenient house, it is taken as a pattern, and similar houses spring up all over the neighborhood. This is annoying to many. In order to limit and control this duplication we are taking out patents for our designs, which enables us to require that owners and builders who use them, or who use the principal features of them, must have licenses to do so from us.

We charge nothing for a license. It is sent free for any design, when the Working Plans, Specifications, etc., of that design are ordered. We respectfully warn all unauthorized persons that we intend to fully protect our rights in this matter.

IMPORTANCE OF PERFECT WORKING PLANS, SPECIFICATIONS, ETC.

With proper aids it is an easy matter to build a good house; without them the most intelligent owner has a "world of trouble," and usually fails in getting satisfactory work.

Too often the owner is content with imperfect drawings and specifications. Sometimes he simply contracts for a duplicate of some other house, not knowing that the contractor can duplicate the appearance without duplicating the value. Sometimes he allows the contractor to make the drawings and specifications, which is far from being the part of wisdom. Suppose, during the progress of the work, the owner discovers that the contractor is not carrying out the true spirit of the drawings and specifications. There is no help for the owner, because the contractor will be regarded as the best interpreter of the drawings and specifications. If they had been prepared by the architect, the architect's version would decide disputed points.

The contractor is always apprehensive, with good reason, that labor troubles, delays, mistakes, advance of materials, etc., may eat up his margin of profit; therefore he will perform the work just as cheaply as the drawings and specifications allow, and he is not to be blamed for it either, although for every dollar he saves by reason of incomplete drawings and defective specifications, the owner may be deprived of ten dollars of value. For example: If the specifications do not require the sheathing of the structure, why should the contractor spend forty dollars for sheathing boards and labor, even admitting that the increased strength and warmth of the house may be worth four hundred dollars to the owner? The sheathing is all covered up anyway. Or if the specifications do not call for the sheathing boards to be laid close together, why should not the contractor save five dollars' worth of boards by following the occasional custom of leaving wide cracks? Or, if the quality of the sheathing paper is not stated, why should he not put on the cheapest, saving five dollars, perhaps, although dampness will soon make it worthless for the purpose intended?

If the specifications do not call for a double first floor, which is essential to health and comfort, why should the contractor supply it, although the extra cost is only three dollars per "square" (10 feet by 10 feet)?

In the flues, in the plumbing, and in a hundred other things the contractor may save a little, by reason of imperfect drawings and specifications, at the expense of a great deal to the owner.

A COMPLETE SET OF PLANS, SPECIFICATIONS, etc.

The following is a full and complete list of architectural aids for the building of a house:

WORKING PLANS of the foundation, floors, roofs and elevations, figured and drawn to a scale one-fourth inch to the foot.

DETAIL DRAWINGS of the Cornices, Verandas, Windows, Doors, Gables, Staircases, Trim, etc., large scale and full size.

SPECIFICATIONS minutely describing the qualities of material and workmanship throughout, including the painting.

COLOR SHEET giving examples of elevations properly colored, with directions for mixing and applying the paints.

SUPPLEMENT SHEET (A), containing drawings and descriptions of approved methods of building a cistern, the best plan for removing house slops, and the construction and management of earth closets and privies.

SUPPLEMENT SHEET (B), containing a number of designs for fences, with estimates of cost.

AGREEMENTS, in duplicate, with the proper times indicated for making the several payments to the contractor, ready for use.

CONSULTATIONS. At all times the client is entitled to full and free consultations before commencing, during the progress and at the completion of the work.

BILL OF QUANTITIES, giving the true quantities, in detail of all the materials required.

THE FIRST STEP.

After the design has been selected, the first step is to procure a complete set of Working Plans, Specifications, etc., except the Bill of Quantities, which is not needed if the owner intends to have the work done by contract.

When the Working Plans, Specifications, etc., arrive, which will be almost by return mail or express (charges prepaid), give them a close examination. After this examination the owner is often convinced that the alterations which he may have contemplated will not improve the design.

However, after examination, if alterations and modifications are wanted, write us fully about them and we will advise as to their practicability and as to their effect on the cost. We will make, also, the changes on the drawings and in the specifications, if requested to do so, charging a small fee (seldom exceeding five dollars) for the work.

Or, after examination and study, if the owner prefers some other design, we will allow him to exchange, by his returning to us all the drawings and specifications unused and allowing us twenty per cent. of their cost to cover the extra expenses involved.

THE SECOND STEP.

When the Plans and Specifications finally represent just what is wanted invite bids from builders and award the contract to the lowest approved bidder. Competition among builders, which is made possible only by having complete Working Plans and Specifications, is the only way to get the contract price down to the right figure. When there is no competition a builder studies the owner, trying to estimate how big a price he will stand; when there is competition the builder studies the plans and specifications trying to estimate how low he can do the work to get the contract. Do not make a mistake here. If the owner has a particular friend among the builders, who might naturally expect the work, it is a good opportunity for the friend to show his true friendship by figuring low for the contract, in competition with other builders. A true friend will not object to competition; he knows that it is the only wise course for the owner.

When the contract has been awarded send us the name of the contractor, the amount, the time for completion and a memorandum of any extras or omissions agreed upon. We will then write out the Agreement in proper form, dividing up the amount into several payments, each to become due at certain stages of the work. State the number of payments the contractor wants. The Agreement is a very important matter and should be properly prepared, the principal care being that at no payment shall the contractor be overpaid. We make no charge for preparing the Agreement.

SUMMARY.

The advantages offered to the intending builder by this Association may be summarized as follows:

1. The owner is supplied with a large number of the most approved designs from which to make a selection.
2. The estimates are thoroughly reliable.
3. The designs are patented and the owner is protected from unauthorized duplication of the house he builds.
4. Alterations of the design selected are made for the owner until they fully suit his requirements, or an exchange of design is permitted at small cost.
5. A properly written Agreement with the contractor is prepared without charge.
6. At all times the owner has full and free consultations, before commencing, during the progress and at the completion of the work.

REBATE.

From the price of Working Plans, Specifications, etc., the owner may deduct the amount he has paid us for books to the extent of five dollars.

CONCLUDING WORD.

In the limited space of a page many of the advantages of our system must be left unsaid; but we would like intending patrons to feel—as we believe every one of our numerous patrons does feel—that our dealings are characterized by a liberal spirit; that the most painstaking efforts are always made to please them and to serve their best interests.

Respectfully,

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS,
63 BROADWAY, NEW YORK.

THE CO-OPERATIVE BUILDING PLAN ASSOCIATION, ARCHITECTS, 63 BROADWAY, NEW YORK.

DESCRIPTIVE PRICE LIST

of

SHOPPELL'S MODERN HOUSE DESIGNS

The styles of exteriors are shown by the views and elevations, and the accommodations by the floor plans, as given in our books and portfolios. All other information is given below.

DESIGN No. Use	* Cost	† Size		‡ Materials				** Height of Stories				Price of Working Plans, Spec. etc.	Price of Bill of Materials	*** REMARKS
		Front	Depth	Found'n	1st Story	2d Story	Roof	Cellar	1st Story	2d Story	3d Story			
608 Residence...	\$7500	42' 8"	72' 6"	Stone & Brick	Clapbd	Shingls	Slate	7' 6"	10' 6"	9' 6"	8' 6"	\$75.00	\$35.00	Cellar under whole house. Three rooms and hall finished in attic; also ample storage room. Front attic good for billiard room. Hard wood main staircase. Balcony floors coppered. Verandas ceiled with narrow boards and oiled natural color of the wood. Plaster throughout with three coat hard white. Trim in hall (both stories) parlor, library and dining room, of hard woods. Other rooms throughout of soft woods, but of handsome design. Plaster cornices and centres in parlor, library, dining room and halls. The latter has handsome wainscot. All closets provided with shelving and hooks. Servants' w. c. properly enclosed in cellar, but, if preferred may be transferred to laundry. House piped throughout for gas—electric bells from front door to kitchen and from front 2nd and 3rd story halls to kitchen. All large window panes are plate glass. Hard wood floors throughout first story.
609 Residence...	1500	26' 0"	31' 6"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 0"	8' 0"	....	15.00	10.00	Cellar under whole house, with inside and outside entrances. All rooms finished with hard white plaster and soft wood trim, staircase, newels, rails and balusters, hard wood. Loft over second story floored for storage room. Good double thick glass throughout for windows, except cellar. Porch ceiled and finished in oil. The "swell" front and side, beside enlarging rooms, gives this house a very pretty and distinguished appearance.
610 Residence...	1300	24' 6"	35' 6"	Posts	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 0"	....	15.00	10.00	Circular cellar 10' 0" diameter, with inside entrance. All rooms finished with hard white plaster and soft wood trim. Loft floored for storage room. Overhang of 2nd story gives variety and interest to the design and increases the size of the upper rooms.
611 Residence...	1300	22' 0"	30' 6"	Brick	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 0"	....	15.00	10.00	Cellar under whole house. All rooms finished with hard white plaster and soft wood trim. Loft floored for storage. Porch ceiling, narrow boards finished in oil, natural color. Bay and overhang give character to the design and increase room in both stories.
612 Residence...	2200	30' 6"	33' 0"	Brick	Clapbd	Shingls	Shingls	6' 6"	9' 0"	8' 0"	7' 6"	20.00	10.00	Cellar with cemented floor under whole house. First and second stories plastered hard white. One room in attic plastered two coats, whole of attic floored for storage. Trim throughout, soft woods. Main stairs finished with hard woods—water closet, bath tub and wash bowl in bath room and stationary tubs and sink in kitchen. All plumbing good and substantial, but plain. Porch floor and ceiling oiled natural color. Combination front and back stairway economizes space. Hard wood mantels of neat design are in hall, parlor and dining room. The exterior is colonial in style and regarded as very pleasing.
613 Residence...	2200	32' 0"	44' 0"	Stone	Clapbd and Shingls	Shingls	Shingls	7' 0"	9' 0"	8' 0"	....	20.00	10.00	Cellar under main house, with inside and outside entrances. Garret floored for storage. All rooms finished with hard white plaster and soft wood trim. Balcony tinned and top floored. Veranda, ceiling and floor oiled and finished natural. Parlor mantel included; others may be placed in dining and sitting rooms if desired. Exterior style is a combination of colonial and romanesque, unusual and striking in appearance.
614 Residence...	2500	33' 8"	49' 6"	Brick	Brick	Gables Shingls	Shingls	6' 8"	10' 0"	....	....	20.00	10.00	Cellar under kitchen. Entire first story hard white plaster finish, with cornices in hall, parlor and dining room. First story floored with yellow pine. Second story floored, but no rooms finished off; there is space for three fair sized rooms. All trim soft wood, four hard wood mantels. Porch floors and ceilings of hard woods, finished in oil, natural color. Parlor and dining room connected by sliding doors.
615 Residence...	2500	16' 0"	45' 10"	Stone	Brick	Brick	Tin	7' 0"	9' 6"	9' 0"	....	20.00	10.00	Cellar under whole house with cemented floor, and inside and outside (under front porch) entrances. Hard white plaster finish throughout. Soft wood trim. Plate glass for front door and windows in first and second stories. Hard wood flooring in hall, parlor and dining room. Skylight over hall. The kitchen may be placed in basement, using present kitchen as a dining room. This design is well adapted for either middle or corner lots.
616 Casino	3500	50' 0"	38' 6"	Posts	Shingls	Shingls	Shingls	6' 6"	9' 0"	14' 6"	....	30.00	15.00	Cellar under kitchen. Walls of first and second stories wainscoted with hard wood; remainder of walls as well as ceilings covered with plaster board. In 2nd story, the roof timbers with handsome trussing are dressed and oil finished, natural color. Over ladies' room is a recessed balcony for musicians. All floors hard wood. All trim soft wood. Main stairs hard wood. Neat mantels.
617 Chapel.....	3500	43' 2"	46' 2"	Stone	Clapbd	Shingls	Shingls	8' 0"	22' 0"	....	....	30.00	15.00	Cellar under whole building. Walls and ceilings are plastered hard white finish; cornice extends around the entire auditorium. Trim, floor and staircase are soft woods. Pews and other furniture are not included in estimate. Building piped for gas and heating; heater not included in estimate. Interior wood-work stained and finished like hard wood.
618 Residence...	2500	30' 0"	49' 0"	Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	20.00	10.00	Cellar under whole house. Finish throughout hard white plaster and soft wood trim. Staircase hard wood. Two rooms and hall finished in attic. Balcony arranged to be enclosed with glass when desired. Porch floor and ceiling oiled and finished natural. Sliding doors between parlor and dining room. Quaint leaded panes in hall windows. A picturesque and pleasing design.
619 Residence...	2700	24' 0"	46' 0"	Brick	Clapbd	Shingls	Shingls	8' 0"	10' 0"	9' 6"	7' 6"	25.00	10.00	Cellar under whole house, with inside and front and rear outside entrances. Laundry with two stationary tubs, also a servants' water closet in cellar; dumb-waiter from cellar to first and second stories. One room finished in attic, with space for another if desired. Finish throughout hard white plaster and soft wood trim. Hard wood staircase first story. Two hard wood mantels included. Sliding doors connect all rooms of first story. House piped for gas. A quite imposing design that may be built on a 25 ft. lot.
620 Residence...	3000	32' 0"	40' 6"	Stone & Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	25.00	10.00	Cellar under whole house, with inside and outside entrances. Two rooms finished in attic. Entire attic floored. Finish throughout hard white plaster with cornices in hall, parlor and dining room. Soft wood trim throughout, but hard wood stairs. Fire-places and mantels in parlor and dining room. Pantry arrangement such that kitchen smells cannot readily pervade house. House piped for gas. Tower adds to the appearance and affords a fine outlook. A very convenient house, with a quaint and beautiful exterior.
621 Residence...	3300	36' 0"	44' 6"	Stone & Brick	Clapbd	Shingls	Slate	7' 0"	9' 6"	9' 0"	8' 0"	30.00	15.00	Cellar under whole house, with concrete floor. Hard plaster for all rooms. Floor and ceiling of veranda painted, hall and dining room floored with hard wood, remainder of flooring soft wood. Trim throughout soft wood. Stairs hard wood. Two rooms and hall finished in attic. Arched treatment with shingles on veranda and balcony makes an effective and pleasing exterior.
622 Residence...	3500	30' 0"	50' 0"	Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	7' 6"	30.00	15.00	Cellar under whole house, with inside and outside entrances, and concrete floor. Laundry with stationary tubs under kitchen. Hard white plaster and soft wood floors and trim throughout. One room finished in attic, remainder of attic floored for storage space. Main stairs hard wood. Three fire-places and hard wood mantels. Porch floor and ceiling hard wood oiled. Regarded as a desirable house in every respect.
623 Residence...	3500	31' 10"	48' 9"	Stone & Brick	Clapbd	Shingls	Shingls	7' 0"	9' 6"	9' 0"	8' 0"	30.00	15.00	Cellar under all, with inside and outside entrance and cement floor. Laundry with stationary tubs under kitchen. Hard white plaster and soft wood trim in all rooms. Hard wood main stairs. Hard wood floor in hall and dining room, remainder of flooring soft wood. Two fire-places and hard wood mantels included. Sliding doors from library to parlor and dining room. Hall and one large room finished in front attic. A complete and convenient house presenting a fine appearance.
624 Residence...	3900	35' 6"	54' 0"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 0"	8' 6"	8' 0"	35.00	15.00	Cellar under whole house, with inside and outside entrance and concrete floor. Hard white plaster and soft wood trim throughout. Hard wood main stairs. Five fire-places with hardwood mantels. Wash bowls in closets of two bedrooms as well as in bath room. A complete and very stylish house.
625 Residence...	3500	31' 0"	50' 6"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 0"	8' 0"	8' 0"	30.00	15.00	Cellar under whole house, with inside and outside entrance and cement floor. Hard white plaster and soft wood trim. Hard wood main stairs. One room and hall finished in attic. Front chimney shows on outside of lower stories. Large windows give elegant effect. Colonial ornamentation of verandas and windows.
626 Residence...	4500	46' 0"	52' 0"	Stone	Clapbd	Shingls	Shingls	7' 0"	9' 0"	8' 6"	7' 6"	40.00	20.00	Cellar under all, with inside and outside entrances and concrete floor. Three handsome rooms in attic, beside ample storage space. All walls plastered to receive paper. All ceilings plastered hard white finish. Verandas or porches floored with hard wood and ceiled with soft wood. Library, main hall, vestibule, dining room, den and lavatory, have double floors of soft woods, with broad hard wood borders. All trim of doors, windows, etc., soft wood. Main staircase is in hard wood.
627 Residence...	8500	53' 0"	75' 6"	Stone	Clapbd	Shingls	Slate	7' 0"	10' 0"	9' 0"	9' 0"	85.00	40.00	Six fire-places and hard wood mantels included. The ice box is so arranged that it may be filled from outside and be used in connection with kitchen, pantry and china closet. House is piped for gas. All interior wood-work finished in hard oil. Cellar under whole, with inside and outside entrances. Servants' w. c. in cellar. Four rooms and storage space in attic. All walls throughout house finished with adamant plaster. Cornices and centres in hall, library, parlor and dining room. Veranda floor and ceiling hard wood. Double floors in 1st story. Hall and dining room finished in oak, balance of finish, soft woods. Hall and bath room wainscoted. Picture moulding in principal rooms and hall of first story. The tower affords an extended view from all stories. The hall has a handsome staircase and an open fire-place. A complete mansion with a pleasing and dignified exterior.

* Cost is based on the prices for materials and labor that prevail in the vicinity of New York. In many places cost will be less. When Working Plans, Specifications, etc., are ordered, we carefully re-estimate the cost according to the client's local prices, which gives the client the sum at which, or very near which, he should be able to contract. This re-estimated cost is guaranteed to be correct; otherwise, we will return the fee paid us.

† Sizes given include all projections—porches, verandas, bay-windows, etc.

** Height of Stories may be changed, but it necessitates re-drawing the elevations, for which an additional charge of \$5 is made for a house that costs \$5000, and under; \$10 for a house that costs over \$5000.

†† These list prices are only about ONE-QUARTER of the amounts usually charged by other architects. The drawings, etc., that we send are on a larger scale, and are more complete and accurate than can be procured elsewhere at any price; they include Working Plans, Specifications, Detail Sheets, Color Sheets, Supplement Sheets about Cisterns, Earth Closets, Privies and Fences. Also Duplicate Agreements.

‡‡ A Bill of Materials is needed only in case the owner wishes to buy the materials. We can send the Working Plans, Specifications, etc., of any of these designs REVERSED—for which we charge \$5 additional. What we mean by reversed is fully illustrated by holding the design before a strong light and viewing it from the back; the faint lines that show through show the design reversed.

FOR ANNOUNCEMENT OF CLASSIFIED BUILDING DESIGNS SEE LAST COVER PAGE.

REFERENCES BY PERMISSION

The names of patrons appearing on this page are printed by authority of their written permission, in answer to the following letter addressed to each of them, after the completion of their buildings. Limited space admits of giving a few only.

"Dear Sir:—If our work for you has proved satisfactory, will you kindly permit us to include your name in our reference list? Yours very respectfully,

"THE CO-OPERATIVE BUILDING PLAN ASS'N, 63 Broadway, New York.

"Per R. W. SHOPPELL."

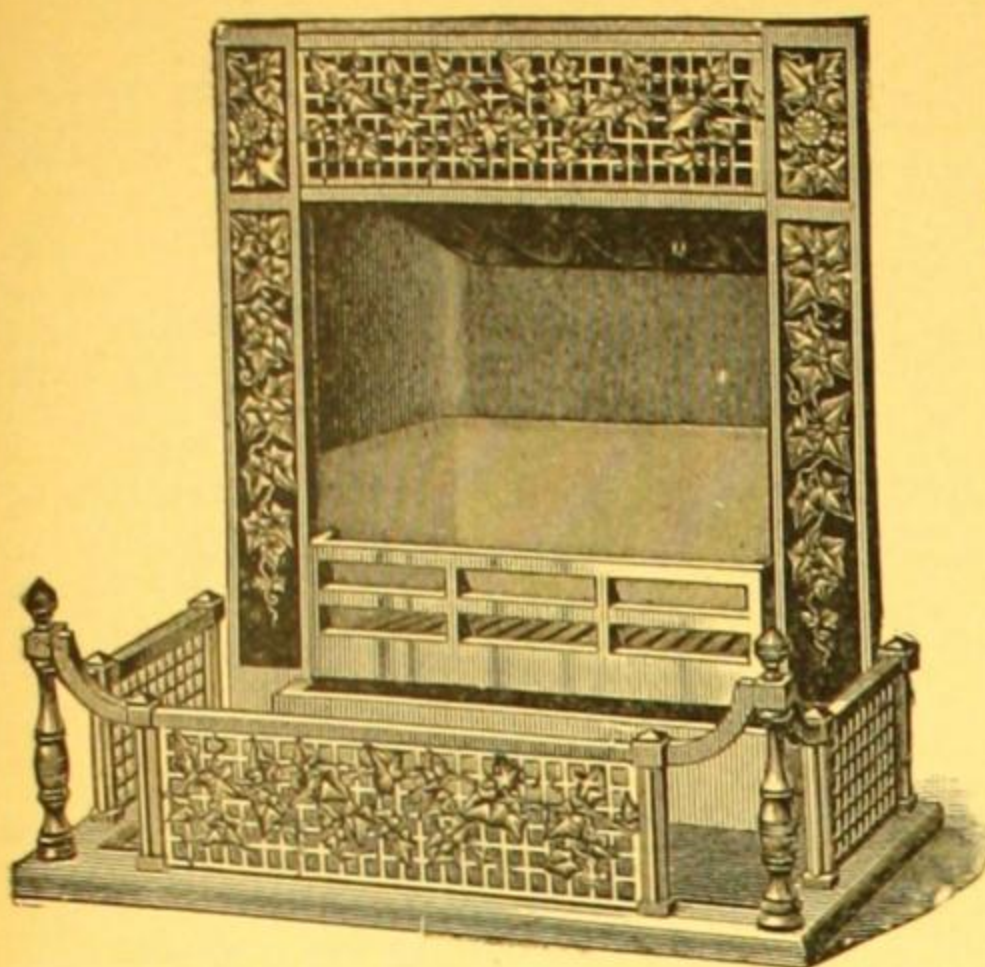
- H. D. Reaves, Santa Barbara, Cal., who says:
"My house looks very pretty and its plan is most admirable."
- R. W. Sargent, Esq., Greenwich, Conn., who says:
"My house outshines anything around here for the money."
- A. E. Skelding, Esq., Riverside, Conn., who says:
"I have built eleven houses in this place, some from designs by architects to whom I have paid very high prices; but none have pleased me so much as the last house, which I built from your Plans. In future I shall use them; they are cheaper and I consider them more practical than others."
- Jesse D. Phelps, Esq., Attorney, Minto, Dakota, who says:
"You have full permission to use my name. I am thoroughly pleased with my house. It shows much better in reality than the conception on paper. I have built it at less expense by having Plans, Specifications and Estimates."
- Jas. G. Eastwood, Esq., cor. Howard ave. and 17th st., Washington, D. C., who says:
"I am living in the house I built last summer from Plans and Specifications furnished by you, and will say that your work was satisfactory in every respect."
- Thos. W. Wilson, Esq., Dover, Del., who says:
"Your Plans and Specifications saved me much valuable time and money."
- Julius Hayden, Supt. Jacksonville & Atlantic R.R., Jacksonville Fla., who says:
"I am very much pleased with the house built from your Plans."
- Chas. E. Thorne, Esq., Welaka, Putnam Co., Fla., who says:
"With your Plans I have made my house—simply beautiful! I have recommended your work to others, and hope they will have the good sense and far-sighted economy to patronize you."
- Prof. W. S. Wilson, Agrl. College, Dahlgren, Ga., who says:
"I am satisfied that through you one can get the assistance of architects on the most reasonable terms possible."
- J. A. Nourse, Esq., with the Sawyer-Goodman Co., Lumber, Chicago, Ill., who says:
"I shall take pleasure in recommending your Plans whenever opportunity occurs. The house which I built attracts attention, and I am asked frequently where I got the Plans."
- R. S. Dickie, Esq., Chicago, Ill., who says:
"We believe your work to be of inestimable advantage to those contemplating building."
- E. A. Thomas, Esq., East St. Louis, Ill., who says:
"The cost of our house runs under your estimate."
- E. M. Wood, Esq., Grand Crossing, Ill., who says:
"The Plans you sent me saved me a good many dollars in the construction of my house."
- Geo. Webster, Jr., Esq., Marion, Ind., who says:
"You have permission to refer to me in any manner you see proper. I have a handsome and very convenient dwelling, made from your Plans, and I was well pleased with your promptness in furnishing Plans, Details, etc."
- Jas. Alexander Leonard, Esq., Decorah, Iowa, who says:
"I can most heartily recommend your Association as filling the bill complete, so far as I am concerned."
- M. R. Mudge, Esq., Banker, Eskridge, Kansas, who says:
"The Plans worked out all right; the carpenter and mason had no trouble with them whatever."
- D. C. Morgan, Esq., Attorney, Monroe, La., who says:
"It affords me pleasure to unite with your other customers in commending you to the public for your artistic manner of getting up building plans."
- M. T. Denham, Treasurer Eastern Forge Co., Portland, Maine, who says:
"Your system is, undoubtedly, the best yet devised to secure to people just such homes as they could wish."
- Capt. Wm. E. Nason, Saco, Maine, who says:
"A great many people speak well of the Plans, and pronounce the building as one of the finest in Saco."
- A. Hoen, Esq., Baltimore, Md., who says:
"The house has attracted considerable attention and you will probably receive inquiries from some of my neighbors who contemplate building."
- J. D. Mallory, Esq., 22 Light street, Baltimore, Md., who says:
"Your Plans were of great use to me, and saved me \$450 on my house."
- C. W. Kennard, Esq., Chestertown, Md., who says:
"My house is perfect, combines beauty with great utility of space—not a foot of waste room in it. It has been pronounced worth \$500 more than an adjoining house which cost \$750 more than mine. I candidly believe I have a house that is worth \$1,000 more than it cost me. Your excellent Plans have the credit. The house complete, finished in the best manner, cost me \$50 less than your estimate."
- F. R. Lewis, Esq., Westfield, Mass., who says:
"I am abundantly satisfied with the Plans obtained from you, and take pleasure in recommending your Plans to my acquaintances."
- Jas. W. Taylor, Esq., Amesbury, Mass., who says:
"I feel confident that your Plans and very complete Specifications saved me several hundred dollars; my house more than realizes my most sanguine expectations."
- W. T. Smith, Esq., Osceola, Mich., who says:
"I must say that the Working Plans, etc., you sent me were much better than I expected to get. They would have cost me five times the amount here."
- H. A. Smith, Cashier Merchants' National Bank, Duluth, Minn., who says:
"I have just completed a house from the Plans you sent me. They have given the best of satisfaction. The mechanic in charge tells me they are quite accurate and intelligible to work from."
- L. M. Edwards, Esq., Bank, Bowling Green, Mo., who says:
"I built from your designs, and have the 'slickest' house in town. I think I saved three to four hundred dollars by having your Plans and Specifications."
- J. A. Matteson, Esq., Cape Girardeau, Mo., who says:
"We are more than satisfied with your work. I do not hesitate to refer to you any parties in this vicinity who contemplate building."
- C. H. Wolcott, Esq., Billings, Montana, who says:
"Your Plans and Specifications have given unqualified satisfaction, reducing the cost of building twenty-five per cent."
- W. M. Cowen, Esq., Wellington, Kansas, who says:
"The house I erected from your Plans is not only beautiful but convenient; it is admired by all. The contractors (Jackson & Mishler) join with me in recommending your Plans to all who contemplate building."
- R. Beattie, President Beattie Manufacturing Co., Little Falls, N. J., who says:
"Have built ten cottages from your Plans and they are all very satisfactory."
- Harry Kucher, Esq., Camden, N. J., who says:
"Just putting the finishing touches on the house built from your Plans and Specifications. It is conceded to be the nicest and most complete small house in the neighborhood. Ezra Lippencott, a life-long builder of Camden, says that any of your Plans can be put up at your figures unless labor is high."
- Rev. Wm. R. Nairn, Franklin, Essex Co., N. J., who says:
"I have used your Plans and the houses, which are now occupied, have proved very satisfactory as to comfort, convenience and appearance."
- Prof. A. A. Titsworth, Rutgers College; New Brunswick, N. J., who says:
"After receiving the House Plans I made arrangements which necessitated a change of residence, and I sold the Plans to the contractors, Messrs. A. & O. Burdick, who completed the house and I understand were well pleased; as well they might be for they were able to sell the house at a good profit even before it was completed."
- W. R. Merchant, Esq., with Banking House of Geo. K. Sistares' Sons, 18 Broad street, New York city, who says:
"From the Plans and Specifications prepared by you, I have built a house in every respect satisfactory. It affords me pleasure to testify to the fact."
- John T. Delany, Esq., Chaumont, N. Y., who says:
"My house is up, and it is a little gem; neat, cheap and convenient."
- Francis Gerber, Esq., Sayville, L.I., N. Y., who says:
"The Plans I received from you were all that could be desired. The builder had no trouble in working from them. The house is now completed and is acknowledged to be the most convenient, substantial and the handsomest house in our village."
- Henry C. Beebe, Esq., Morris Park, L. I., N. Y. (Richmond Hill P. O.), who says:
"I shall always consider myself fortunate in having purchased from you the Plans for the house which I have lately built and now occupy. The exterior is beautiful while the interior is just the pink of convenience. To those who may be interested I cannot commend your work too highly."
- Wm. A. Sloane, Esq., Port Richmond, N. Y., who says:
"I built my house for the price named in your book. Everybody likes it."
- John T. Cowles, Esq., Ridgewood, L. I., N. Y., who says:
"The house I built will stand comparison with other houses in this town that cost two or three times the money to erect."
- W. E. Peebles, Banker, Pender, Neb., who says:
"I take great pleasure in saying that I used one of your Plans, and I am more than satisfied with the result. I have a beautiful dwelling, costing not more than an ordinary building, but worth twice as much, either to sell or live in, on account of its convenient interior and its beautiful exterior."
- Geo. J. Burgess, Esq., Arapahoe, Neb., who says:
"I am very well satisfied; the house is a daisy—looks nicer than it did in the engraving."
- Norman C. Raff, Esq., Albuquerque, N.M., who says:
"You are at liberty to use my name. I built two houses from your Plans, and they give excellent satisfaction."
- Wm. M. Lowther, Esq., Findlay, Ohio, who says:
"I shall always deem it a pleasure to impart information to all who make inquiries concerning your Association, with whom I have had the pleasure of doing business, and the prompt manner in which you responded to my recent order."
- E. B. Dennis, Attorney, Newark, Ohio, who says:
"The house built from the Plans procured of you is satisfactory, and is very much admired. The house could be built here for considerable less than your estimate."
- George H. Bonte, Esq., Cincinnati, Ohio, who says:
"The Plans were satisfactory in all respects. Your estimate of cost was very close. I have the finest, prettiest and best built house in South Norwood, and many parties say within many miles of it, and that is saying a great deal; it is acknowledged to be the finest and best of the three or four hundred houses that are in the neighborhood."
- M. D. Harter, Esq., Treasurer, the Aultman & Taylor Co., Mansfield, Ohio, who says:
"I like your plans and methods as far as I know them. I say this after having built two houses under them."
- Frank Dayton, Esq., Portland, Oregon, who says:
"I am exceedingly well pleased and have a lovely cozy little home that is much admired."
- E. Payson Porter, Esq., Statistical Sec'y Int. S. S. Convention, 725 Chestnut street, Philadelphia, Pa., who says:
"It gives me pleasure to say that the cottage built after the Plans you sent me, and which we call Sylvan Lodge, is not only satisfactory in every respect, but charming."
- Louis Restein, Esq., Philadelphia, Pa., who says:
"I have just finished my cottage at Holly Beach City, Cape May Co., N. J., according to your Plans and Specifications. It is really beautiful. The Cape May papers have had several articles of praise about it. Many have come to see it who intend building. All are unanimous in pronouncing it the prettiest cottage, of its size, on the beach."
- L. R. Frost, Esq., Furniture & Lumber, Towanda, Pa., who says:
"I give you permission to use my name in any way to help on the good work of building artistic houses. The house you designed for me last fall is about completed, and is admired by every one. I find your books a great help. Several parties that contemplated building have had the use of them, which will probably give you several orders."
- J. C. Brader, Esq., Nanticoke, Pa., who says:
"Your work for me has given the best of satisfaction and I can cheerfully recommend the same to those who contemplate building."
- John J. Houghton, Cashier First National Bank, Ambler, Pa., who says:
"The Plans purchased from your Association have been used in building six houses. The Plans were very satisfactory and the houses present quite a new style of architecture in our neighborhood. They make beautiful houses at a moderate cost. I am satisfied that your Association is of great benefit to all who intend to build. I willingly add my name to your list of references and heartily commend your work."
- Benjamin Crowther, Esq., Upland, Del. Co., Pa., who says:
"Your architectural work for me has been very satisfactory not only to me, but to others who saw my house in the course of erection. One of the largest property owners said to me: 'I have been through your house from cellar to attic and think it very complete; it must have cost a deal of thought to arrange everything so well. It is an ornament to our town.'"
- F. E. Smith, Esq., Tioga, Pa., who says:
"I have built country houses, barns, etc., a great number. I have never had plans, specifications and full details that I was so well pleased with as with yours."
- L. F. Jeanmaire, Esq., McMinnville, Tenn., who says:
"I am delighted with my house. I have received many flattering praises."
- James F. Lukens, Esq., Union City, Tenn., who says:
"I was well pleased with the Plans, and consider their cost as money well spent. I have the handsomest and best business house in this city. I take pleasure in referring to your Association all parties here that I find are going to build."
- Geo. Smith, Esq., Galveston, Texas, who says:
"I built according to your Plans, and am much pleased with the result. I certainly saved \$125 by having your Plans and Specifications."
- Ross White, Esq., Brattleboro, Vt., who says:
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"The Plans we received from you we used for a parsonage, and I must, in justice, say that they gave entire satisfaction in every particular."
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"You can use our name. We found everything exactly as required in the Plans sent us—Drawings and Specifications all perfect."

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FIRE-PLACE FURNACE.



A FURNACE IN THE FIRE-PLACE, so combined with the grate as to increase the heat of the latter four-fold and effect perfect ventilation by producing an inflow of warmed out-door air and exhaustion of the air near the floor. Over two hundred different styles of design and finish. Seventy have been in use in Columbia College for many years. Ninety are in use in the new Court House at St. Paul, Minn., and fifty-three in Hastings Hall, Harvard University.

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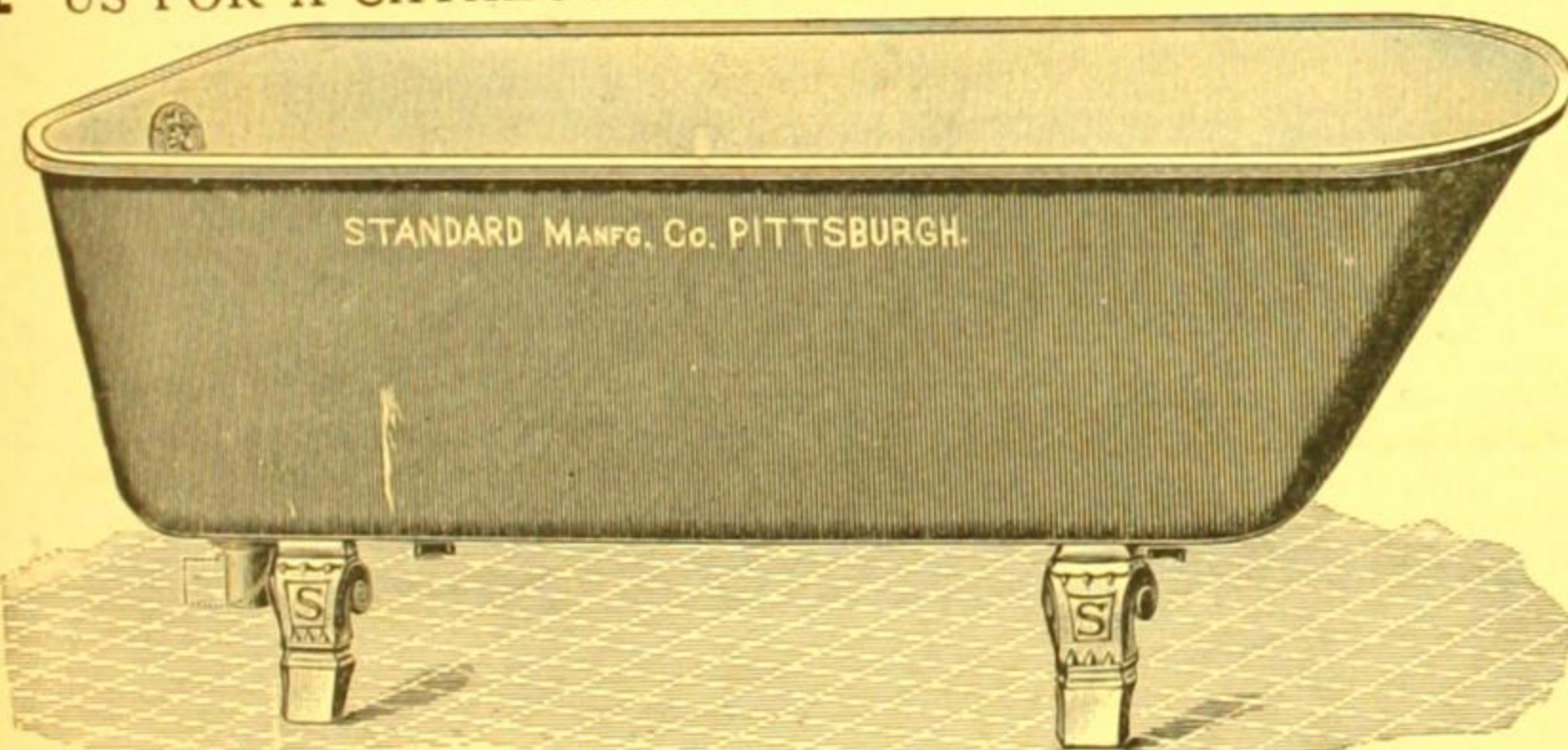
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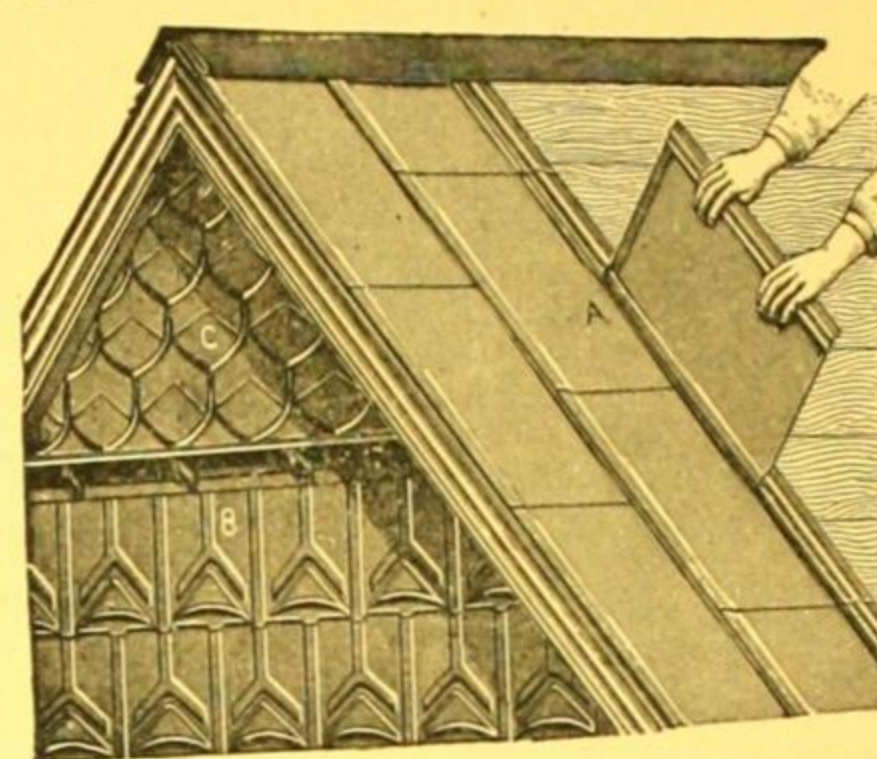
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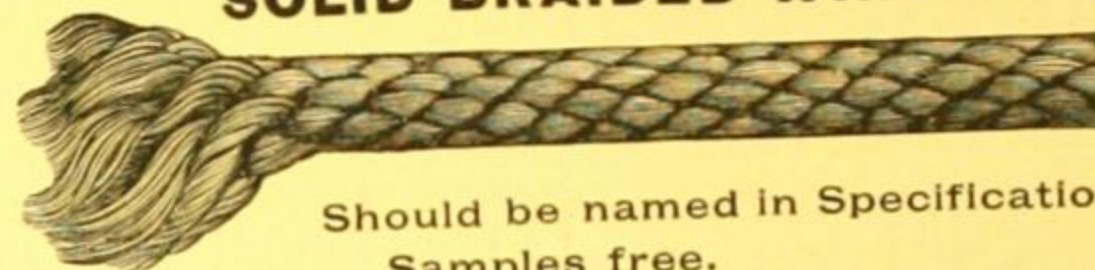
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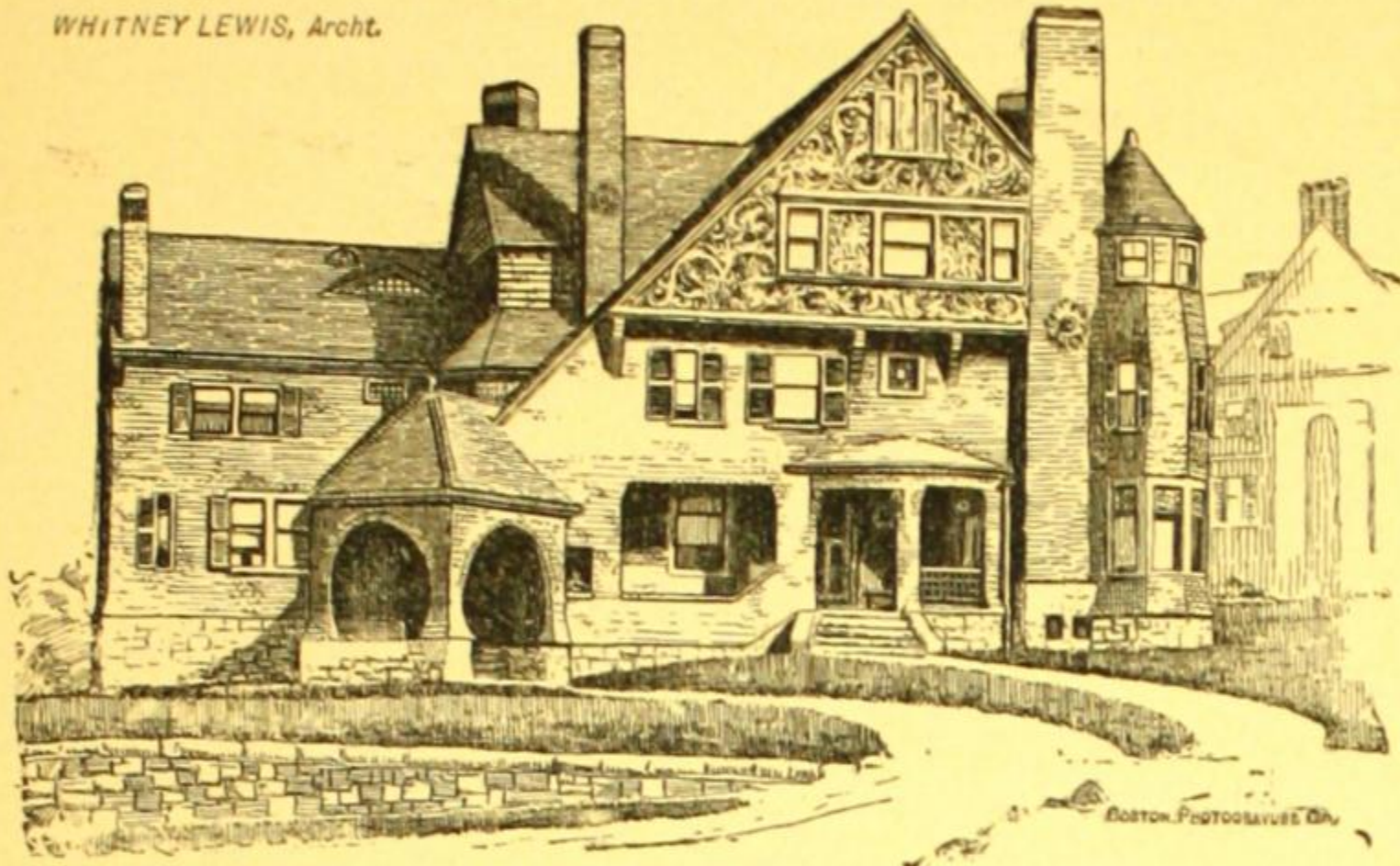
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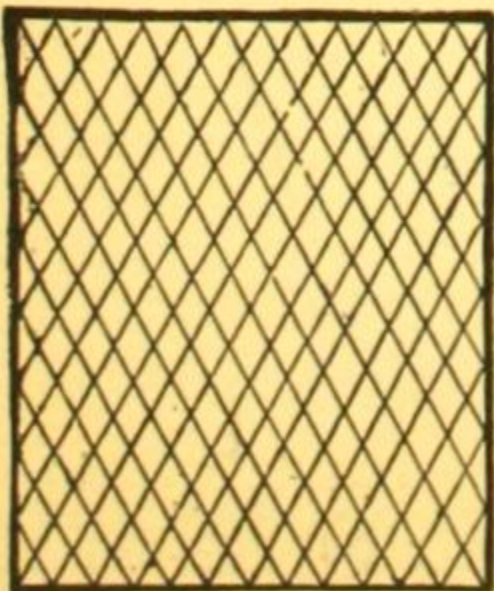
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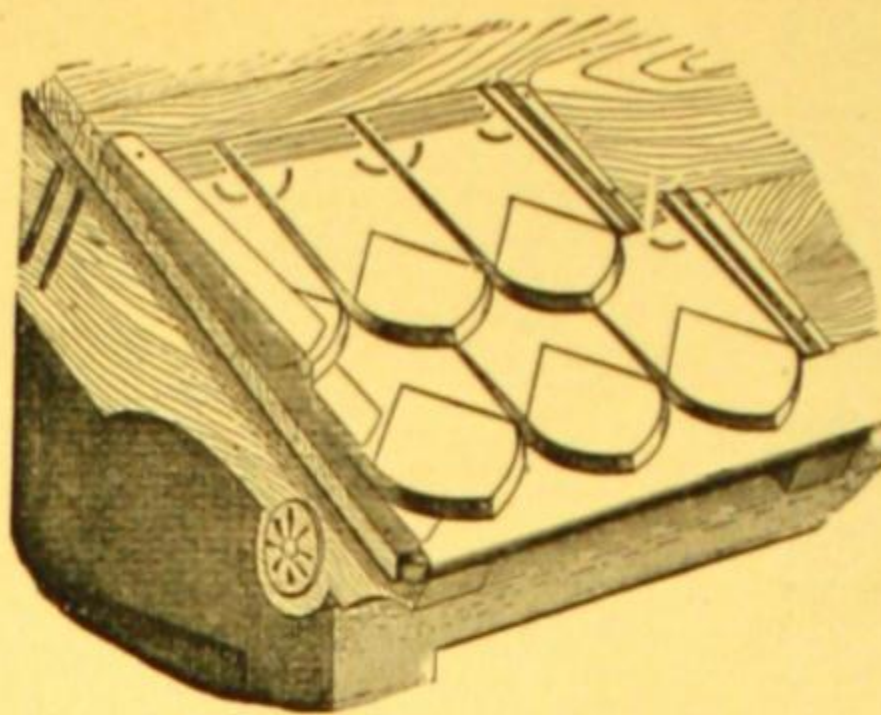
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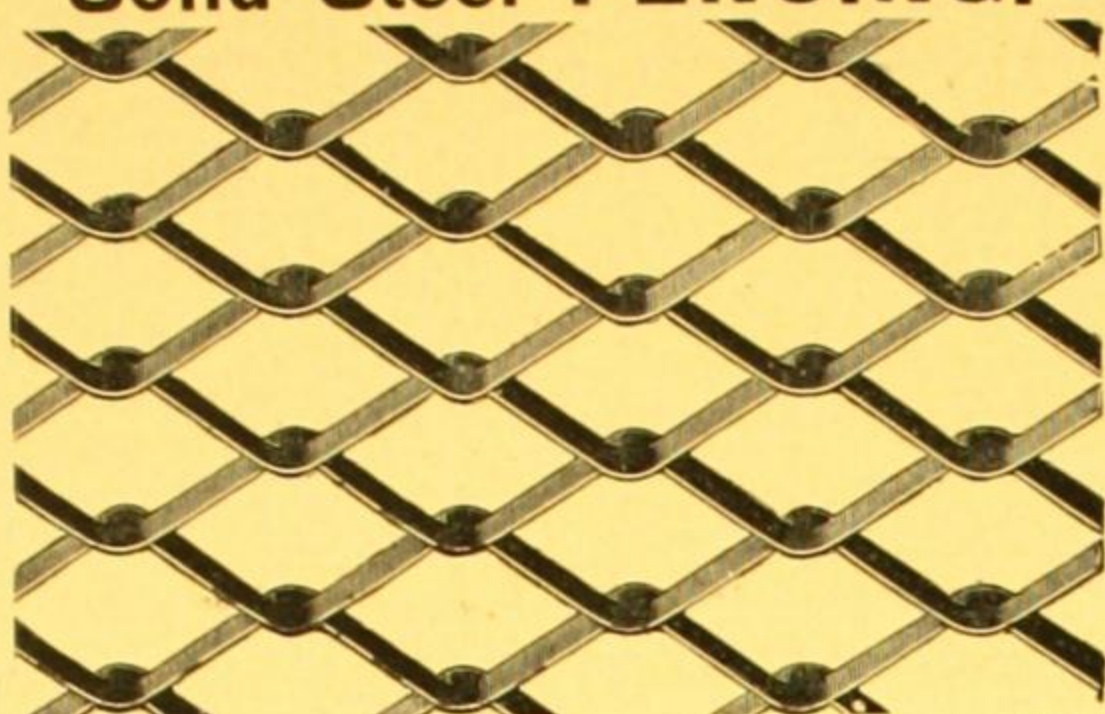
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Results generally from the accumulation of filth in traps of bad construction, and from the loss of seal by siphonage and evaporation.

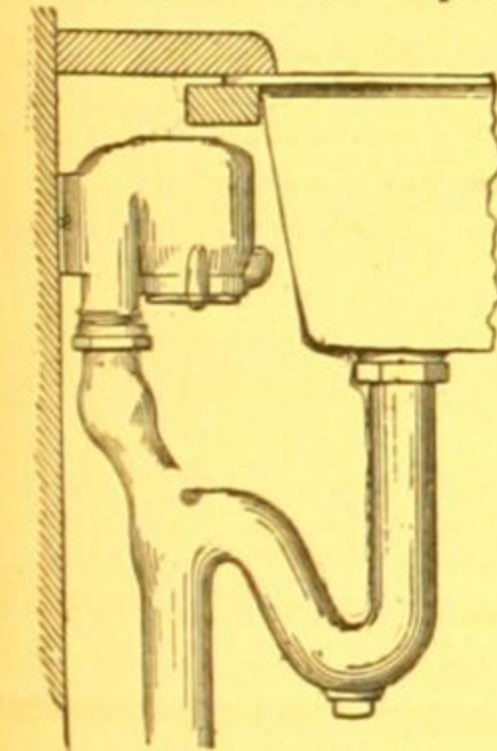
The so-called non-siphoning traps have enlarged cavities and angular walls, and gradually fill up with masses of decomposing filth emitting foul odors on the house side of their seals. Hence, any non-siphoning quality that such traps possess is secured at the cost of cleanliness and the development of the foul gases they are intended to exclude.

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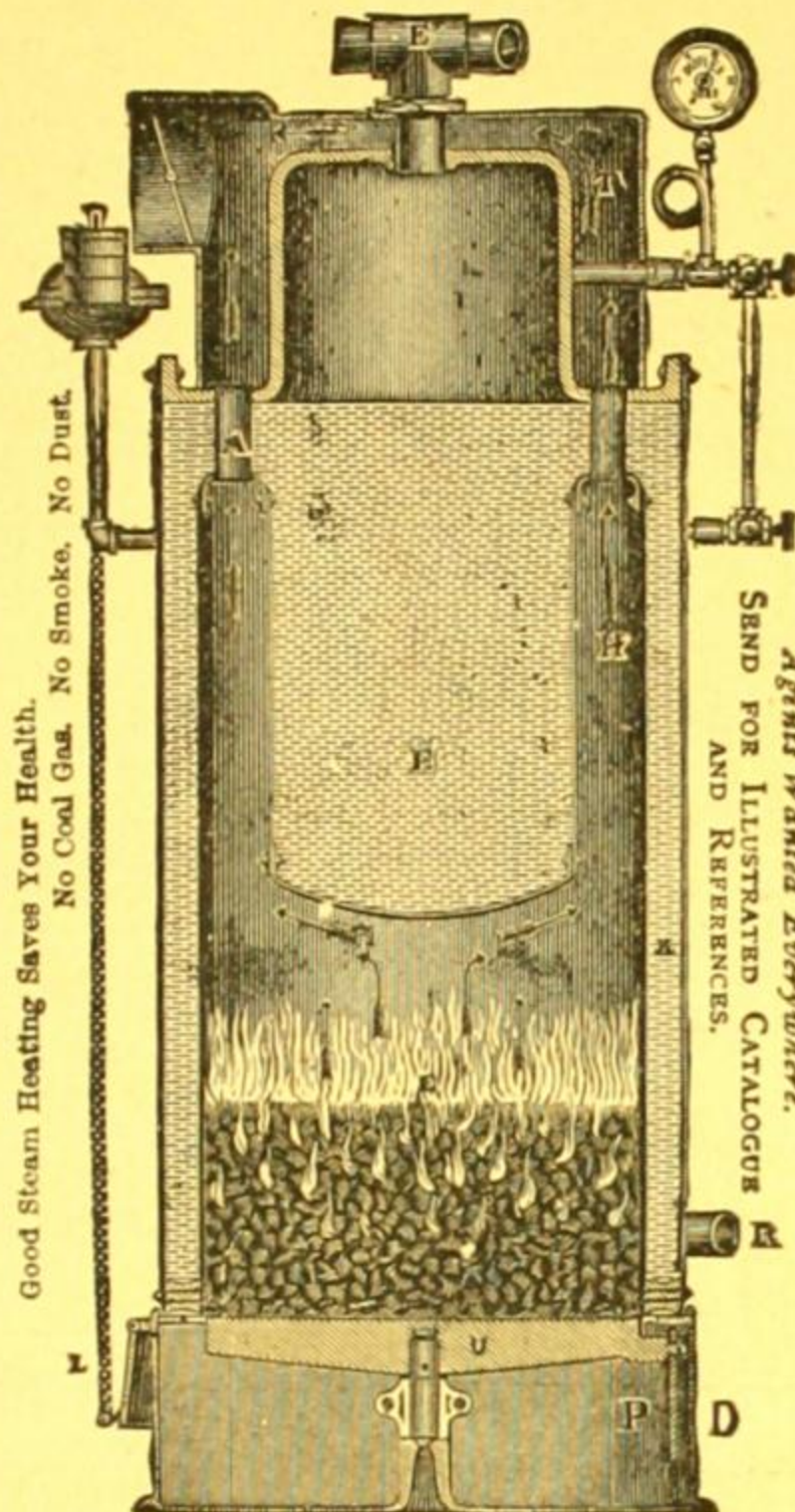
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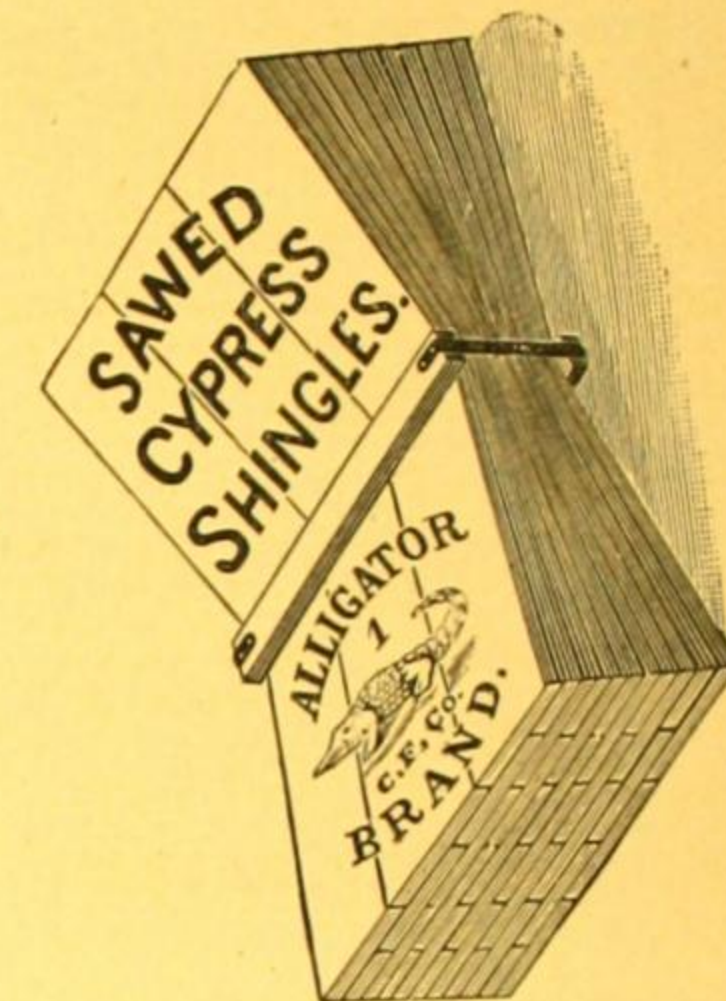
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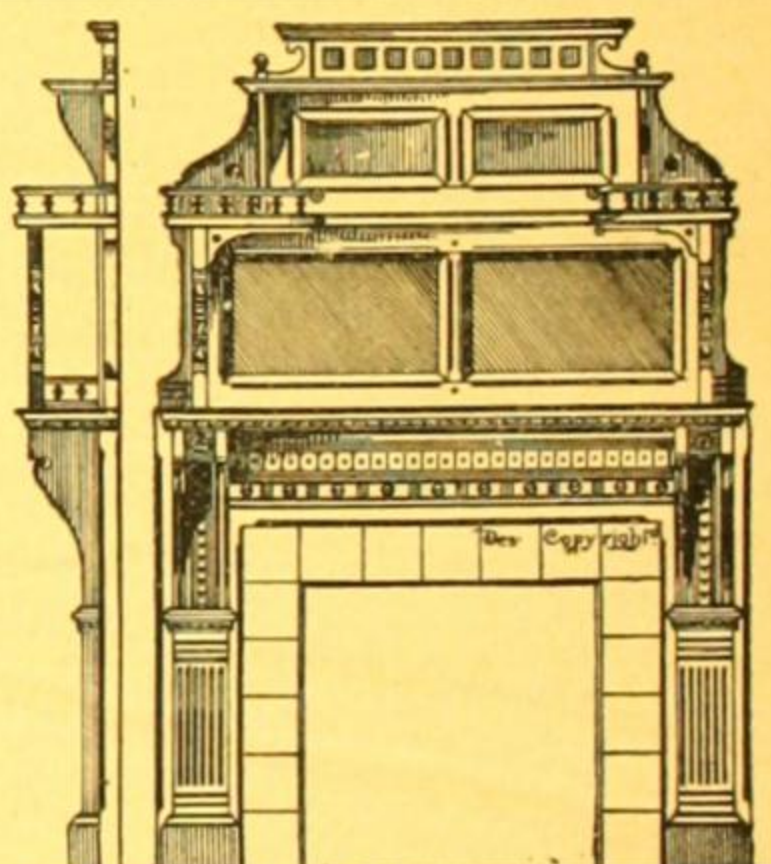


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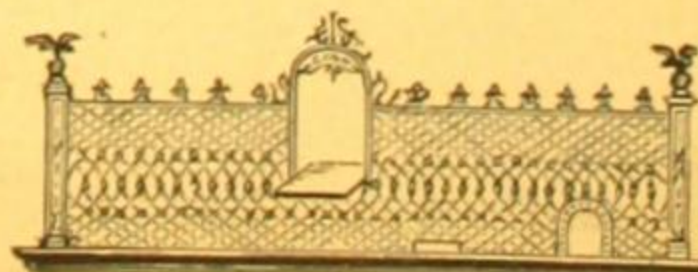
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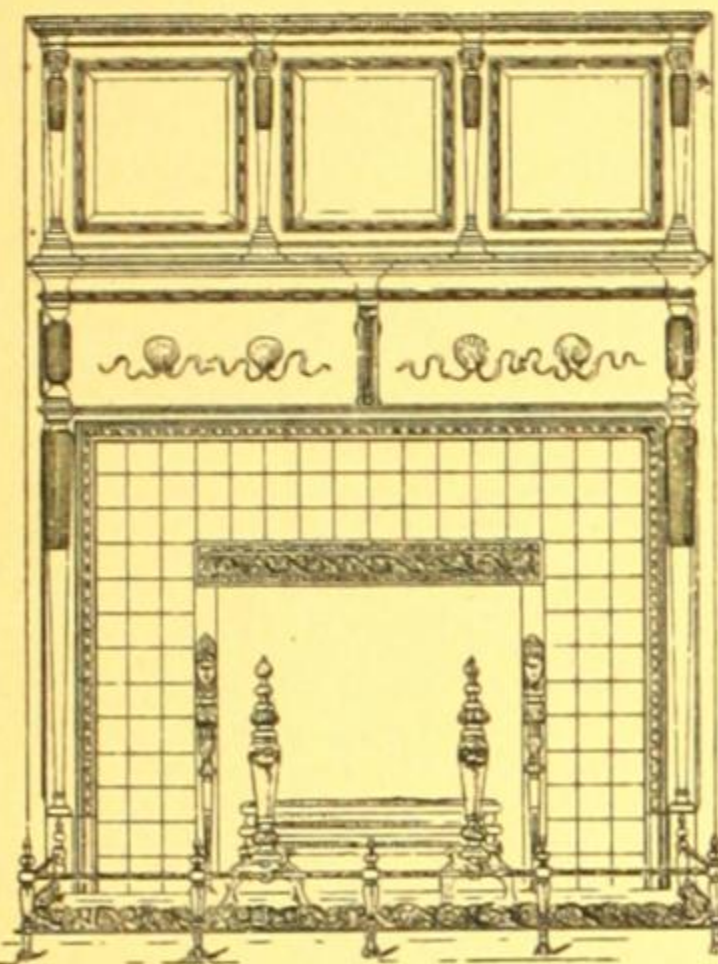
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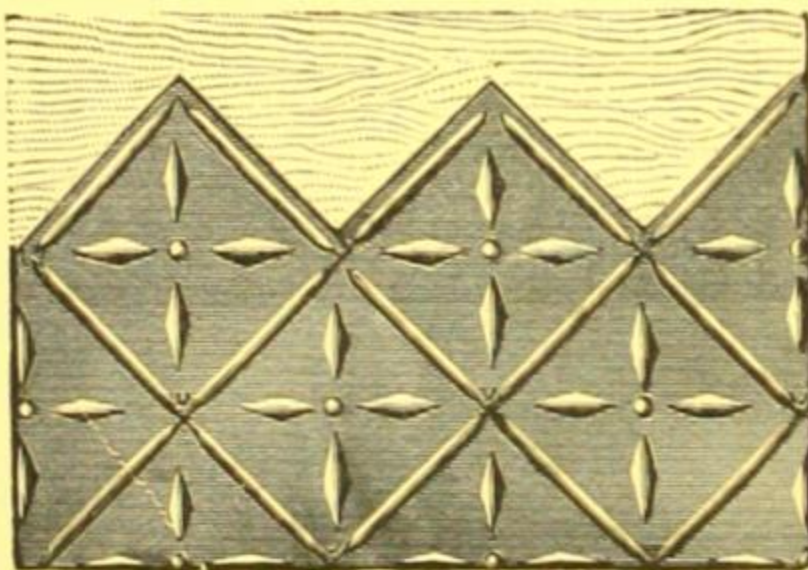
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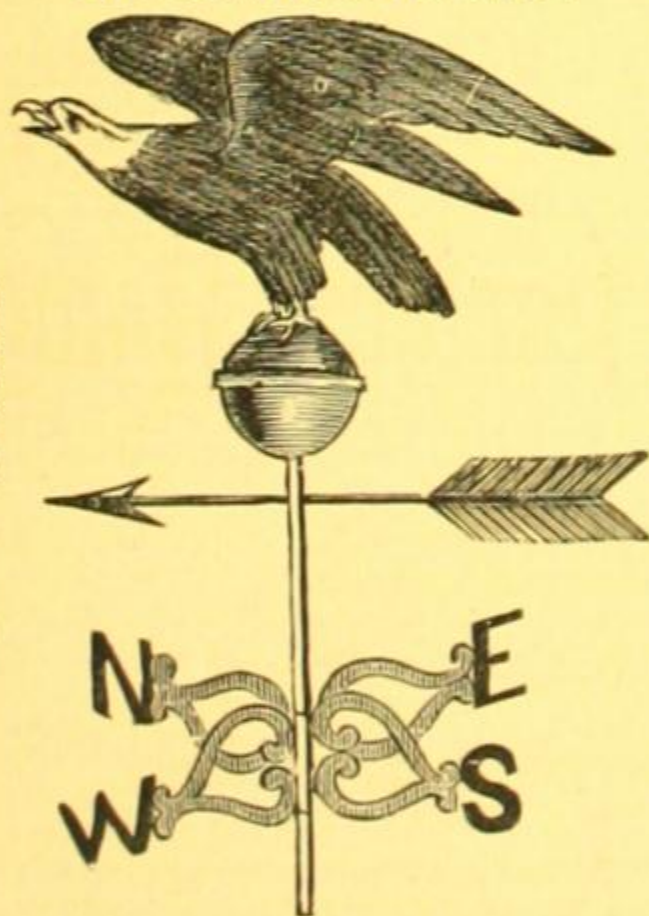
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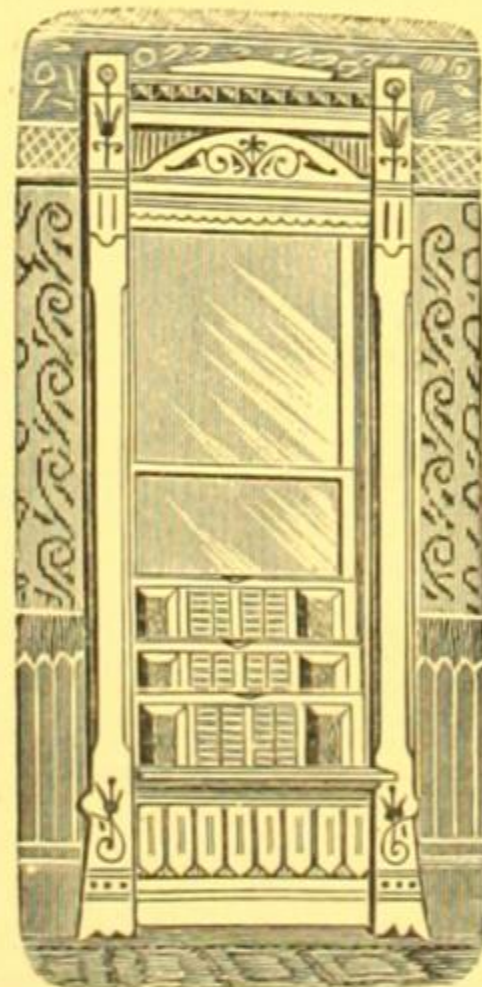
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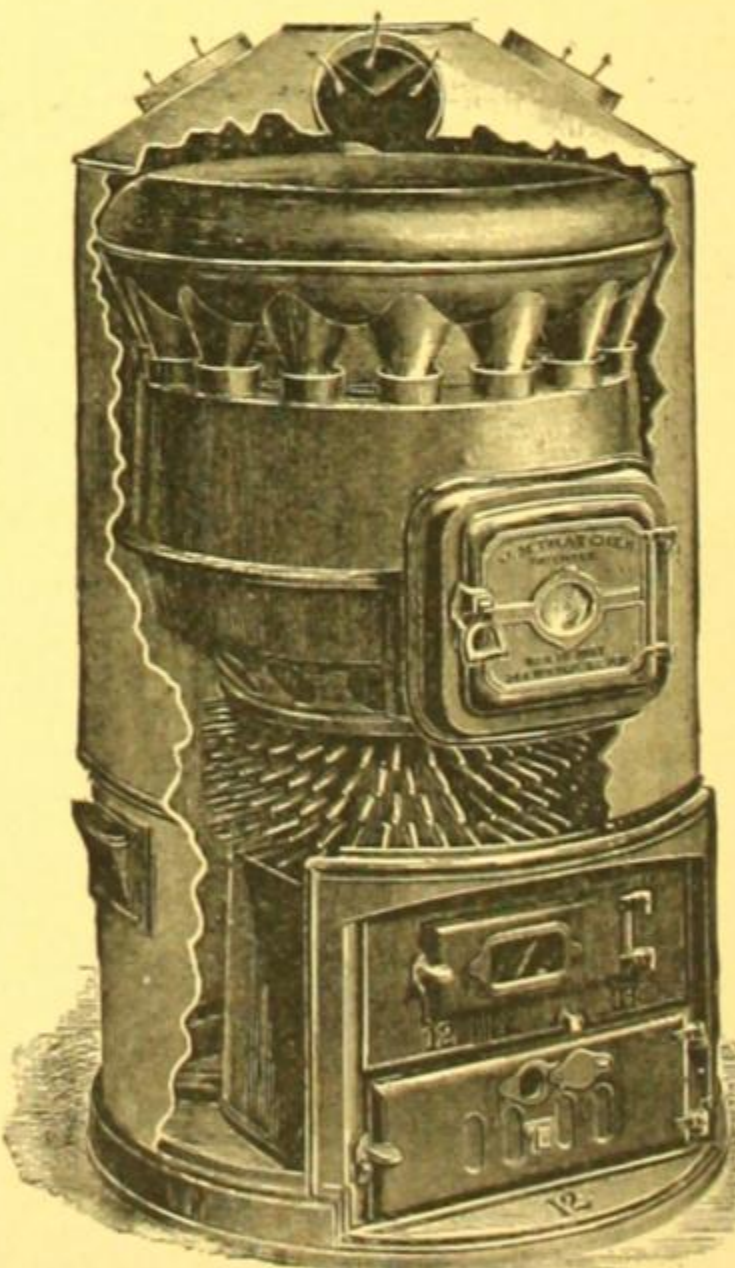
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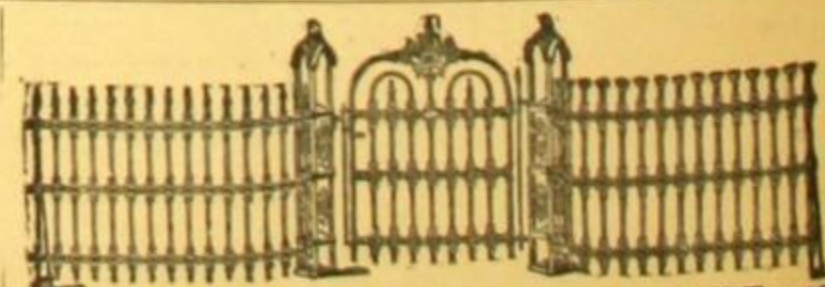
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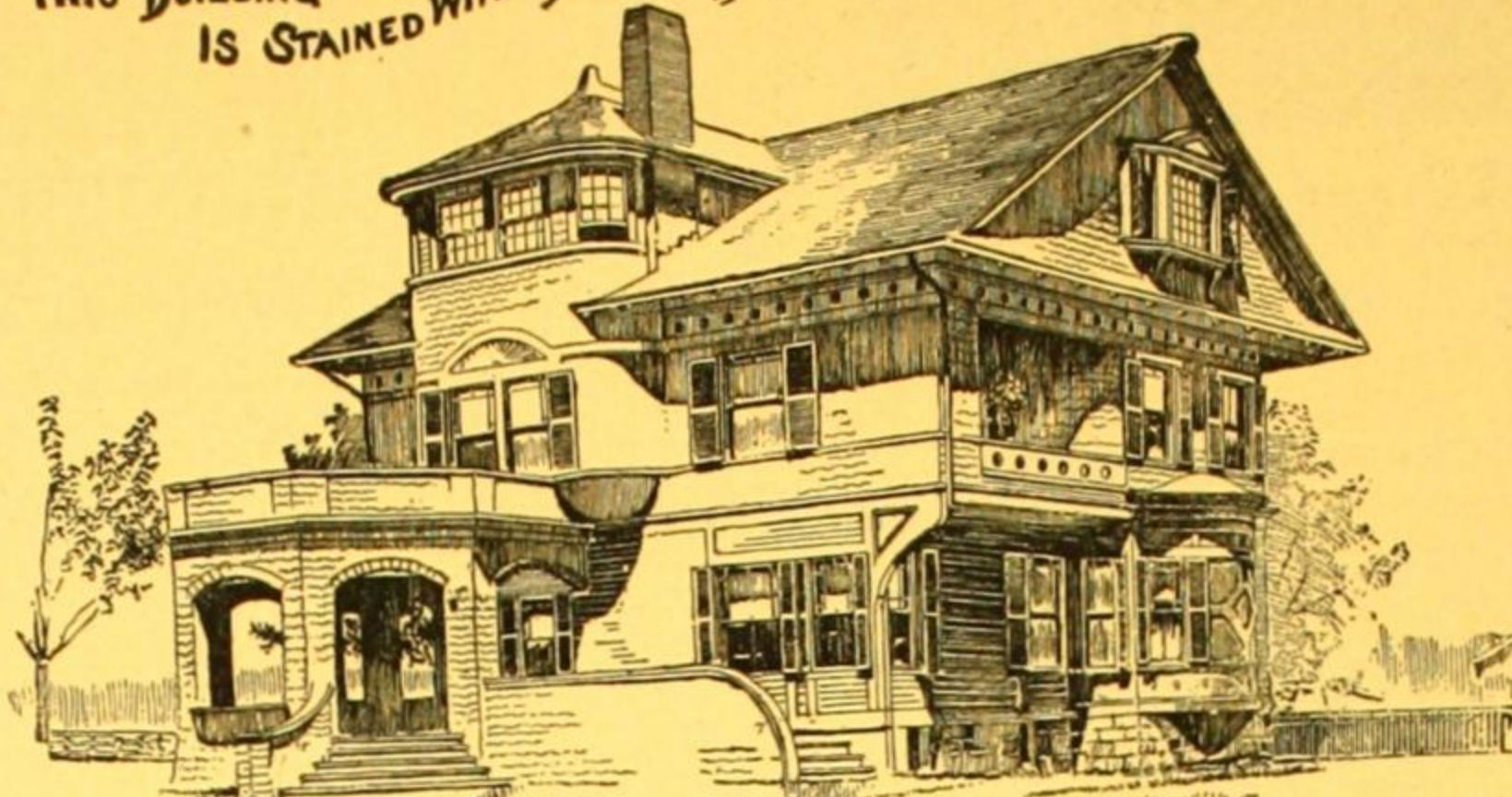
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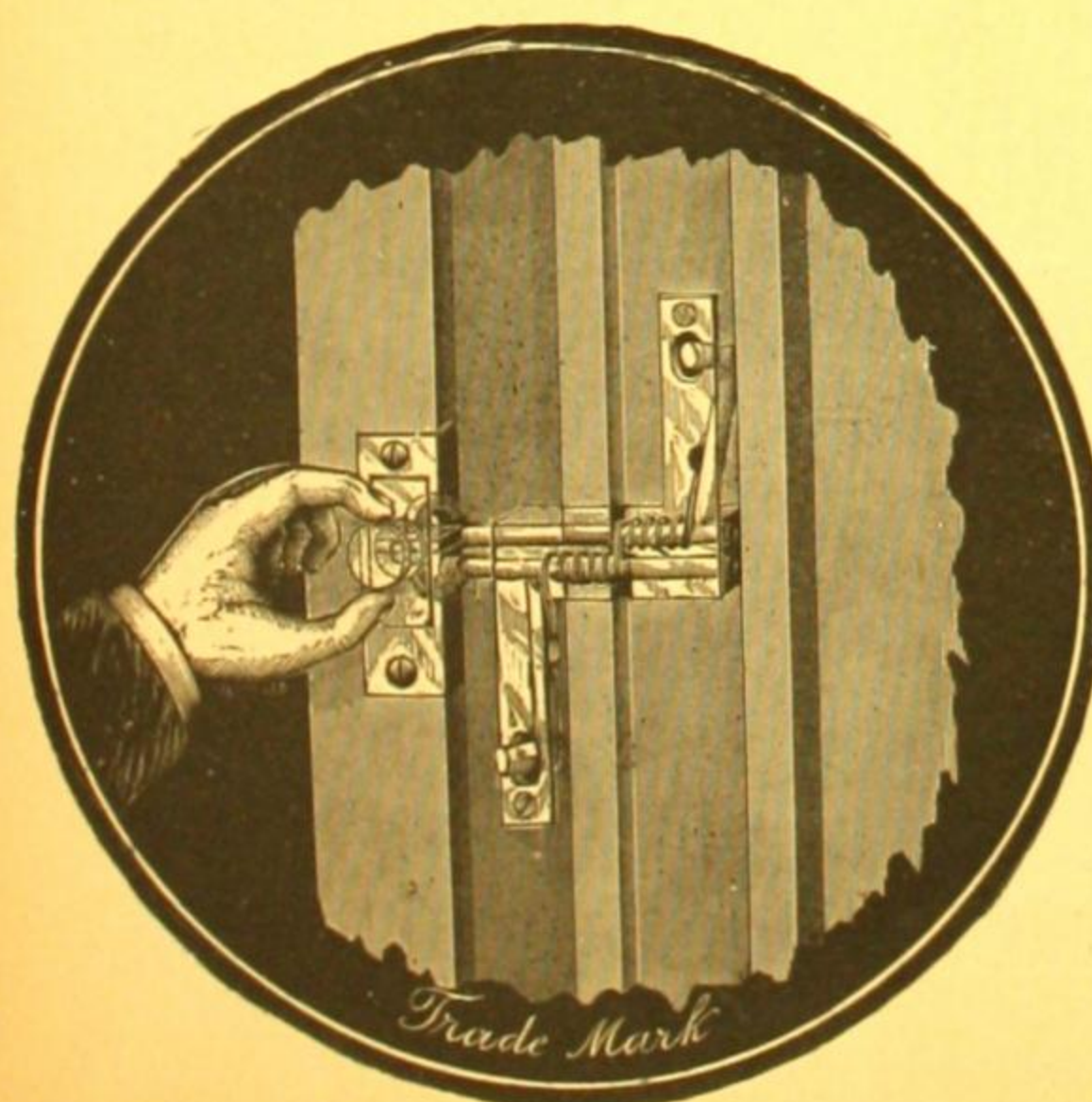
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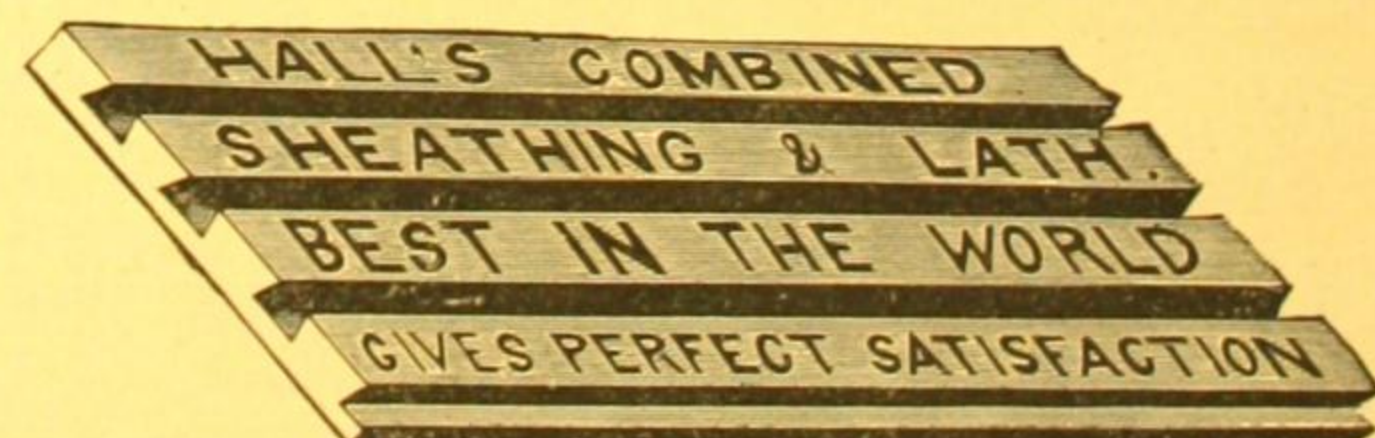
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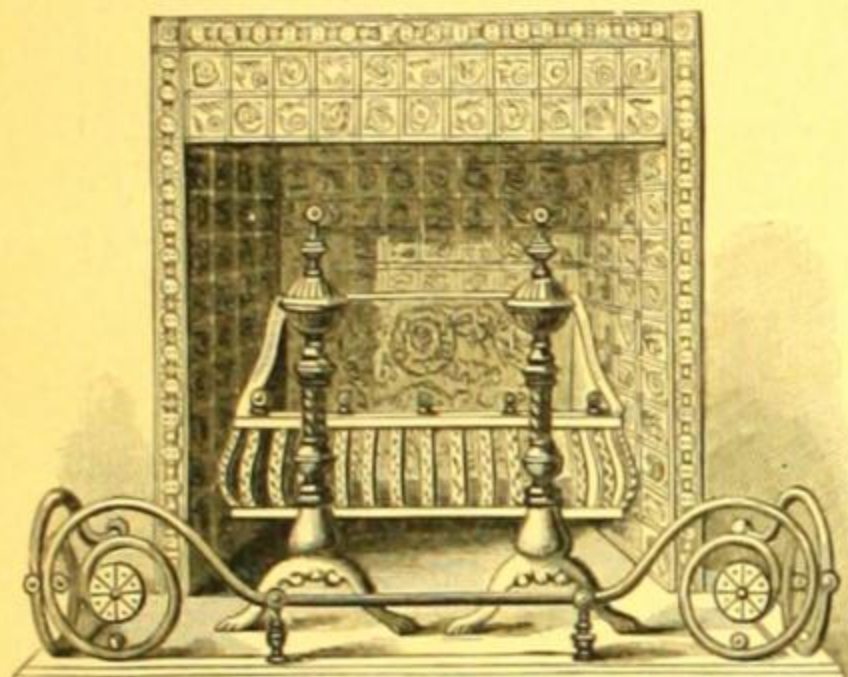
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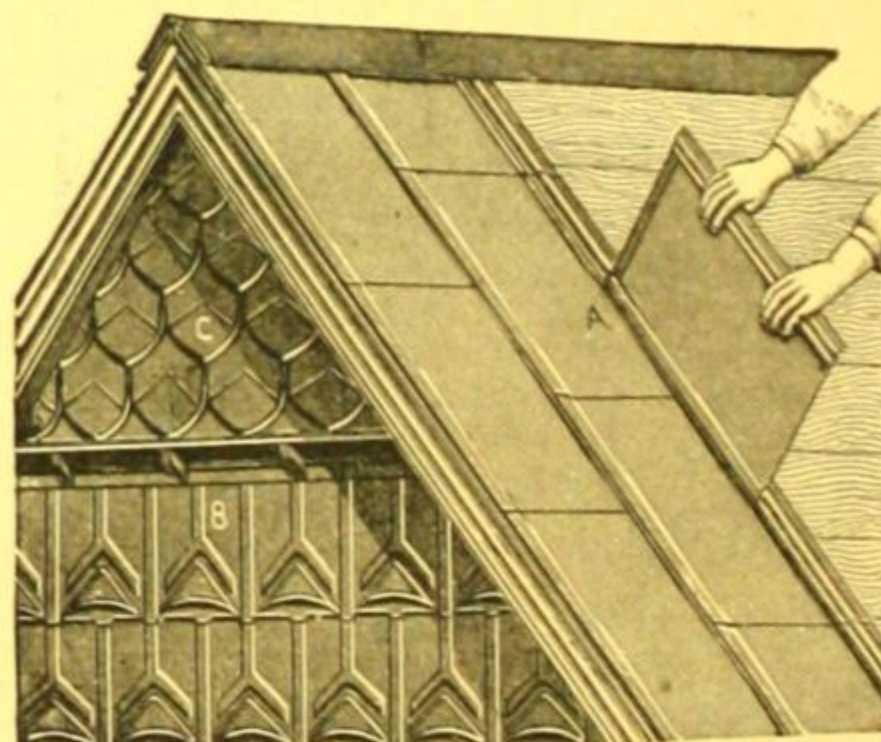
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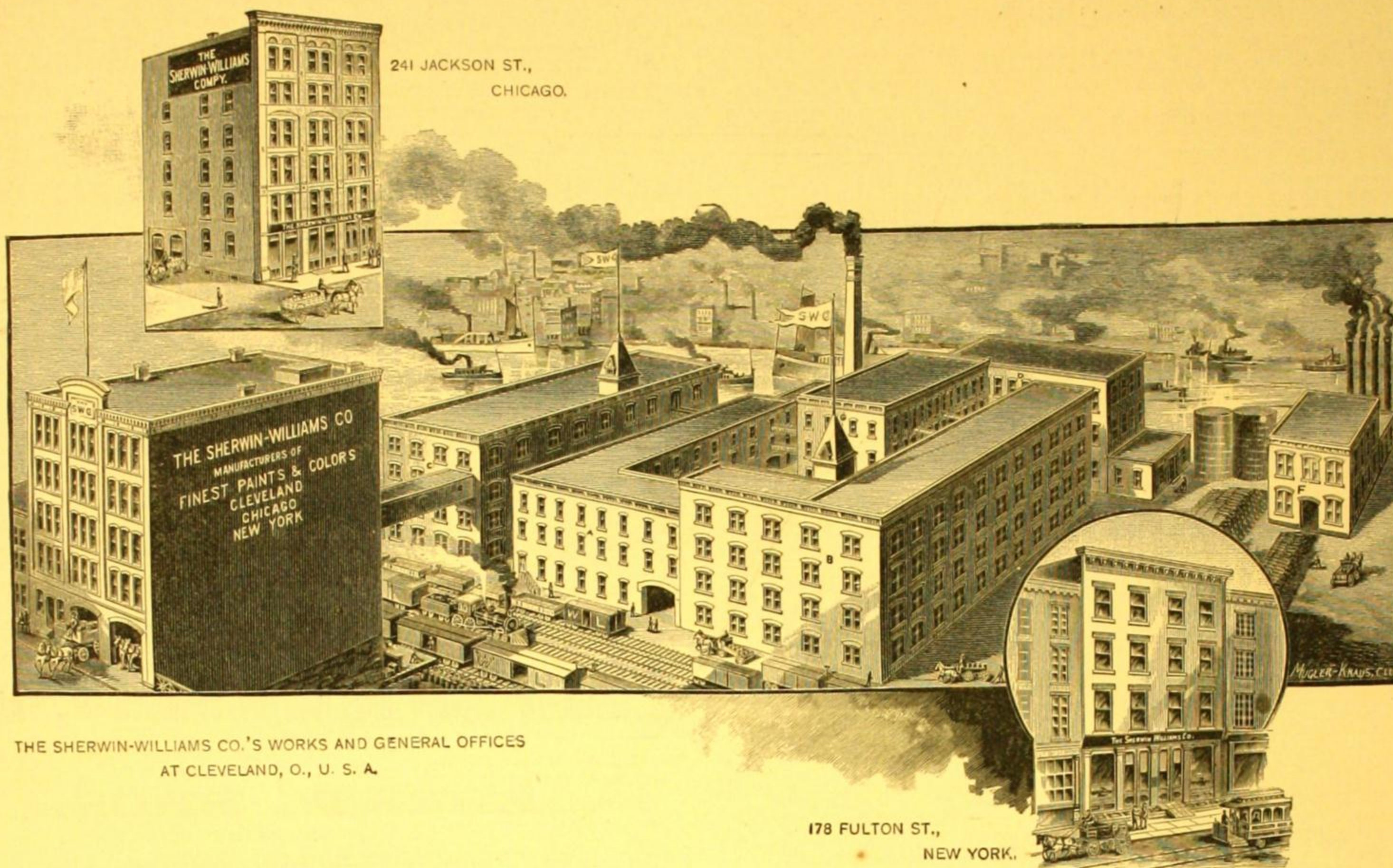
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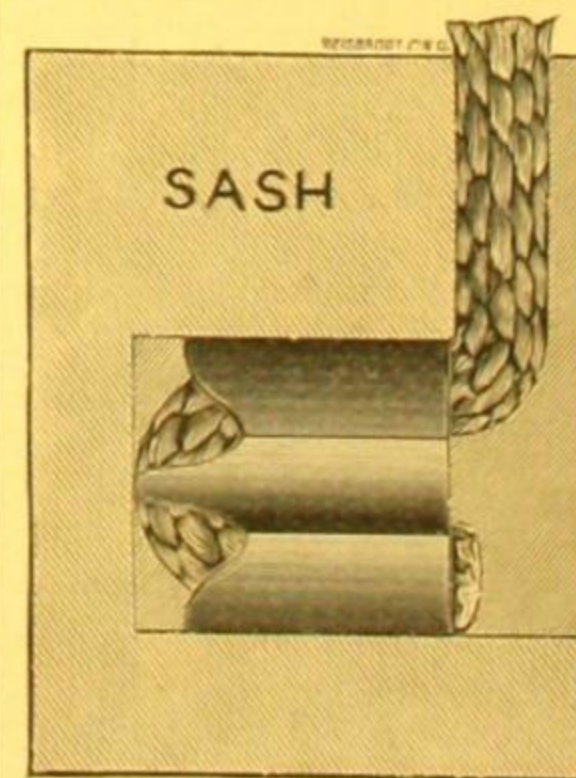
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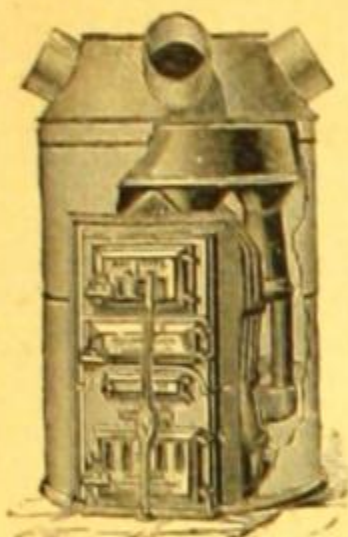
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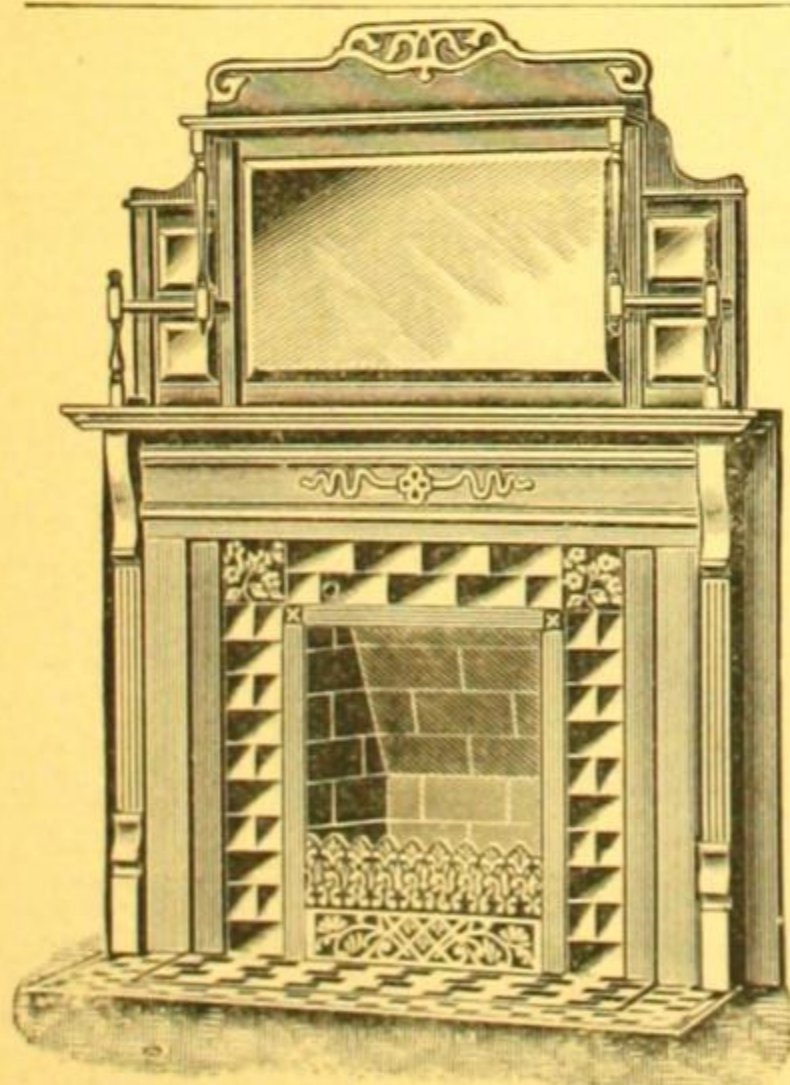
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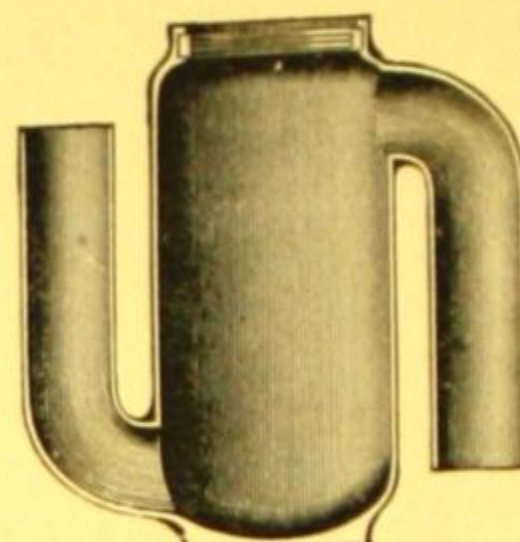
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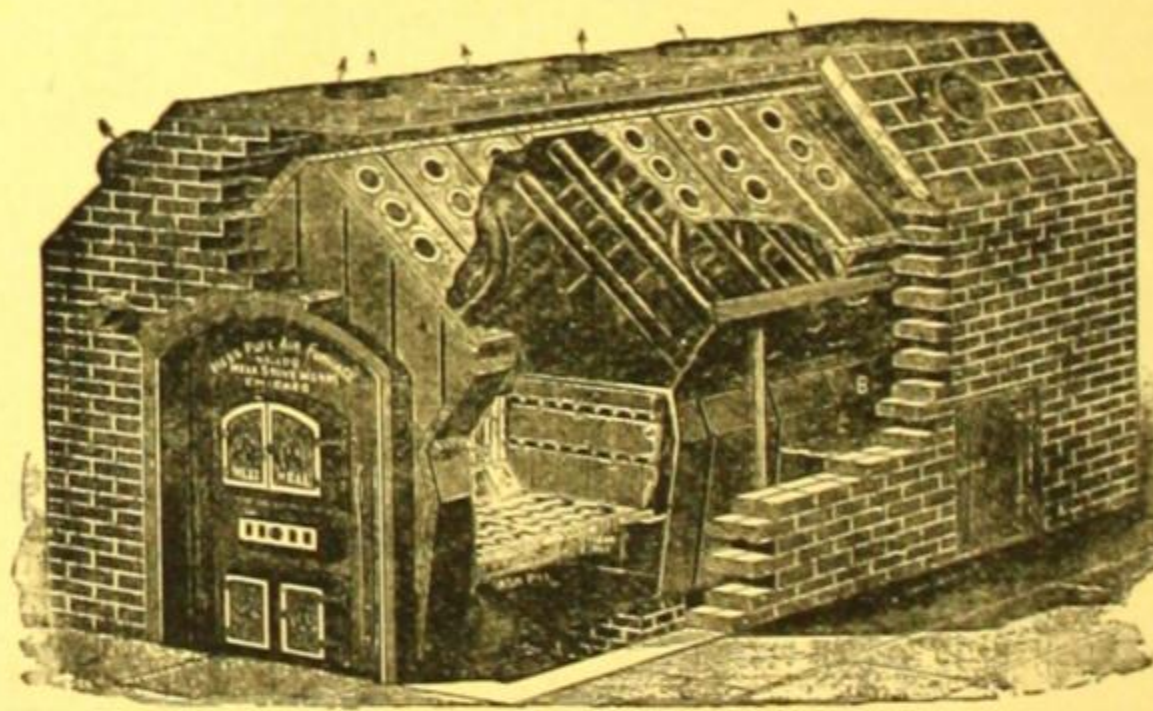
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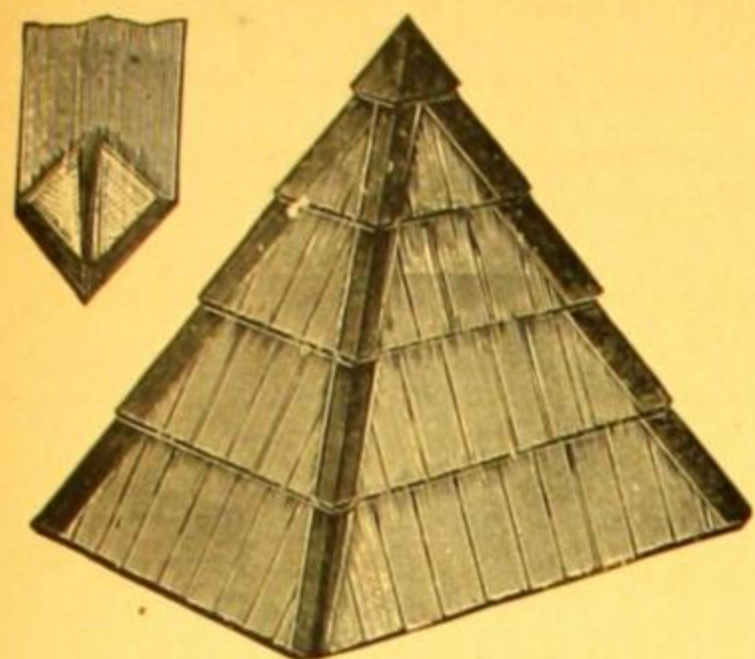
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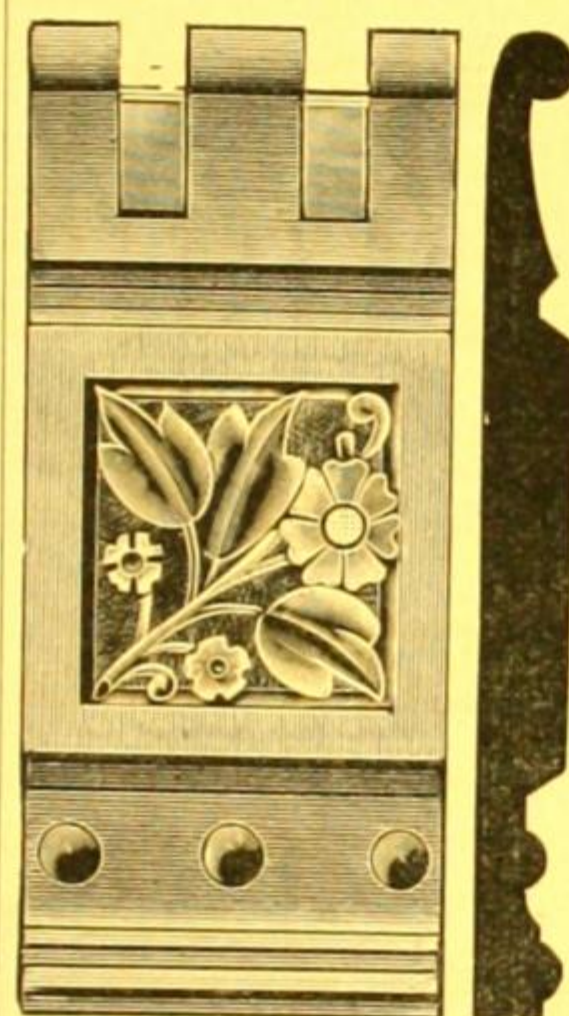
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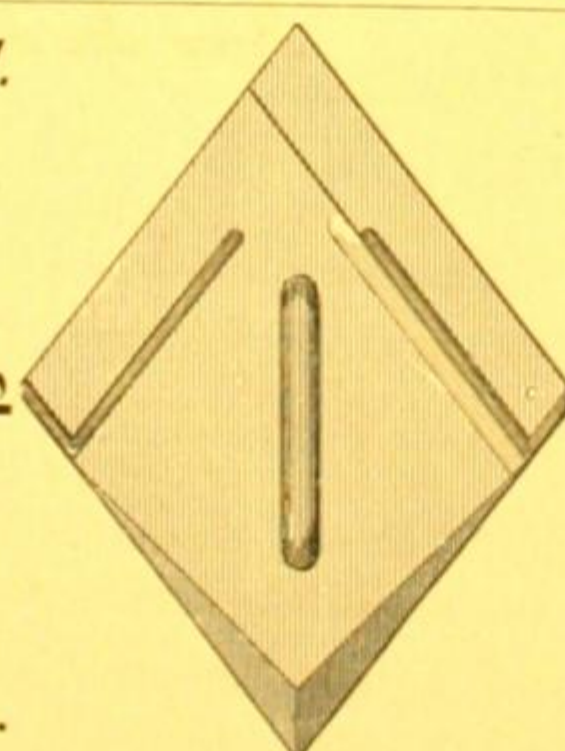
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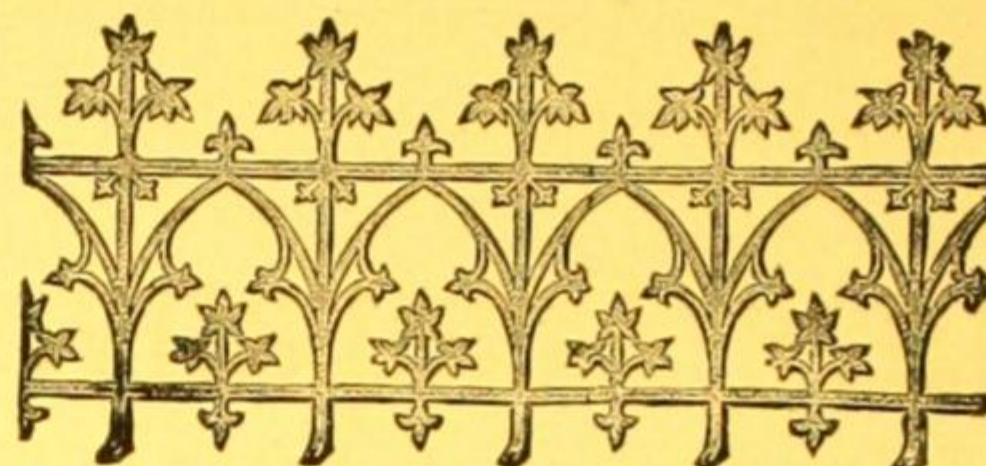
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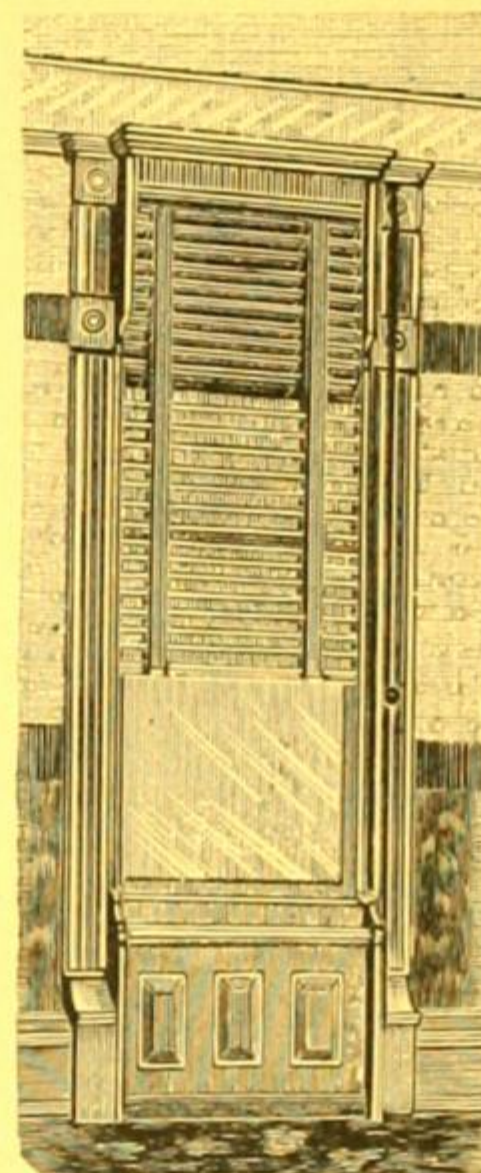
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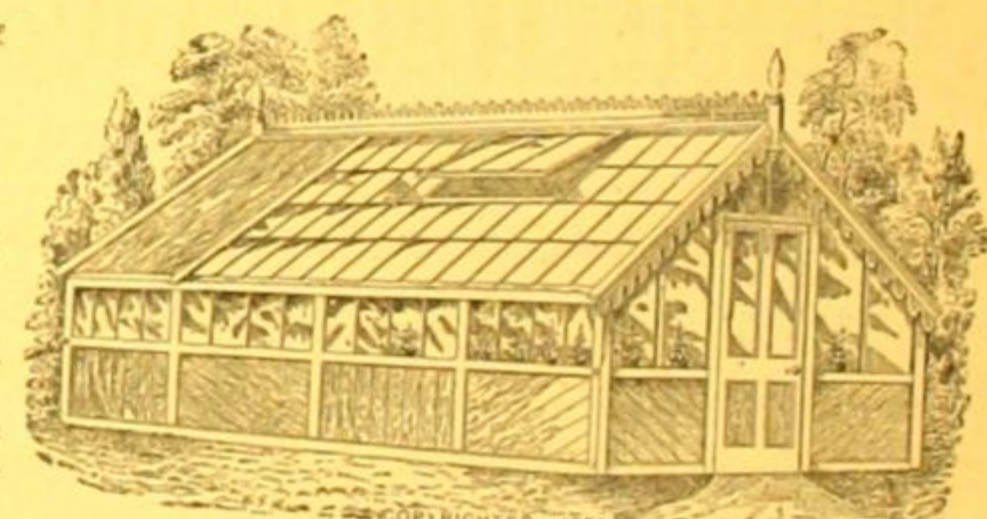
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Our ultimate object in these papers however is to make known the fact that we have developed a varnish for house-work, inside and outside, that surpasses every other. To have this object directly in your view as well as our own, let us advertise it squarely.

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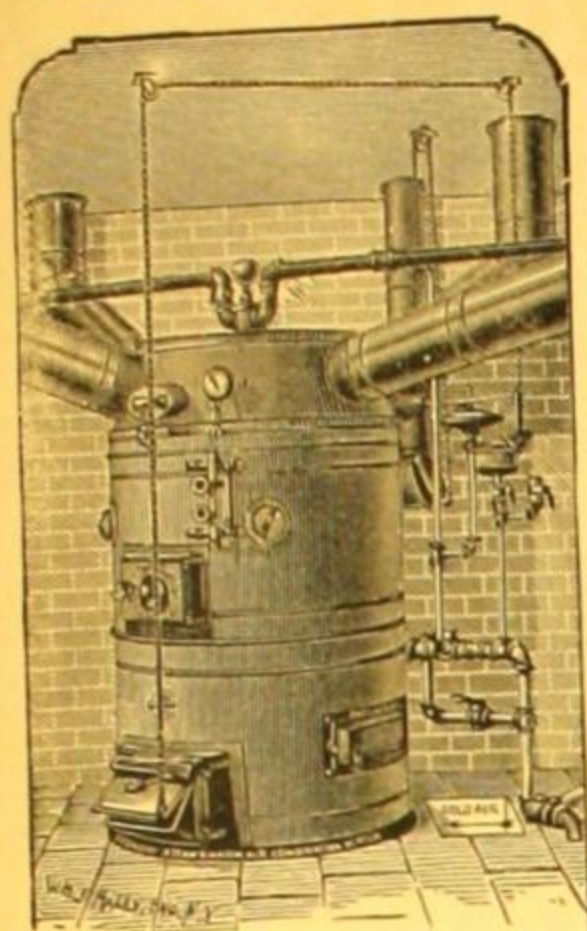
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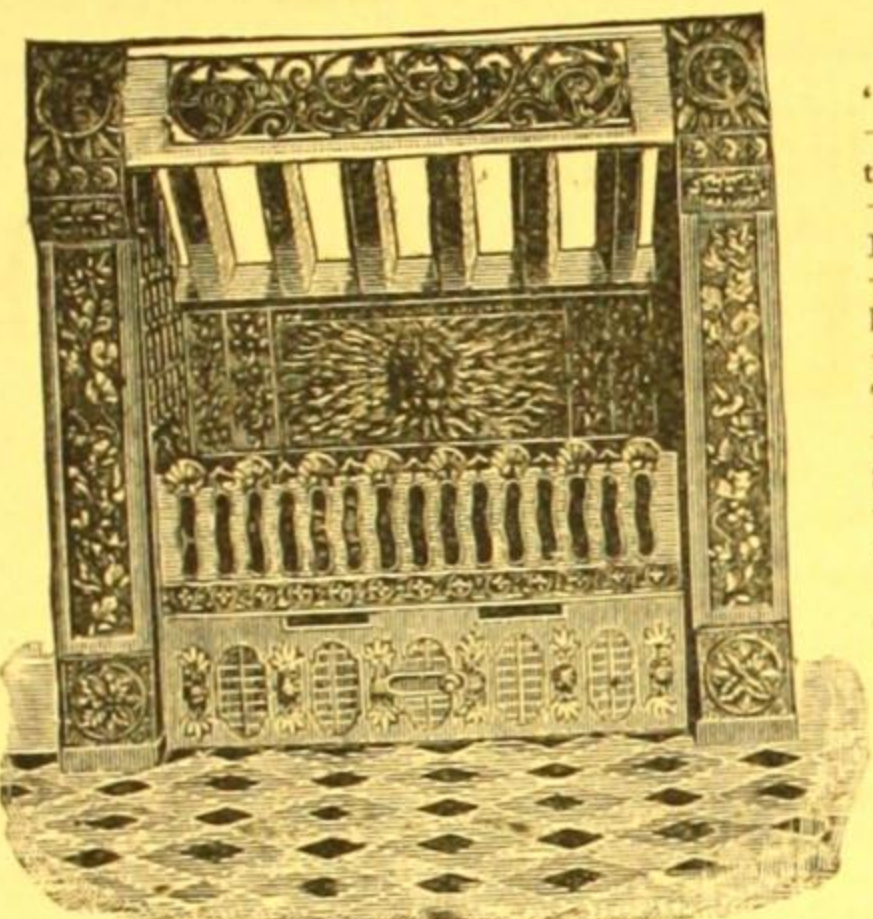
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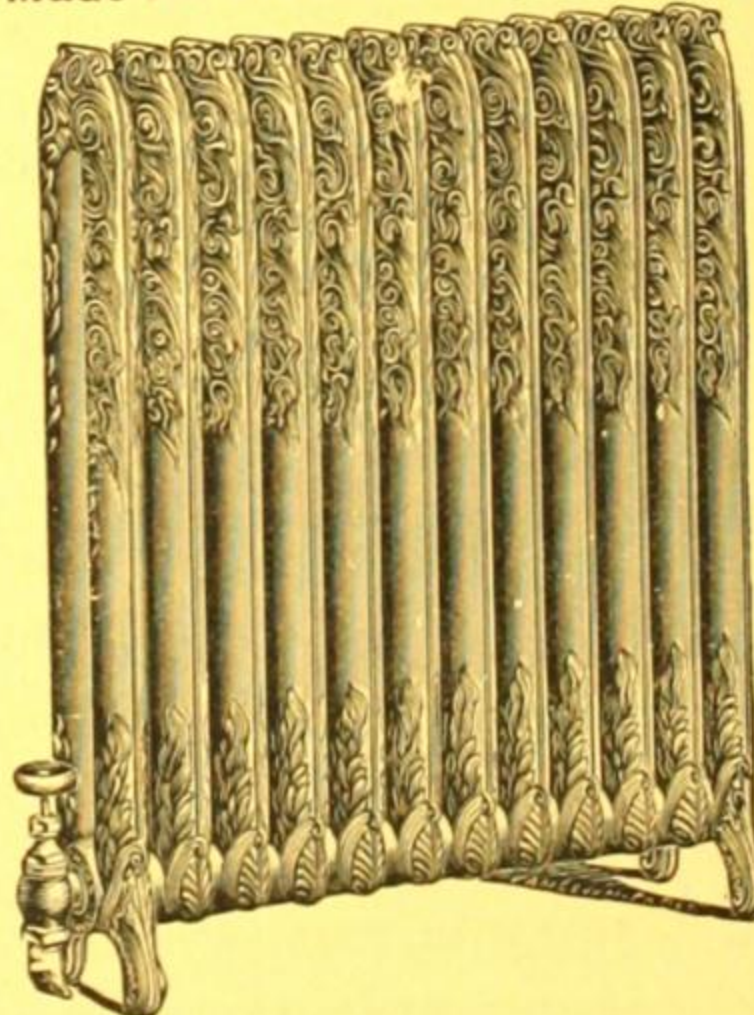
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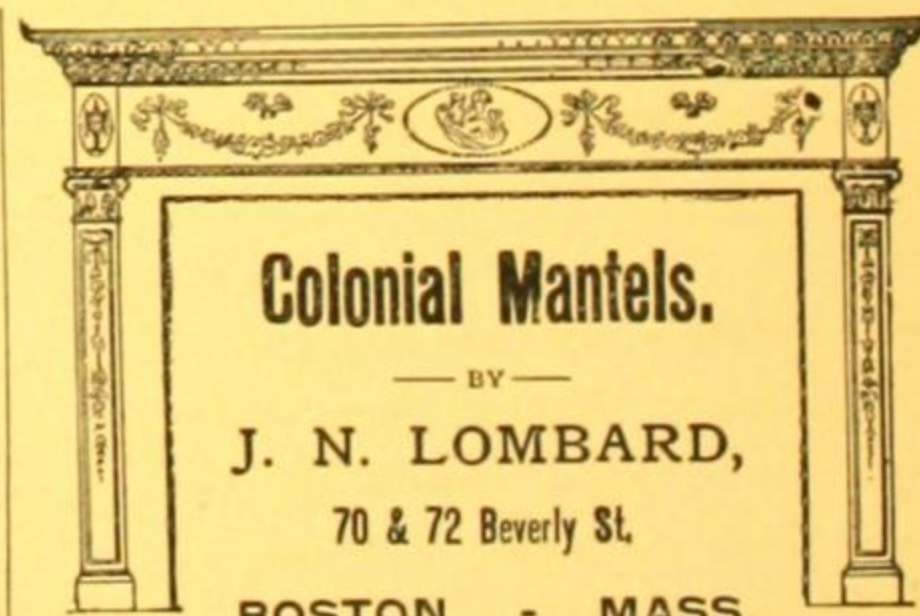
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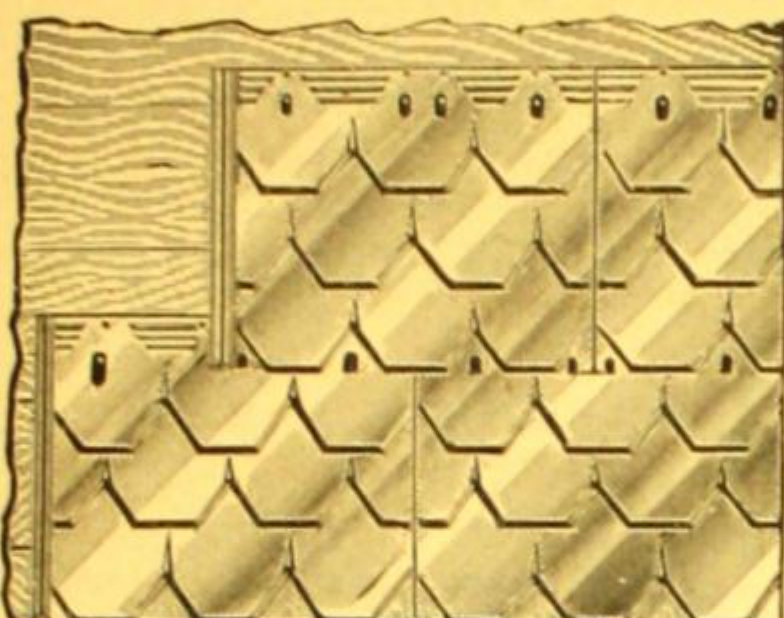
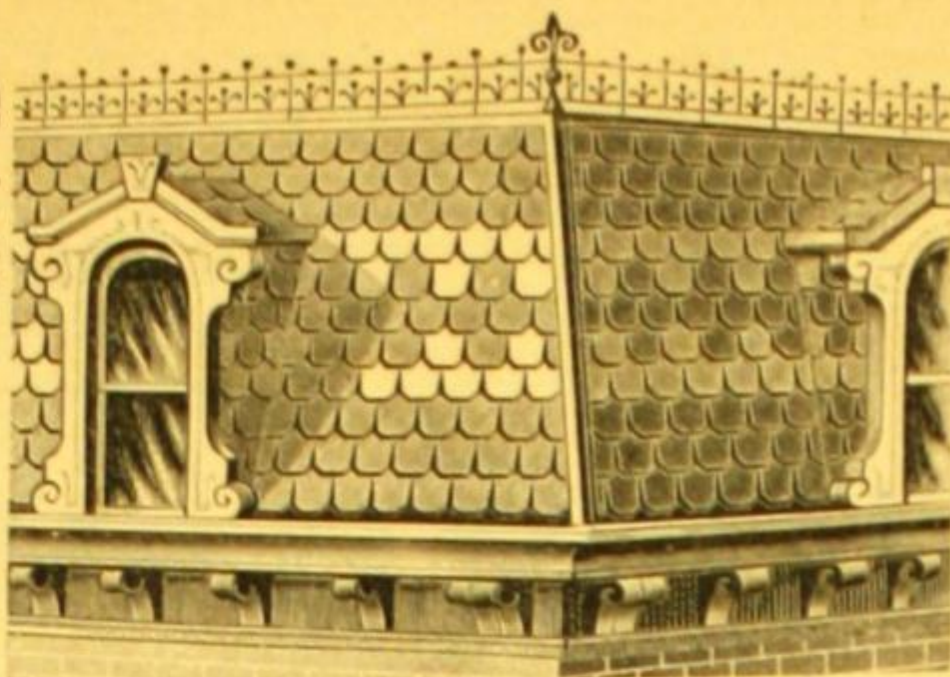
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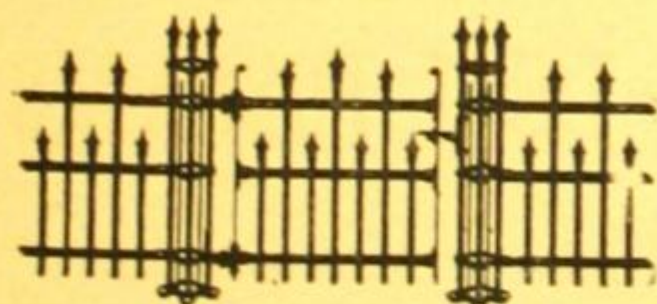
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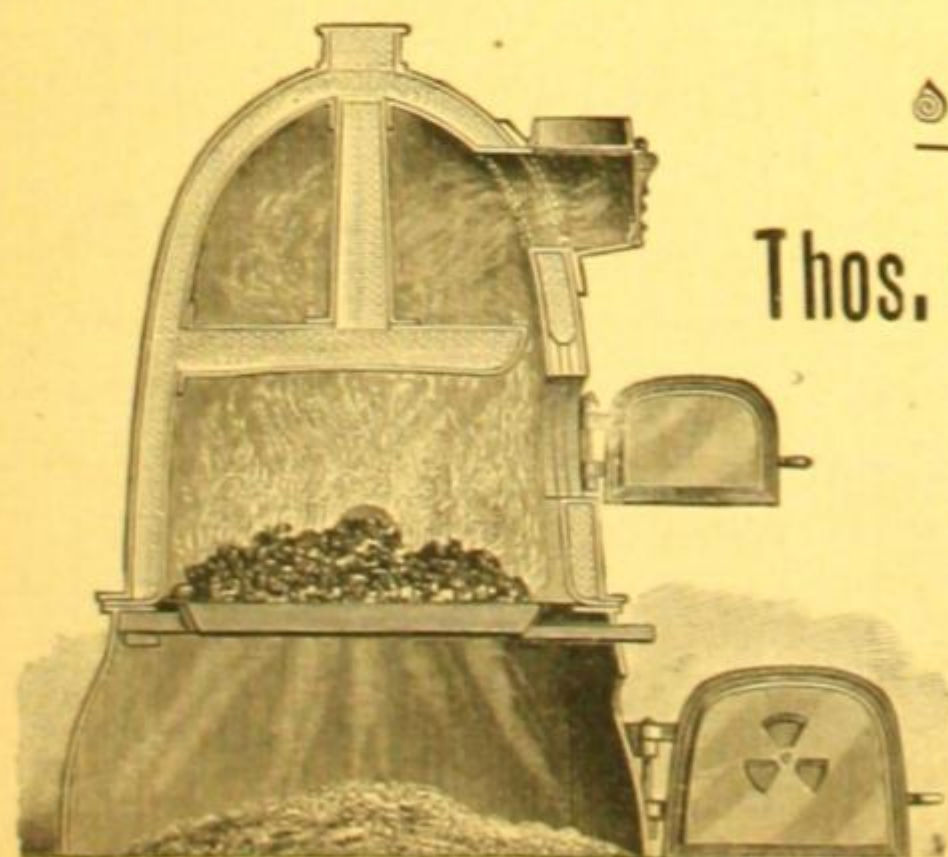
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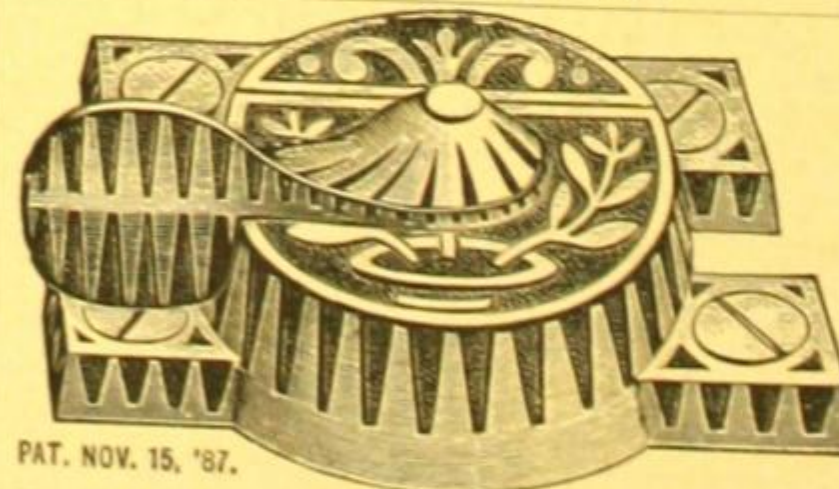
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